**Book design / Kircess Buchverlag.**

**Translation from English into German.**

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# Introduction

Key governments and independent agencies have asked us to share our extensive knowledge of climate change with the world and we are happy to share our findings with them.

This book is a first report on our findings, our research and our path into the future.

We at Fidegogard are ready to respond to these

requirements as openly and transparently as possible. In doing so, we make all our knowledge and findings available to the whole of humanity so that the most important and effective measures can be implemented immediately and worldwide.

I, Volker Mothes, President of Fidegogard, would like to

I would like to take this opportunity to briefly introduce myself and our collective, as this book has been created by many hard-working hands and bright minds with expertise in all areas relevant to climate change around the world.

We are a global network of scientists, engineers, physicists, geologists, social scientists, engineers and scientists.

computer scientists, nuclear specialists and particle researchers.

We face these existential threats w i t h a n open mind and an open heart.

Fidegogard deals with global deals with truly

problems and only thinks about the best possible solutions.

In fact, we have already developed many important technologies that are already being used worldwide.

Every member, whether researcher or inventor, devotes their time to the cause.

Our members range in age from 35 to 85. You can't apply to join us. Instead, we search the world for the most exceptional people in their respective fields.

The selective nature of our organization allows us to focus our attention on the areas where we can make a real difference. Our members include many well-known public figures, including presidents, former presidents, CEOs of technology companies, celebrities and many more.

Your privacy is the main reason why we never mention the names of people who are active in our organization. Your privacy is a cornerstone of our group.

This book is an open report about our

Insights. We can now do exactly what the world needs to know.

**We make all our knowledge available to the world.**

## How can climate change be prevented ?

Let's start with the most basic principle:

**Doing nothing will achieve exactly what we don't want, nothing will be achieved.**

If we want to achieve our goal of slowing down, stopping or even reversing climate change, we must act. Together, with our hands, our knowledge and our shared resources.
We will undertake these efforts together and hope that you will join us.

**Inactive hands will not stop climate change.**

With a population of more than eight billion people, there are more than enough hands on earth, but very few know how to use them to at least achieve humanity's goal of creating something.
In the area of climate change, no one has developed real and concrete solutions like we have.
We hope to make the hands of the planet the most efficient tool on earth.
Resources are a more complicated discussion, but ultimately there is enough money.

How we use and consume our resources is the most important thing.

## What does climate actually mean?

In general, the answer is exactly what you think it is. Climate is the weather in a particular area, be it a microclimate or the whole globe.
This includes things like temperature, wind speed, humidity and much more.
Climate is the air we breathe and the nature that surrounds us. We experience countless climate zones in our lives, but we will now focus on just two: the climate outside a building in a particular region (outdoor climate) and the climate inside a building (indoor climate).

As far as the outdoor climate is concerned, we can

Based on historical analyses and current scientific measurements, we can predict what the climate might be like now and what it will be like in the future.
Meteorology has come a long way since the first attempts to predict weather patterns, and in general we know what our weather will be like.

So January will always be cold in Helsinki.

In other words:

The climate in a particular geographical area, for example in New York City, has a typical annual cycle.

Logic tells us that in the summer in New York

will not be below freezing, and in December you are unlikely to experience temperatures that could be described as mild.
You can also expect warm temperatures in Havana all year round.

History teaches us all, and only a fool would ignore it.
Despite our knowledge of the current and short-term climate, we have recently experienced more and more unpredictability.

Indoor climate is another term.

We also call an artificially created relationship between temperature and humidity in a closed building, a type of climate, the indoor climate.
Even if the indoor climate is more difficult to predict, certain trends cannot be ignored.

Here, too, certain temperatures can be assumed on average.

When you enter an office or a shopping center, you can assume that the climate there is generally pleasant.
The temperature sensation of the people is different, at least within certain limits. 30°C (86°F) are by different subjectively perceived differently by different people.

For some it's a scorching hot summer's day, for others it's a refreshing spring day.
Of course, temperature is only one measure of the climate. Humidity is an equally important factor that is often underestimated.
30°C at a humidity of 30% is always more pleasant than the same temperature at a humidity of 78%.

In other words: In Las Vegas, it can be a

summer day can get over 110°F (43.3°C), and that's still more comfortable than 90°F (32.2°C) in Miami.
The reason for this is the humidity.

*At* a humidity of 78% or more, there is a very unpleasant side effect that is added to the feeling of heat.
We can feel it ourselves when we are exposed to high humidity, and this is related to the following factors:

Breathing. Put simply, breathing is much more difficult at a humidity of 78% than at a humidity of 30%.

**And why?**

Because the air itself contains more mass and the weight of the air is directly related to the difficulty of breathing.
The warmer the air and the higher the humidity, the more water it contains.
This is important because the humidity rises further in warmer temperatures.

**Put simply, warm air can absorb much more water than cold air.**

This extra water in the air makes the air heavier, making it more difficult to breathe.
Conversely, the oxygen content in the air is lower when the humidity is higher!

*It is* difficult t o physically work or even walk in high humidity because the extra mass of water in the air is a challenge. When there is less oxygen in the air, the human body has to breathe more to get the same amount of oxygen.

In other words: at a temperature of 30 °C and a humidity of 78 %, the human body absorbs less oxygen than at the same temperature and a humidity of only 30 %.

## How the climate influences human growth

Through this realization and countless hours of research, we have even discovered that this is the reason why people in warmer countries tend to be smaller than their counterparts in colder countries.

The demographic data confirms the traditional

The idea that Italians, Indians and Mexicans tend to be smaller than their counterparts in Canada, Sweden or the Netherlands.

Public records confirm that these

trend is indeed true and, more importantly, that these differences in size are considerable.
Of course, this type of research does not take into account people who have immigrated from another area, but only those who were born and raised in the area in question.

*Once* the human growth phase is complete, Mexicans, Indians or Italians cannot continue to grow in Canada, even if they decide to move to another part of the world.

Even within the artificial borders of a nation

like Germany, there are larger people in some parts of the country and smaller ones in others.
In general, Hamburgers are bigger than Bavarians.
These differences in size exist even though the temperatures do not differ significantly.
This shows that temperature and humidity are not the only factors that play a role.

## Is Germany an anomaly or r the normal case?

The above principles are the main reason for the differences in size in the world.
We have explained that the oxygen content in the air is the main cause of size differences in humans, and in cold countries the oxygen content in the air is higher than in warm countries.
But it is also true that the temperature differences between Hamburg and Munich are not very great.

In Germany, heat is not the decisive factor. It remains a simple exercise in physics, but essentially it is about air pressure and gravity. The crucial difference in this problematic example is that Hamburg is only 6 meters above sea level, while Munich is much higher at 520 meters.

This difference is the reason why a person in Hamburg weighs more at the airport than the same person just an hour's flight later in Munich, provided they have not eaten or drunk anything.

The suitcase is also lighter in Munich than in Hamburg.

The objective measure of gravity is lower in Munich because Munich is 520 meters above sea level,

Therefore is the barometric air pressurein Munich is lower, and as already mentioned, a lower air pressure automatically and irrefutably means less

oxygen in the air, which makes makes breathing difficult.

In other words, the human body has

Munich or in warm countries have less oxygen available to develop physically than in Hamburg or in cold countries.

In general, there are these differences in altitude between different countries and regions; warm and humid air contains less oxygen.

And the higher a city is located, the lower the air pressure and the less oxygen is available to the people there.

However, this does not mean that height is the only factor to consider.
If a child in Bavaria spends a lot of time outdoors (i.e. in the fresh air), it may absorb and consume more oxygen than a child in Hamburg, especially if this child spends a lot of time in front of the television in its nursery.
In this way, a child in Munich can naturally absorb more oxygen than a child in Hamburg, and under these circumstances a child in Munich can grow taller than a child in Hamburg.

This phenomenon can be observed in every family around the world.
If genetics were the only or decisive factor
criterion if all the children in a family were the same size.
The element of upbringing is just as important. It makes no difference difference, whether one the first or the last-born child in a family.

In a fascinating connection with our

However, studies have also shown that a child born in winter tends to be more sensitive to the cold in the first few months due to the colder air climate.

gets more oxygen than a child born in summer.
This also has a demonstrable effect on a person's overall height.

## The role of cities in climate change.

What is the cause of the accelerated rise in temperature over the last 50 years?

The real reason is quite simple: humanity itself.

We are the main cause of global warming, and with more people being born every day, the climate is inevitably warming.

Basically, overpopulation is responsible for global warming and climate problems will also increase with population growth.

In July 2023, there will be 8,103,075,138 people living on Earth, one hundred million more than a year ago.

The seven billionth person was born in New Delhi on October 12, 2011, and the eight billionth person will not see the light of day until next year (2022), just 11 years later.

**This is exactly where the climate catastrophe begins for us humans.**

## What does the population have to do with global warming ?

An average person produces more than 100 watts of body heat per hour during light activity, and even more during increased activity.
One example:

| Activity level | Power generation |
|---|---|
| Rest | 150-200 watts |
| Moderate activity | 200-300 watts |
| Intensive activity | 300-500 watts |
| Sport | 500-1000 watts |

This is not a problem for the individual with regard to climate change, but in the aggregate everything changes.

A simple calculation shows that the eight billion

people on earth produce at least 800 billion watts of body heat per hour, which is equivalent to 100 million kilowatt hours.
And when they exercise or do sport, these values rise dramatically.

In other words: all of humanity

produces as much heat in one hour as
400,000,000 room heaters of 2000 watts each.
It is important to note that these figures only take into account human activity.

There are an estimated eight billion farmed, wild and domestic animals on earth that also generate heat, all day, every day.

## Are humans responsible for global warming and climate change?

According to our research, the answer is a clear

**YES!**

But this simple answer cannot be the end of the analysis. Here is our clarifying, more comprehensive answer to this important question:

*Imagine* that in an uninhabited, forest-covered area, the forest is cut down and a residential area, a small settlement, is built.

**That's what happened in New York City, and it remains the perfect example.**

| Approximate population of New York | |
|---|---|
| 1780 | 33,000 |
| 1830 | 312,000 |
| 1900 | 3,400,000 |
| 1960 | 7,800,000 |
| 2000 | 8,100,000 |
| 2020 | 8,700,000 |

The development of New York City is not unique in the world, but you can clearly see that in just 250 years a once uninhabited land has become one of the largest cities in the world.
New York City, with its countless buildings, streets, supermarkets, schools, parking lots, airports and much more, has never been constant. It continues to grow every day.

New York is just one example of the explosive growth of the "city" concept.
Thousands of cities around the world have undergone a similar evolution over time, from wilderness to concrete jungle.
But the city has become just as harmful to the climate as the cars and trucks on America's roads.

Let's compare the environment in the city with that in a forest. When the sun shines on an uninhabited forest, the forest floor remains very still.
Its trees provide shade on the forest floor.
Above all, however, there are v i r t u a l l y no thermal updrafts in the forest ecosystem.
Another negative effect of the city is the constant updrafts and thermals.
They strengthen the winds in the region and thus reinforce the cycle of destruction.

When air rises into the atmosphere, other air must flow in to replace it near the ground.
More wind in an urban environment means
The soil also dries out more quickly.
The result is lower yields, often even crop failures. On the other on the other are through the urban development many trees removed, This creates conditions that favor more thermals and updrafts.

Thermal energy is generated by roofs and other surfaces of buildings.
They heat u p considerably due to the sun's rays and this heat has a direct effect on the climate.
But it is not only trees that influence this principle. Roads also heat up because their dark color absorbs more sunlight than it reflects.
Cars also heat up in the city, which usually depends on their paint color.
Black cars heat up much more (and faster) in the sun than white cars.
And this heat flows upwards, because heat always rises.
When the sun shines on the city, it always rises.

And in every large city there are millions (perhaps even billions) of surfaces that influence how much heat is generated.
The city is an amazing place of thermal activity, and that has to do with climate change as we know it.
When the sun's rays hit this settlement, an enormous amount of thermal energy is generated, which all rises upwards.

But the sun is not the only reason why this settlement generates more thermals.
In a forest, thermals are less likely to develop because the trees do not heat up as much. Instead, the trees reflect the sun instead of absorbing it.

So it's not just about the heat, but also

how this heat is absorbed and stored.

**But what happens when you add the collective temperature of the people living in the area?**

The constant core body temperature of humans of approx. 37°C (96.8°F) is almost always above the temperature of the climate of a settlement.

This difference between the average human body temperature and the climate that surrounds us is the real reason for the existence of thermals.
**Of course, it all depends on the ventilation!**

When residents open their windows to ventilate, the warm air rises immediately. And when warm air rises, new air must automatically flow in to replace the old air on the floor.
Otherwise we would have no air to breathe.
It is precisely this air movement that we perceive as wind. Another further aspect of our analyses and investigations is rain.
When it rains in the forest, almost 90 % of the water penetrates directly into the forest floor and seeps away.

The remaining 10 % of the rainwater is collected by the trees and absorbed by the bark and leaves.
Evaporation is the scientific term for what happens when rain returns to the atmosphere.
The entire forest floor absorbs most of the rainwater.

In one city, this rich and fertile

Soil replaced by concrete and asphalt roads and trees replaced by steel and glass from skyscrapers.

Another negative effect of urbanization is that only around 20 percent of rainwater can seep into the ground and recharge the city's groundwater.

The rest of the rainwater flows into the sewer system

or evaporates from building and car roofs, streets and parking lots back into the atmosphere.
If 80 percent of the water from the ecosystem flows back into the atmosphere unused, clouds form more quickly, bringing even more rain.
That is why climate change as we know it begins in the cities.

Once the settlement is in the city, the

water can no longer seep completely into the ground and replenish the groundwater.
Instead, the water remains on the surface and evaporates - to the detriment of the climate.
Sometimes the rainwater does not even come into contact with the ground.

**Where does the water flow to?**

The cities have developed an extensive system of sewers and pipes to divert the water away from the residents.

A city's sewers and waterways have a direct and dramatic impact on the climate. They divert water away from the place that nature intended for it: the ground.

The ground under roads, buildings, parking lots, airports

and cars remains dry.
It is precisely this missing water that must now find its place elsewhere.
It's not about a few hundred liters.
The amount of water flowing into cities around the

world is not a drop in the ocean.
We are talking about trillions of liters of water that are used by
must be diverted away from where it originally fell as rain.

In view of the many towns, villages and municipalities

On our planet, water must find another place.
Water is a limited resource on earth. Regardless of the climate, the amount of water on earth remains constant.
The decisive factor is how we use it.

**Where does the water go after a rain shower?**

The ultimate destination of water is, of course, our oceans.

But our rivers also function like a network of arteries that transport rainwater to its natural destination.
The basic rule resulting from this concept is:

**If we have less water on land, we have more water in the oceans.**

The logical conclusion is that the rise in sea level is caused not only by the melting of the poles, but also by the drying up of land areas.

In a big city like New York, hardly a drop of rain falls under asphalt or concrete.
Without these artificial barriers, the ground could absorb much more water than is currently the case, and the city council has decided to direct the flow of water.
Tunnels and aqueducts to channel the water to where it is needed.
Of course, this also applies to all other major cities in the world.

Smaller towns and municipalities experience this reality likewise, albeit to a lesser extent, when it comes to the drainage of rainwater.

Every city, every settlement and even every country road draws water from the ground. This water then ends up in the oceans, leading to an overall rise in sea levels.

## How much water can one cubic meter of soil absorb and store?

It should be noted at the outset that there are countless types of soil, from hard clay to dry sand. The results of such an investigation depend entirely on the location and the type of soil.

The soil moisture, also known as the water absorption capacity of the soil, is determined from the tests.

As a rule, one cubic meter of sandy soil can contain 15 to 20 liters of water. In contrast, the same cubic meter of clay soil can absorb more than 26.4 liters of water. Clay soils, which contain a high proportion of clay minerals, have the highest water absorption and storage capacity of up to 52.8 liters of water per cubic meter.

These processes of rain, evaporation and renewed

Rain has another disadvantage: faster cloud formation, especially in cities.

Here, in the conurbations, drier soils, less groundwater and much faster cloud formation in the atmosphere lead to climate-related problems for everyone.
What's more, the conditions in the city are ideal for strong winds and storm systems, which sometimes even develop into tornadoes.

Tornadoes are caused by the interaction of

warm and cold air masses, precipitation and differences in air pressure.
Put simply, a tornado occurs when warm, moist air rises and meets cold, dry air. This leads to unstable atmospheric conditions that herald the start of a thunderstorm.
When the thunderstorm develops, the rising warm air can form the center of gravity of the precipitation, which ultimately leads to a rotation of the entire air mass.

When a low-pressure area becomes a high-pressure area

If a thunderstorm crosses over a storm, a so-called supercell thunderstorm can develop, the cold air sinks below the warm air and intensifies the simple thunderstorm into a strong weather system.
Under suitable conditions, the rotation of the thunderstorm can become so strong that it expands to the ground and forms a tornado.

After a thunderstorm, up to 80 % of the rainwater returns to the atmosphere, where it evaporates within a few hours and enables the formation of new clouds and thus further rain. Only 20 % can penetrate the ground when the rain hits a city again.

This cycle is unsustainable when it comes to long-term climate change planning.
Even if more water falls during a storm, less and less of it reaches the ground.
Under these conditions, this cycle of evaporation and precipitation will occur more frequently.

**More clouds also mean less sunlight for plants, people and animals.**

Rainwater in the sewer system is another factor that prevents water from reaching the important groundwater systems. In some regions, so much rain falls that flash floods occur after a downpour, leading to even drier soils, more clouds in the sky and heavier rainfall.
We call this climate change or global warming, and today nothing less than the survival of our planet is at stake.

Every person, every farm animal, every pet, every vacuum cleaner, every stove, every oven, every furnace, every car, bus or ship engine, every heater, every air conditioner, every airplane engine and every steel furnace in a factory heats up the atmosphere enormously.

## And what about the carbon dioxide ?

Conventional approaches to global climate change have focused on carbon dioxide as the main factor.
They concentrated on reducing emissions from cars and industry - with varying degrees of success.
The fact is: Not only industry and cars produce carbon dioxide!
In fact, the average person produces around one to two tons of carbon dioxide per year through breathing alone.

The actual amount of carbon dioxide produced by a

produced by a person's breathing varies according to age, height, weight, gender and activity level and is based on an average breathing rate and the amount of oxygen a person breathes in and out per minute.

In reality, the average person produces around two tons of carbon dioxide per year.

When looking at this, you have to keep the world population in mind.
In 2022, more than eight billion people will be living on Earth. That means sixteen billion tons of carbon dioxide emissions per year from human respiration alone.

This massive growth explains climate change

better than focusing solely on vehicles and industry.
In 1804, only two billion tons of carbon dioxide were released per year through human respiration. Today, this amount has increased eightfold. Consider the world's population:

| World population | |
|---|---|
| **Year** | **Population** |
| 1804 | 1,000,000,000 |
| 1927 | 2,000,000,000 |
| 1960 | 3,000,000,000 |
| 1974 | 4,000,000,000 |
| 1987 | 5,000,000,000 |
| 1999 | 6,000,000,000 |
| 2011 | 7,000,000,000 |
| 2022 | 8,000,000,000 |

Only carbon dioxide from human respiration is taken into account in these calculations.

But we are not alone on earth.

Every animal, including bacteria and fungi, also contributes.

Our calculations have shown that carbon dioxide emissions from livestock and pets are also in the billions of tons per year.

A single cow produces each of the following by breathing

The amount of carbon dioxide emitted by our bodies every year depends on their size, physical activity and diet.

However, it is important to know that the main source of carbon dioxide emissions from cattle is not their respiration, but the methane they produce during digestion.

A single cow can produce more than a thousand pounds of methane

per year. This corresponds to several tons of equivalent carbon dioxide emissions.

The potential problems caused by methane emissions from agriculture have long been discussed as a serious component of climate change and should not be ignored.

In fact, agriculture is still one of the main causes of global greenhouse gas emissions, particularly through methane emissions.

The amount of carbon dioxide a dog or cat produces when breathing also depends on its size, physical activity and breathing rate.

At an average breathing rate, a
11-pound dog or cat emits about 630 kilograms of carbon dioxide per year.

It is important to know that dogs and other animals have a lower carbon footprint than humans because their physical activity and energy requirements are lower.

Nevertheless, our pets contribute to a considerable amount of carbon dioxide emissions.

With around four billion dogs and cats as pets, an additional 280 million tons of carbon dioxide emissions are released into the atmosphere every year.

As mentioned above, traditional science has long focused on cars, trucks, trains and air travel in its work on climate change, and not entirely without good reason.

Transport is one of the biggest sources of greenhouse gas emissions worldwide.

It is estimated that almost a quarter of all global greenhouse gas emissions are caused by vehicles.

In 2022, transport-related greenhouse gas emissions worldwide will amount to around sixteen billion tons of carbon dioxide.
As you may have noticed, the amount of carbon dioxide released into the atmosphere by all traffic-related emissions is roughly equivalent to the amount of carbon dioxide released by human respiration alone.

These emissions originate mainly from the

operation of motor vehicles, including cars, trucks, trains and airplanes. Transport-related emissions continue to rise as the demand for mobility increases worldwide.
As the human population grows, traffic, livestock and pets also increase. This leads to more body heat and carbon dioxide emissions and, of course, to greater global warming.

In the future, in addition to the strong focus on

The switch to electric vehicles is primarily a response to population growth.
Switching to green energy is not wrong, but other factors must also be taken into account.
Let me extend this theory to its natural conclusion:

Any increase in apartments, hotels and cruise ships also means a significant increase in rats, bacteria, dust mites and bedbugs.

**Do rats, bacteria, dust mites and bedbugs breathe in oxygen and breathe out carbon dioxide?**

**Yes,** definitely.

These pests breathe in oxygen like humans, but some of them can also breathe anaerobically.
Bed bugs also have a complex respiratory system that absorbs oxygen and releases carbon dioxide to generate energy. Rats are fascinating carbon dioxide absorbers. An average rat produces about 5 grams of carbon dioxide per hour.
Assuming that a rat is only active for twelve hours a day, in a year it would be almost
produce 1,500 pounds of carbon dioxide.

There are said to be several million rats in New York City alone.
In a report by the New York City Department of Health from As of 2020, the number of rats in New York City is estimated to be around two million, but the actual number could be much higher. Anyone who has ever been to New York knows that rats are omnipresent.

The conditions in the city, such as plenty of food and hiding places in subway tunnels and sewers, are perfect for the rat ecosystem.

Simple mathematical calculations prove the absurdity of this:
(2,000,000 rats) x (1500 pounds per animal) = 3,000,000 tons per year, in New York City alone.
If you think of the rats of Bangalore or Saigon, these numbers increase exponentially.
This is madness!

**How many cars would it take to equal the emissions of New York City's rat population?**

It is difficult to determine the exact number of cars at any given time, but statistics are helpful.
According to the US Environmental Protection Agency (EPA), the average annual carbon dioxide emission of a new car in the USA is around 4.6 tons. We can therefore estimate the total amount of carbon dioxide emissions from
Divide 1,200,000 tons by the average annual carbon dioxide emissions per car to obtain an estimate of the number of cars:
3,000,000 tons / 4.6 tons per car = 650,000 cars.

**That's right!**

**The rats in New York City produce as much carbon dioxide as 650,000 cars and trucks!**

*Imagine* how much carbon dioxide all the rats in the world produce each year! One rat alone produces about 1,500 pounds of carbon dioxide per year.
Ten rats produce as much carbon dioxide per year as one car!
Humans are therefore responsible for a considerable proportion of global warming!

If this responsibility is added to the

carbon dioxide emissions from animals around the world, it is an "inconvenient truth", as Al Gore once put it.

## What contributes to global warming ?

Our results clearly show that large parts of the Earth's surface will be uninhabitable within 15 years.
Droughts and floods are the natural consequence and will increase in number and severity.
The demonstrable conclusion is that less arable land will be available for agriculture, which poses an existential threat to the ever-growing world population.

We have analyzed all the available data and have come to an alarming conclusion: Global warming is already progressing at a rate that is uncontrollable for humans.

**The question of whether we can stop global warming remains unanswered, even with massive efforts. But we have to try.**

## The coffee problem.

Apart from the passive heat emitted by each of the eight billion people on earth, other problems related to climate change arise from the fact that each of them has to feed and otherwise provide for themselves.
Coffee is becoming scarce worldwide because demand is rising and there is a lack of suitable cultivation areas to harvest sufficient quantities.
Coffee plants only thrive in certain climate zones, and these are becoming smaller and smaller due to climate change. In addition to climate change, other factors are responsible for the coffee shortage:
Population growth, plant diseases and pests that attack the coffee plants.

Political instability is also causing problems in many coffee-growing regions. If the demand for coffee continues to rise and supply cannot be increased, coffee is likely to become scarcer and more expensive and may even become a real luxury good for just 1% of the population.

This could lead to social unrest and a deterioration in the quality of life.

Coffee is just a crop.

Similarly looks it with many fruit, cereals and vegetables.

Global grain consumption is also rising steadily.

According to data the Food and Agriculture Organization of the United Nations, global grain consumption will amount to almost three billion tons in 2022. Global grain consumption is expected to double b y 2050. The increase in grain consumption is primarily due to population growth and the rising standard of living. In many countries around the world, the number of people who can afford a balanced diet is increasing.

Cereals are an important source of carbohydrates, protein and fiber and are used to make a variety of foods, including bread, pasta, rice, cereals and beer.

Increasing grain consumption is accompanied by a number of environmental impacts.
Grain production consumes a lot of water. In addition, large areas of land arefor grain cultivation.
This leads to deforestation and water pollution.
Unfortunately, there is not enough arable land on earth to feed people.

## The true cost of housing construction.

According to the United Nations Global Housing Watch 2021, 1.6 billion new homes have been built worldwide in the last 20 years.
This corresponds to an annual rate of 80 million new homes per year.
Most new homes were built in China, India, the USA and Brazil. But even with so many new homes being built every year, demand for new housing is growing even faster than construction.

By 2030, a global housing deficit of

311 million apartments expected.
This shortage will be particularly noticeable in developing countries, but climate change will probably have the greatest impact.

**One thing is certain: temperatures will continue to rise and turn the world into an unbearable oven in just fifteen years.**

Every year, new temperature records are set at various locations.

In 2023, the maximum temperatures in California's Death Valley will regularly exceed the 50-degree mark, a climate that barely allows for life, let alone human life.

Even beyond these rural hotspots, temperatures in the world's cities are soaring.

In the year 2023, Phoenix, Arizona, and its

suburbs more and longer than most, with several records, including 31 consecutive days above 43.4 degrees Celsius (110 degrees Fahrenheit). Cities are one area where building has a direct impact on global warming.

When more houses and apartments are built, new roofs, walls and facades are also erected.

**Buildings themselves are an important factor in global warming.**

The result of these new buildings is, simply put, an increase in the surface area on which the sun shines, generating solar heat.
After being heated by the sun, this solar heat is stored in the buildings.
At night, when temperatures drop, the facades and roofs release this solar heat back into the atmosphere.
With the construction of every new façade and every new roof, heat is absorbed and released every day through solar radiation.

Heat is the enemy of global warming.

To illustrate: a three hundred meter high building with a floor area of one thousand square meters has a façade area of
of around 22,646 square meters.
Statistics like these apply to large construction projects like One World Trade in New York, but they apply to any building of any size anywhere in the world.

But in our example, the building with

22,646 square meters of façade, the thousand square meters of earth that would only be warmed by the sun without the building.
That is more than twenty times the space that would have been available without the building.
Instead of just a thousand square meters, over
22,000 square meters heated.

In other words: In New York and other cities around the world, houses get more sunlight than a normal floor without houses.

It is important to note that every square meter counts when it comes to global warming, and this applies to all buildings, not just skyscrapers.

**Roads, bridges and airports also play a role, because the more surface area is heated by the sun, the more heat is released into the atmosphere.**

But not all buildings function in the same way.

The color of the building has an influence on how it functions.

Black cars, facades or asphalt have a negative

The black color has a greater impact on climate change than light colors, because black surfaces absorb more solar energy than light ones.

This causes the ambient air to heat up more.

This warming, regardless of whether it originates from a light or dark structure, leads to an increase in heat waves and other extreme weather events.

That means more heat and more rising air in the atmosphere, which leads to more wind and more dangerous storms like hurricanes. None of this is good.

It may be impossible to calculate the area c r e a t e d by these billions of buildings,

but as a whole they provide space for the sun to capture and store sunlight.

And just like the skyscrapers, the city gives the

stored heat back into the atmosphere when it gets cooler at night.

This may become clearer if we define the calculations per square meter.

Global radiation is the radiant power of the sun that reaches the earth's surface.

It is smaller than the solar constant because the Earth's atmosphere absorbs and scatters part of the solar radiation.

The global average global radiation is around 340 watts

per square meter.

Solar radiation varies depending on the location, time of day, season and weather conditions.

Despite these differences, the average amount of solar radiation reaching the earth's surface is around 340 watts per square meter.

In deserts or high-altitude regions, solar radiation tends to be higher than in temperate latitudes or near the poles.

The more the earth's surface warms up, the more the atmosphere automatically warms up too. Permanently.

Consider the comparison between the past (1927), when the two billionth person was born, and the present (2022), when the eight billionth person was born. Consider the large number of houses, offices and other buildings that have been built in the last hundred years.
Every building plays a role, including houses, airports and roads.
**But mobile structures such as cars also have an influence on heat development. When the sun hits a car, it hits it from all sides and from above, i.e. on a much larger area than if the car were not there.**

The many ships on the oceans also have a much larger surface area than just the water.
Every surface counts when it comes to capturing sunlight and warming the atmosphere.

## Air traffic must become cleaner

The airplanes also play a role here.

Of course there are more airplanes today than in 1927, but with airplanes, cars and ships, it's not just the surface that counts.
Aircraft engines emit a considerable amount of heat into the atmosphere.

This effect has been referred to as "contrails" for decades, and the exhaust fumes from aircraft engines can reach temperatures of up to
reach 1,500 degrees.
These exhaust gases heat up the surrounding air, causing temperatures in the atmosphere to rise.

**The warming of the atmosphere by airplanes**

**contributes significantly to global warming, as the warm air at this altitude expands considerably, becomes lighter and rises naturally.**

This creates differences in air pressure, which can lead to winds and storms or even hurricanes if there are a particularly large number of aircraft in a certain area.

Contrails remain for hours in the atmosphere and in some cases can form artificial clouds.
The ice crystals in the contrails serve as condensation nuclei for the formation of cirrus clouds, which can remain in the sky for several days to weeks.

These cloud formations carry significantly to the

They contribute to the warming of the atmosphere by reducing the solar radiation reflected from the earth and intercepting the infrared radiation reflected from the earth's surface.

This prevents the heat from being radiated back into space, where we actually want it to be. Instead, the heated atmosphere remains under the artificial clouds of the contrails on hot days.

Almost 100,000 airplanes fly over the earth every *day*,

80,000 passenger planes and 20,000 cargo planes. Global air traffic consumes around 2.4 million barrels of kerosene every day.
The fuel consumption of air traffic contributes significantly to climate change and heats up the earth's atmosphere every year as more and more airplanes fly.

By 2024, air traffic will account for more than 3 % of the

greenhouse gas emissions worldwide.
3% is a lot, but it is by no means the end of the line. We also need to consider how many artificial clouds are caused by airplanes, as these also contribute to global warming.

**We estimate that aircraft around the world create more than 100,000 artificial clouds every day, each extending over several kilometers.**

And because these artificial clouds are in the sky, less and less of the sun's heat can radiate back into space.

**The more solar radiation is reflected into space, the less the Earth's atmosphere heats up.**

Solar reflectance is therefore the most important indicator. To tackle this problem properly, we need to consider which natural elements of the earth are the sunlight on the earth and which reflect it poorly.

Some things reflect sunlight very well:

- **Water surfaces:** Oceans, lakes and rivers reflect sunlight, giving them their characteristic blue appearance.
- **Clouds:** Clouds reflect the sunlight and make the sky appear bright and cloudy.
- **Snow and ice:** Snow and ice reflect the sunlight very strongly, making them appear white and shiny.
- **The surface of the earth:** The surface of the earth reflects sunlight to varying degrees depending on the material. For example, dark surfaces such as forest floors and roads reflect less sunlight than light-colored surfaces such as sand and snow.

The amount of sunlight reflected by the earth is known as the albedo.
The Earth's albedo is estimated at an average of 30 %.
is calculated. This means that 30 % of the sunlight reaching the earth is reflected and 70 % is absorbed.
In other words, under normal conditions, 70 % of the sun's heat remains on the earth.

However, the Earth's albedo is not a constant and varies depending on the season and weather conditions.
In general, the albedo is higher in winter than in summer, as the earth is covered with more snow and ice.
The Earth's albedo plays an important role in the climate. It determines how much sunlight the earth absorbs and how much is reflected into space.
The higher the albedo, the cooler the Earth is, as it radiates more sunlight back into space.

Conversely, a lower albedo would make the Earth warmer because it absorbs more sunlight.
In recent decades, the Earth's albedo has increased because the Earth has an ever larger surface area that can be heated by the sun.
One thing we can and should do is find ways to increase albedo measurements.

## What can we do to put this into practice?

White roofs reflect sunlight into the room better than black roofs because white roofs reflect more light than black roofs.
The color of a roof has a major influence on how much heat it absorbs and how much it reflects.

**Black roofs absorb more sunlight than white roofs and therefore heat up.**

**White roofs reflect more sunlight than black ones and therefore cool down.**

A study by the Lawrence Berkeley National Laboratory found that white roofs in hot regions can reflect up to forty percent of the sun's energy.
Black roofs, on the other hand, only reflect around twenty percent of the sun's energy. This means that white roofs in hot regions absorb up to twenty percent less energy than black roofs.

*A* simple solution is therefore to paint buildings and vehicles in a lighter color.
Cars, asphalt, houses and roofs should be brighter, preferably white.
Bright colors could lead the revolution against global climate change.

**Even better than bright colors, mirrors could reflect the sun's rays more directly.**

Simply put:
Mirrors on roofs and in deserts would reflect sunlight cleanly and efficiently back into space, reducing the amount of sunlight absorbed by the earth.
This would be a cheap and easy way to reduce the amount of sunlight absorbed by the Earth because, as we all know, mirrors reflect sunlight into space most efficiently.

**Ideally, a mirror can reflect almost 100 % of the incident sunlight, which depends on the quality of the mirror material and the precision of its manufacture.**

Consider water, the substance that covers most of our planet. Both water and desert sand have a lower reflectivity than a well-made mirror.
However, these still reflect 5-10% of the incident sunlight. The rest is absorbed and converted into heat, as water has a lower reflectivity (lower albedo) than most mirror surfaces.

Even desert sand has a lower reflectivity than a mirror.

The albedo of desert sand is typically

between 20 and 40%, which means that around 60-80% of the incident sunlight is absorbed and only a small percentage is reflected.

**The main goal of our work is to efficiently reflect sunlight into space, and considering the elementary aspects of science, mirrors are the best choice.**

But they are not the only option.

## Cosmic dust must be reduced

Most people have no idea of the significance of cosmic dust, let alone how many tons of it fall to earth every year.

More than 9,000 tons of cosmic dust fall to earth every year, that is more than 24 tons per day. This means that in addition to the rare impacts of larger meteorites, tiny dust particles are constantly raining down on Earth.

Just to look at the long-term effects of this cosmic dust on the planet:

We know that the Earth's circumference has increased by about fifty kilometers in the last billion years and that most of this expansion is due to cosmic dust.

On the whole, this is a good and normal

thing, but the negative consequences cannot be overlooked.

The main problem resulting from the increase in the Earth's circumference is global warming.

### And why?

**The larger the Earth's circumference, the more solar radiation hits the Earth. That is an indisputable fact.**

The consequences of this expansion cannot be overestimated.

With the enlargement of the earth's circumference increases automatically increases the force of gravity and therefore the air pressure. The higher the air pressure, the higher the temperature.

When measuring the temperature of a gas, the average kinetic energy of the gas molecules must be taken into account.

When the air pressure rises, the gas molecules pressed more strongly against each other, which increases their average kinetic energy and raises the temperature.

On Earth, we can often observe this phenomenon when we look at different altitudes. In general, the air pressure decreases with increasing altitude, as the air molecules are further apart from each other with increasing altitude.

If the air molecules are further apart, there are fewer collisions between them.

As a result, the average kinetic energy of the molecules decreases and the temperature drops.

The air pressure is highest at the earth's surface, because the air molecules are surrounded by other air molecules.

As a result, there are more collisions between the molecules and the average kinetic energy of the molecules is higher.
This is why the temperature at the Earth's surface is higher than in the higher layers of the atmosphere if all other conditions remain constant.

**Did you know that the earth used to rotate faster than it does today?**

A billion years ago, scientists have confirmed that the Earth made a full rotation in just 18 hours.
One billion years ago, a day only lasted 18 hours.
Today, the same rotation takes 24 hours. This
trend will continue in the future.
In 500 million years, one day is estimated to be
25 hours, and the sun will shine even more intensely on the earth.

This will exacerbate the challenges of climate change.
These changes are not only limited in time, but, as already mentioned, the Earth has also increased in size.

This has important and potentially catastrophic consequences. As the earth's internal pressure increases, earthquakes and similar disturbances o c c u r .
However, it is important to note that the increased internal pressure also causes the temperature inside the Earth to rise, which leads to a warming of the atmosphere.

**When the earth's crust heats up, the temperature of the air and oceans also rises.**

We can study the sedimentary layers of our planet to determine these long-term trends, and there is one thing we need to look at more closely.
The coal layers tell a very special story about how we got to this point, where global warming poses an existential threat.
Coal can self-ignite underground under certain conditions, namely under high pressure and at temperatures between 200 and 300 degrees Celsius.

Various factors, such as the type of coal, the

Grain size and pressure influence this wide temperature range, but one thing is certain:
At higher temperatures, the coal ignites by itself, inside the earth.

Coal layers were formed over millions of years by the decomposition of dead plants that sank into swamps and bogs.
These plants were eventually covered by sediments and transformed by pressure and heat.
The longer the plants were exposed to pressure and heat, the harder the coal became.

Simply put, the trees and plants died and were covered by sediments.
However, as the earth continues to expand, the layer above the plants and trees also grows.
The pressure rises and coal, oil and natural gas are formed.
From a certain depth, however, the pressure and heat become so great that the oil, gas and coal in the earth's interior self-ignite.
This is the essence of geothermal energy, which is created when coal, gas and oil ignite and burn in the earth's interior and pass through the earth's crust into the atmosphere.

This leads to another major problem.

The carbon dioxide stored in trees, coal and oil over millions of years is released during combustion in the earth's interior and is released back into the atmosphere through cracks in the earth's crust and in the oceans, which is then even more heavily polluted with carbon dioxide.

This carbon dioxide has been produced over millions of years through photosynthesis and has been removed from the atmosphere over the course of history.

Let's start with the fundamental question,

**Can humans do anything to stop or reverse climate change,** and the answer is clear

## Yes!

Every year, 9,000 tons of space dust fall to Earth, which is more than 24 tons per day.

Our idea is to send ten rockets a day, each carrying a hundred tons of coal, to the sun.

The costs would be minimal, as the rockets would not have to return to earth.
The rockets could be built almost entirely from coal, with a small engine and a thin metal casing.

Just ten rockets could transport more than a thousand tons of coal from Earth**.**
To illustrate the analysis a little, let's do the math.
The earth grows by 9,000 tons per year due to cosmic dust alone.
According to our plan, 365,000 tons of coal or wood would leave the earth every year.

In this way we would reduce the mass of the earth and with it huge amounts of carbon dioxide from coal.
Coal is not the only substance we could remove from the earth if our plan becomes reality. Some countries, such as the USA, Russia and China, could send spent uranium fuel rods into the sun and neutralize them.

## The role of trees

Trees play a fascinating role in the story of climate change.
Science has taught us this over the last century,
that more trees lead to a better climate.
More trees mean more photosynthesis and therefore more oxygen.
This is undoubtedly true, but our research leads us to an even more important realization:

**Trees increase global warming on earth.**

The reason for this goes far beyond the old concept of photosynthesis and lies in the fact that trees do not reflect sunlight, but store it.

Whether by natural decomposition or by fire,

This energy is released naturally over time, even if this point in time is millions or billions of years in the future.

Due to their size, trees have a huge surface area to absorb and store solar energy.

Similar to the houses and buildings above (e.g.

facades), trees store an enormous amount of energy.
Even house facades cannot store as much energy as the trees on our planet, mainly because of the huge forests we have.
In fact, trees can be even more harmful to climate change than facades.
Trees only store carbon dioxide and solar heat for a short time and release it back into the atmosphere when they burn or rot.

One hectare of forest stores between 100 and 200

megawatt hours of energy per year, which is roughly equivalent to the annual energy requirements of thirty to sixty households.
Forty million hectares of forest were destroyed by fire worldwide in 2021, mainly in Russia, the USA, Canada, Brazil and Australia. That is almost twice as much as in 2020, just one year earlier.
In other words: Eight billion megawatt hours more were released into the atmosphere in 2021 than in 2020.

**What's more, forest fires not only increase surface temperatures, but also the concentration of carbon dioxide in the atmosphere.**

Today, we burn coal, oil and gas on a grand scale, which is equivalent to all the stored energy from the sun and carbon dioxide from the air.

Trees are largely responsible for global warming because they store sunlight directly and release it completely back into the atmosphere.

That is very frightening. In future, we should only plant trees that are really useful for humans and animals. Only these carefully selected species can make a contribution against global warming and at the same time cover a significant part of our food requirements.

The important nutrients for humans and animals

Trees can be divided into two main categories: fruit trees such as apples, pears, cherries, plums, peaches, nectarines, mangoes, bananas, oranges, lemons, grapes and strawberries.

Nuts and seed trees such as walnuts, hazelnuts, almonds, cashew nuts, pecan nuts, peanuts, pumpkin seeds and linseed.

These trees are important for human and animal nutrition as they provide a variety of nutrients, including vitamins, minerals, fiber and antioxidants. They are also a good source of protein and healthy fats.

Fruit trees are an important source of vitamins and minerals.

Minerals, especially vitamin C, potassium and fiber. They are also a good source of antioxidants, which can help prevent disease.

Nuts and seed trees are a good source of

Protein, healthy fats, vitamins and minerals. They are also a good source of antioxidants.
Effective instruments against global warming! We have carried out a number of studies and have come to the conclusion that we need to take important measures now to combat climate change.

**If we ignore it, climate change will c e r t a i n l y m e a n t h e end of humanity.**

But if we take these measures, w e can actually stop global warming!

**Measure 1 - Population control**

This is the most important action we need to take. If we do not take it now (or soon), there will be no more life on Earth, and this tragic fate may not be as far away as you think.
Our calculations show that humanity could die out in fifty years, perhaps even in as little as thirty years.

We need to reduce the world's population, and we need to do it now.
According to our calculations, the world population should four billion people.
This corresponds to the population in 1974, when the climate did not warm up and remained relatively stable.
The only sensible and immediately effective measure would be for the international community to decide that only one child should be born per family until we have reduced the population to four billion people.

Even if this measure may be controversial in terms of individual freedom, it remains the only long-term solution to the looming crisis.

It will take some time before we reach our target of four billion people again, but once we do, the climate will improve and we can start to cool the climate again.

Fewer people means less body heat, fewer cars, less electricity consumption, fewer apartments and houses, fewer pets, fewer airplanes, fewer livestock farming, less food consumption and much more.

Population control is the only measure that can contribute directly to solving the problems of global warming.

But now we come to the most important factor that seriously threatens all our lives,
the oxygen factor.

The oxygen consumption of eight billion people is a real threat to our climate.

Everyone has to eat. Everyone needs to heat.

The number of fireplaces is increasing rapidly, consuming huge amounts of oxygen, as are heating systems, cars, trucks, ships and airplanes.

We assume that we will have an extreme oxygen shortage in just a few years. The population of our planet has already grown by a hundred million people in just six months!

## How much oxygen does an airplane consume, flying from Paris to New York?

An Airbus A380, for example, consumes one hundred tons of oxygen per hour of flight, while a Boeing 747 consumes around 75 tons of oxygen per hour of flight. It is estimated that an aircraft consumes two hundred tons of oxygen over a distance of 4,350 miles.

This corresponds roughly to the amount of oxygen that produce 20,000 trees per year.
200 tons of oxygen is 400,000 pounds.
And that with over one hundred thousand flights per day.
In general, an adult consumes about twelve liters of oxygen per hour.
This means that an adult weighing 155 pounds consumes about 12 liters of oxygen per hour.
The oxygen requirement increases significantly during physical exertion.

For example, an adult weighing 155 pounds can consume up to 30 liters of oxygen per minute during a sprint.
So we can see that oxygen consumption is increasing enormously worldwide, and with it carbon dioxide emissions.
More carbon dioxide emissions mean more heat in the atmosphere.

**But will it even be possible to produce enough oxygen if our population consumes more and more oxygen?**

The population is growing, more and more trees are being felled, houses and roads are being built. We have discovered that rats and house dust mites also consume oxygen.

More houses mean more mites and more rats. It's really scary to study the consumption side of oxygen, it's consumed by almost everything.
The production of oxygen is the other side of the story and just as fascinating.

**Trees only produce oxygen when they have leaves.**

But in winter, for about six months of the year, from November to May, most trees in the northern hemisphere have no leaves at all!

The leaves are the only parts of the tree that can photosynthesize.
During photosynthesis, oxygen is produced from sunlight, water and carbon dioxide.

The oxygen is then released into the atmosphere.
The rest of the tree, such as the trunk, branches and roots, cannot produce any oxygen at all. These parts of the tree support the leaves and supply water and nutrients from the soil, but they contribute little to oxygen production.
In the future, we will have to seriously consider whether we prefer to breathe or drive.
Consumption is increasing every day because the population is growing.

**We will have a serious oxygen problem very soon if we don't get the population under control!**

**Measure 2 - Artificial lakes**

What is better to stop sea level rise?

A 5,000-hectare forest or a 5,000-hectare artificial lake?

An artificial lake can store an enormous amount of water almost immediately and offers a number of other important advantages.
A forest needs years, if not decades, to store the same amount of water as one of our planned reservoirs.

A forest, however functional it may be,

can never store the amount of water that is available in a limited area.
In contrast, a lake, especially when you consider that our artificial lakes and artificial water holes have an average depth of over 100 meters, can store as much water as the oceans if it extends over several projects.

**Oxygen production is just one of the benefits of creating these artificial lakes.**

Producing food in a lake is much easier and faster than hunting wild animals in a forest.
Compared to a forest, an artificial lake in
provide much more food in a very short time.
Just think of the amount of fish, mussels, crabs and shrimps that could be harvested under controlled conditions in an artificial lake.
What's more, the lake provides an ecosystem in which these staple foods grow more efficiently than any food source from the forest.

**In addition, an artificial lake provides drinking water for millions of people and animals.**

From an economic point of view, a lake with green plants and algae can produce a considerable amount of oxygen.

The quantity depends entirely on the size of the lake and the number of green plants. Plants produce oxygen through photosynthesis and therefore play an important role in oxygen production in bodies of water. However, lakes, whether artificial or not, do not only contribute to oxygen production.
Lakes and oceans also play an important role in storing carbon dioxide, as carbon dioxide is soluble in water.

However, it is important to note that any uptake of carbon dioxide is detrimental to the ecosystem as it can lead to supersaturation of the water with carbon dioxide, which contributes to an overall lowering of the pH of the water.
This is a delicate balancing act that we have to master together.
Of course, a forest can absorb much more carbon dioxide than water, but unfortunately it can only store it.

A forest cannot completely convert carbon dioxide into

convert oxygen. At some point, the trees release the carbon dioxide back into the atmosphere, either when they die or when the wood is burned.
Another function of lakes and forests is to regulate the water table, but our research has shown that an artificial lake does this more efficiently.

An artificial lake or waterhole raises the groundwater

level in its surroundings.
Forests do not raise the groundwater table and do not contribute to water storage in the soil. On the contrary, trees and forests have a number of negative effects on water storage.

Trees draw moisture from the soil, and if there is no rain in the region for a long time, the groundwater level drops quickly. Trees draw water from the groundwater system around the clock, which further influences the groundwater level due to the large number of trees.

**Worse still, as the groundwater level drops, the water level of lakes and rivers is also falling.**

This dramatic effect occurs thousands of times around the world every year, as the measured water levels of lakes and rivers show.
The creation of 1,000 artificial lakes is a surprising solution to the problems described in this book.

The size of these artificial lakes is enormous, each one has

covers an area of 400 square kilometers and is 100 meters deep.
We are currently developing a land use plan for these lakes, but we assume that they will be created in uninhabited areas of the world such as deserts and savannahs.
Just think: the Earth has a total surface area of 510,072,000 square kilometers.
14,000,000 of these are inhabited. This means that 98.6 percent of the earth's surface is uninhabited.

In other words, finding land for this project is not the problem. If the countries of the world join forces, we can really make a difference.
But we have to start and not always just talk at climate conferences or demonstrate on the streets, because that won't achieve anything.
These lakes would be home to green algae, seaweed and other beneficial organisms that convert carbon dioxide up to twenty times more efficiently than trees.
What's more, the fear of forest fires around the world could be alleviated or even eliminated by these lakes. The reservoirs would also have secondary and tertiary benefits, as they reflect sunlight back into space faster and more strongly.

The artificial lakes could also be used for fish farming.

and algae production can be used to feed the world's population.
And finally, they would actively contribute to lowering sea levels by absorbing billions of liters of water above sea level.

## How can the rise in sea levels be prevented?

The solution is simple: dig and create artificial deep water holes and artificial lakes in uninhabited areas.

There is plenty of space for this on earth. There are huge open areas on every continent that offer space for artificial deep water holes and artificial lakes. If they were properly distributed over the earth's surface, they could store an entire ocean. Artificial water holes and lakes on earth have several positive effects on the environment:

- **Increased biodiversity:** Waterholes and artificial lakes are important water sources for many animals and plants, leading to greater biodiversity.
- **Regulation of the water cycle:** Water holes and artificial lakes help to regulate the water cycle by absorbing excess water and slowly releasing it again.
- **Reduction of flooding:** Flooding is reduced by storing excess water in water holes and artificial lakes.

- **Improving soil quality:** Water holes and artificial lakes help to improve soil quality by providing nutrients and keeping the soil moist.
- **Controlling soil erosion:** Waterholes and artificial lakes can help control soil erosion by absorbing and slowly releasing excess water, rather than turning it into rapid rivers that could wash out and carry away soil.
- **Increased agricultural production:** The creation of artificial lakes can increase agricultural production as farmers can irrigate their fields.

The Sahara is the largest hot desert in the world and with an area of over 3.5 million square miles, covers around a third of Africa's total surface area. As it is largely uninhabited, hundreds of artificial waterholes and lakes could be created in the Sahara alone.

The lakes and waterholes should vary in depth, but should have a minimum depth of 100 meters, because at this depth the lake or reservoir is better cleaned by natural elements such as plants and bacteria.

This also limits the maximum temperature and prevents overheating.

For self-cleaning, plants and other plants organisms are introduced into the lake.

Bacteria play an important role in this.

The edges of water holes or lakes should be flattened with grass so that the animals can drink undisturbed.

We should also plant a bamboo barrier around the lake. Bamboo is resistant to many environmental influences.

Bamboo is also very attractive as a windbreak because it grows very quickly and can therefore be quickly replanted or rebuilt if damaged.

The growing bamboo uses the water from the artificial lake. This would also prevent rapid silting up of the artificial lake or water hole in the desert. Animals and people could also be supplied with clean drinking water here in the future.

These artificial lakes would always have fresh, drinkable water.

## What are the enormous advantages of fish farming in artificial lakes?

Aquaculture would further protect our oceans.

Another advantage is the enormous nutritional supplement in regions where fresh food is a challenge.
And we would create millions of jobs, including in Africa, from fish farming to fish processing and beyond.
Since we could completely control these aquatic ecosystems, fish, seafood and algae would become the cleanest edible seafood in the world.
The lakes would only be fed by rainwater and would therefore be free of water pollution.
Healthy plant life would help to maintain the purity of the lake.

The same applies to the various plant species,

that can grow in a clean and chemical-free lake.
In artificial lakes, we should introduce a variety of plant species such as phytoplankton, algae and seaweed.
Phytoplankton are microscopically small plants that float in the uppermost layers of the oceans and have a

play an important role in oxygen content and carbon storage.

**Algae** are a widespread plant species in the sea and can occur in various shapes and sizes, from microscopic single-celled algae to large algae beds.
Seagrasses are aquatic plants that grow in coastal areas and lagoons and play an important role in the ecosystem as a habitat for many marine animals.

**Kelp** are large, deciduous algae that grow in cold water in temperate and subpolar regions and are an important component of coastal ecosystems.

### The problem of blue-green algae.

Not all algae are useful in the fight against climate change. Blue-green algae are formed by a combination of factors:

- Excess nutrients such as phosphorus and nitrogen
- Proximity to land management
- Proximity to sewage treatment plants
- Proximity to commercial livestock farms
- Warm water temperatures
- Low water volume and movement

We have conducted extensive research on this topic for over five years and have come to an alarming conclusion.

Most people believe that the main cause of blue-green algae in rivers, lakes and seas is over-fertilization (especially with nitrogen and phosphorus from agriculture and wastewater).

No, we came to a different conclusion.

We came up with it when we were in the swimming pool.

Agricultural and industrial wastewater have no influence here.

Human and animal urine consists of water,

electrolyte salts, metabolic waste products such as ammonia, urea, creatinine and uric acid as well as other substances such as dyes, medicines and drugs.

The stool consists of undigested food residues, bacteria and white blood cells.

They also contain fats, cellulose, water and salts that the body cannot digest.

We have found that these substances are present in all swimming pools, regardless of chlorine treatment.

This waste comes directly from humans and sometimes even floats on the surface of the water. Therefore, they cannot be filtered out by conventional filters.
Contact with urine and feces promotes the growth of blue-green algae.

**We humans can also become infected directly from other people:**

- Scaling of the skin
- Fungi from skin and nails
- Sweat
- Urine
- Feces
- Cosmetics
- Sunscreen
- Hair oils
- Hair

Even cancer cells can be detected in stool and urine using special tests,
For example, stool DNA tests or tests for bladder tumor markers. These tests can help recognize early signs of cancer.

**Because cancer cells also swim in the water that we may accidentally swallow.**

Some skin diseases can also be transmitted by direct contact or by viruses, bacteria or fungi and are therefore contagious.
In a swimming pool, the water must be cleaned and disinfected regularly to ensure a safe environment for bathers. Everyone knows that.

**But is the water really always cleaned so thoroughly that we cannot become infected?**

Even if this were the case, no swimming pool system is able to cope with the constant rush of people in the pool.

When someone goes to the bathroom, they can swim in the water for hours before passing through the pool's filtration system. That's simply not good enough.
The frequency with which swimming pool filter systems require new filters or need to be serviced depends on the size of the pool, the number of people swimming in it and the maintenance intervals recommended by the manufacturer.

Depending on the filter type and conditions, a filter change may be required annually or every few years.
Cancer cells cannot be filtered out by a typical swimming pool filter system.
Even coronaviruses can be detected in the water and cannot be filtered out.
At least swimming pools and hotel facilities have filters.
Without filtration, the results would be even more tragic, at least for the swimmer.

However, the cleaning and disinfection of the water has

This is only a nominal benefit, because no matter how modern and well-designed the mass introduced may be, it will overwhelm the system.

**But what does it look like in our rivers and lakes?**

Even in the Baltic and North Seas there are blue-green algae that kill people and animals every day.
Time and again, dogs die from blue-green algae poisoning because they drink unfiltered water from lakes and streams.
This algae poses a clear and present danger to all living creatures.

We have become increasingly concerned with the problem of pollution in lakes and rivers.
Here, too, we have come across another constant of the humanity.
In nature, nobody uses the toilets, even though there are plenty of them.
Instead, people go into the water regularly, often only up to their waist, stay there for about ten minutes and then get out of the water again.
They haven't swum an inch. Whether they admit it or not, we all know what they're doing.
This is the main cause of pollution of rivers and lakes worldwide.

Our research has clearly shown that 90% or more of the population use lakes and rivers as toilets. But strangely enough, everyone believes that they are the only ones who do so.
The physiology of this fact reveals a harsh reality.
The pressure that the water exerts on the human body triggers a stimulus in the body that prompts us to go to the toilet.
After all, water pressure is almost 800 times higher than air pressure.

That is why the world's oceans are becoming increasingly polluted. We are eight billion people.
On average, we produce 10 billion liters of urine per day!

**The main cause of blue-green algae is therefore, simply put, humans.**

Fortunately, this is a problem that we can solve through creative thinking, sanitary measures and regulations.

## What else can we do to prevent sea levels from rising?

It is estimated that between 200 and 300 million tons of salt are mined in open-cast mines worldwide every year. This salt extraction in open-cast mines corresponds to around 80 trillion gallons of water. That is 300 billion cubic meters of water.
Let us illustrate this quantity with a comparison.
The Caspian Sea, Lake Baikal and Lake Titicaca contain roughly the same amount of water as all the salts that enter our oceans every year.

*This contributes* to rising sea levels, as this salt is another element that is added to the oceans. Our salt causes the seas to rise further.
We dig up the earth, extract the salt and in the end all the salt ends up in our oceans.

**Has anyone ever thought about where the salt we extract from underground salt mines comes from?**

**Or is this salt perhaps even partly responsible for the rise of our oceans?**

**This salt reaches the oceans via detours such as cooking pots, waste water and rivers!**

The same applies when we use salt as a gritting agent against

Use black ice. This salt not only enters our oceans via the sewage system, but also salinizes the seas. What's more, it fills the seas with its mass and causes them to rise.
And this has been the case for hundreds of years.

**After all, where have the salts gone that we mined in the salt mines 200 or 300 years ago?**

It is already in the oceans and will unfortunately always remain there. Salts do not evaporate like water.
This may sound absurd, but our research confirms it.
We should now fill these mines with the water that we have pumped out over time.
We should also fill up the coal that we have extracted from the mines over the course of human history with seawater and only use sea salt for all purposes.
As sea salt cannot cause sea levels to rise any further, we would also achieve a lowering of the world's oceans if we were to remove water and salt from the oceans again.

Just filling the pits with rainwater would help, even if only as a water reservoir.
These huge quantities could help us to lower the sea level again.
This would also be the quickest and most cost-effective measure to achieve our goals. If the rainwater slowly seeps into the ground, the groundwater level rises again and enormous amounts of water are stored.

**All these measures are helping to bring sea levels down again!**

## Measure 3 - Coal phase-out

Mankind has known about the problems of coal for decades, with pollution being the biggest problem.
We have to stop burning coal, at least the way we have been doing it. We must not forget that carbon dioxide has been stored underground in coal for millions of years. It is only released when coal is mined and burned.
Burning one ton of coal releases around 3.6 tons of carbon dioxide.
This is one of the main reasons for the warming of the atmosphere.

A stove not only burns coal, but also extracts oxygen from the air. This is why the exhaust gases are heavier than the burnt coal itself.
Carbon dioxide weighs more than burnt coal because it consists of one carbon atom and two comparatively heavy oxygen atoms.
These are each around sixteen times heavier than a single hydrogen atom.
We already know that the relative atomic mass of carbon dioxide is 44.

## Measure 4 - Bright colors

We should take care to use as few dark colors as possible outdoors, be it for cars, roofs or roads.
If possible, they should all be light-colored, preferably white. This measure would contribute directly to reducing the increase in global warming.
As already mentioned in this book, bright colors reflect the sun's energy back into space much more efficiently than other colors.

## Measure 5 - Lighter vehicles

Since the invention of the automobile, the number of vehicles on the road has exploded. By 2023, there will be an estimated 1.5 billion cars worldwide. By comparison, this figure has risen by more than 30% since 2008 and by 4.2% since 2022.
One way to combat global warming is to significantly reduce the number of registered vehicles.
This goes far beyond the carbon emissions from the engines of these vehicles, because each car has a larger surface area to absorb sunlight.
The number of vehicles registered worldwide continues to rise.

This is mainly due to the growing world population.
Car windows continue to cause problems and carry
to global warming.
As you probably know, the interior of a car can heat up to over 60 degrees Celsius on a summer's day. Window panes convert sunlight into heat by absorbing solar radiation, which consists of electromagnetic radiation of different wavelengths.

The absorbed energy is converted into heat.

Consequently, the number of cars must be drastically reduced, and if this goal is achieved, global warming will automatically be minimized. We would also have much more parking space and less energy consumption in the manufacture of vehicles.

**Measure 6 - Artificial icing of glaciers** Re-icing the Earth's remaining glaciers and the North and South Poles with snow cannons will drastically reverse climate change.

**The artificial icing of the North and South Poles with snow cannons has many advantages.**

- Slowing the rise in sea level
- The Arctic and Antarctic are better protected.
- The water supply will improve.
- The habitats of the animals will recover.

Overall, the artificial icing of the North and South Poles with snow cannons is a promising technology that can help to mitigate the effects of climate change worldwide.

**How can we restore the ice at the poles?**

Between 1980 and 2010, more than 90 billion tons of natural ice melted every year.
The ice on Greenland's glaciers has shrunk by average of 238 billion tons per year.

**It is important to know that the melting of ice at the poles not only has an impact on the sea level, but also on the climate, global weather and other ecosystems that depend on it.**

**The first simple measure** to slow down the melting of the glaciers is the installation of snow cannons.
Especially in the winter months, these cannons would help the glaciers in the mountains and at the North and South Poles to regain their former glory.

This technology, which has been used on ski slopes for

The method that has proven itself over decades could also be used in the fight against climate change. Snow cannons turn compressed air and water into snow.
Here is a brief overview of the process:

- **Water intake:** A pump draws in water and pumps it into a container.
- **Compression:** The water is then compressed.
- **Mixing with cold air: The** compressed air is then mixed with cold air so that the water droplets freeze.
- **Ejection:** The water droplets are then ejected from the cannon tube and released into the cold air.
- **Icing:** The water droplets freeze immediately when they come into contact with cold air and form tiny ice crystals.
- **Merging the ice crystals:** The ice crystals collect and grow together to form larger ice crystals and form snow.

A typical snow gun can produce between 35 and

70 cubic meters of snow per hour, depending on the size and performance of the gun.
Some modern snow cannons can produce up
to 100 cubic meters of snow per hour.
With this power, the glaciers could be properly iced over again within a very short time.
That's why we should equip as many mountain peaks as possible with snow cannons so that they can be iced over every winter and even extend the snow season into the transitional periods in spring and fall.

Even in summer, high-altitude mountains can

as long as temperatures remain below freezing. As long as the temperatures remain low, the snow cannons work.
Another technique we are actively researching is the use of fire-fighting aircraft (normally used in summer to extinguish forest fires) to load and drop snow directly from the air onto glaciers and mountain peaks.

**The peaks and glaciers were to be filled with the same amount of snow as 200 years ago.**

As soon as the snow is there, it has to be soaked with water so that it hardens, adheres to the glacier and does not later become a dangerous avalanche.
The same principle that applies to the Earth's mountain ranges naturally also applies to the North and South Poles.
With snow cannons, airplanes and other technologies that will be developed over time, these remote areas could be constantly supplied with snow and ice.
If a snow cannon produced 100 cubic meters of snow per hour and we set up a thousand snow cannons each at the North and South Poles, we could change the world in just one year.
Of course, the snow cannons should be powered exclusively by solar or other green energy.
In fact, it is very possible to generate geothermal energy at the North and South Poles.

Although both poles are extremely cold regions of the earth

If we are able to use the geothermal energy in parts of Antarctica and Greenland to supply us with clean and renewable geothermal energy.
Geothermal energy is already an important source of energy for several neighboring countries.

One example is the Iceberg Point geothermal power plant in Greenland, which has been in operation since 1990 and is an important source of energy for the local population.
Glaciers and poles can help us store huge amounts of water to slow down or even prevent sea levels from rising.
Snow can also increase the reflection of sunlight, which means less carbon dioxide is absorbed, helping to reduce greenhouse gas emissions.

## The problem with wood-burning fireplaces !

Using a fireplace at home as a heat source is very inefficient.

**Did you know that a fireplace is not used to heat a room or a house, at least not very well?**

A fireplace cools a room rather than heating it. When we light a fire in a fireplace, the fumes from the wood and the heat given off by the wood must naturally escape.
We all know that heat naturally rises upwards. The air that escapes from the fireplace into the atmosphere leaves the house through the chimney.

This air must of course get back into the house, otherwise the house would be an airless room. This air is sucked into the house through the smallest cracks (e.g. windows, doors, floors, etc.), even if windows and doors are closed.
Let us now assume that the outside air temperature is significantly below the average room temperature in the building.
In this case, this means that the rooms in the building cool down quickly when the fireplace is not in operation.
In any room with a fireplace, the air on the floor is particularly cool.

The air that flows upwards must be automatically replaced at the bottom.

**This effect not only gives us cold feet, but the whole house is cooled by the incoming cold outside air instead of being heated by the chimney.**

That defies logic, but the truth is inescapable.
Our pets, which often lie on the floor, feel this effect the most. The cold air flowing across the floor cools the animals down.
This often leads to colds and even dangerous infections.

We have proven what this means through research and experiments.

**When a fireplace is burning, the overall temperature in the house is actually cooler.**

Every time warm air passes through the chimney, it has to be replaced by cool air from outside. If too many households in a particular area use a chimney in winter, the air saturated with exhaust fumes from that area flows back into our homes.
Therefore, fireplaces are inefficient and harmful to the atmosphere because of the exhaust fumes and heat they generate.

**Unfortunately, this also means that fireplaces contribute directly to global warming.**

Every additional heat emission into the atmosphere means a warming of the atmosphere directly above the chimney and beyond. The wind then carries exhaust gases, warm air and particulate matter to more distant regions.
We all believe that the exhaust fumes from a fireplace disperse quickly in the air.

This may be true for an individual fireplace, but the collective nature of fireplace use should not be underestimated.
If a high percentage of households in a city or settlement try to heat the air through fireplaces, especially in winter, the overall impact can be significant.
Exhaust fumes from chimneys can travel extremely long distances due to natural winds.
In the long term, gases and aerosols can be transported thousands of kilometers by the wind.
One example is the eruption of the Icelandic volcano Eyjafjallajökull in 2010.

For days, it carried ash and gases across Europe and the

Atlantic. Air traffic was disrupted for days throughout Europe, even thousands of kilometers away from the outbreak site.

**Fireplaces also have similar negative effects due to their heat and emissions.**

When you consider how much wood has to be burned in order to feel any heat in the room at all, it is more than unwise to use a fireplace as a heat source.

*Imagine* a fireplace that emits its heat directly into the room, in all directions at the same time.
This could increase efficiency. On average, however, a fireplace can only
25,000 to 30,000 British thermal units per hour. This corresponds to around 8.5 kilowatt hours of electricity.
This can easily be compared to the heat that would be generated by operating four fan heaters with 2 kilowatts each. Within a few minutes, a normal room would be extremely warm with these fan heaters.

Much warmer than a single fireplace could ever be.
You can imagine how warm this room would be if the fan heaters could not be switched off.
And of course, electric heaters warm up a room in minutes, much faster than a fireplace ever could.
The reasons for this discrepancy are obvious.

**What happens to all the radiant heat that the fireplace does not emit into the room?**

The rest of the chimney heat simply escapes unused through the chimney into the atmosphere.

An absolute waste when it comes to heating a house.
With room heating, no air escapes through the chimney and no cold air flows into the home because no warm air has to escape from the chimney.
This makes these space heaters much more efficient. In addition, there are no exhaust fumes and no particulate matter.
And if the electricity comes from hydroelectric, wind or solar power, we have yet another

**Advantage:** Electricity generation does not contribute to climate change either.
This example shows how much heat we generate with a fireplace and release unused into the atmosphere. What's more, a fireplace actually cools our house down due to the cold air flowing in, which is the opposite of the desired effect.

But it's not just fireplaces that heat up our atmosphere.

Unfortunately, ovens, cars, buses, ships, air conditioning systems, furnaces, airplanes and factories also emit large amounts of heat.
This also contributes to the warming of our atmosphere.
These heat sources are largely responsible for the extreme warming of the Earth.

They all burn at high temperatures, which affects the temperature of the planet itself.

If there all these artificial heat sources of the

If humans did not, global warming would come to a standstill and the storms would abruptly subside. The higher the thermal activity, the more air has to be drawn in from the environment.

This principle can be observed particularly well in summer. After hot summer days, thunderstorms quickly form and everything boils down to heat rising into the atmosphere.

And normal summer thunderstorms can form under the

The right circumstances can lead to deadly storm systems such as tornadoes or hurricanes.

According to the National Oceanic and Atmospheric Administration, an average of 1,253 tornadoes per year have been reported in the USA over the last fifty years.

Some of the worst tornado years in the U.S. were 2011 and 2017, when hundreds of tornadoes were reported, causing severe damage and casualties.

You can clearly see that the thermals in the USA in

has continued to increase in recent years and how frequently severe storms and other weather disasters occur in conurbations.

**Is green energy always climate-friendly?**

## No!

## Why not?

Because these technologies also lead to global warming.
Of course, electricity generation with its huge network of generators and coils contributes to global warming. But that's not all.
End consumers also heat up the climate by using electricity, regardless of where it comes from.
Whether vacuum cleaners, stoves, ovens, cars, buses, ships, heating systems, air conditioning systems, airplanes or factories - every time electricity is used, it affects our climate.
All these things contribute to global warming because they release enormous amounts of heat into the atmosphere.

*No matter* **which technology is used to generate energy, they all contribute to global warming.**

## A word about the trees.

**Did you know that we could save 2.1 gigatons of carbon dioxide every year if we just stopped the decay of dead trees and leaves?**

If we could achieve this, it would be a wise consideration for every climate researcher.
Of course, it would be wise to find ways to remove such a large amount of carbon dioxide from our planet without having to give up anything. When discussing topics such as those covered in this book, the additional carbon dioxide emissions from our forests are easily overlooked.
It is precisely this aspect, the natural cycle of forests, that most people do not take into account. Forests not only store carbon dioxide during the life of a tree, but also release all the stored carbon dioxide back into the atmosphere at the end of its life.

It is a double power, that in this all decisive battle against us and the climate.
The world's forests are constantly exhaling carbon dioxide, because all the carbon dioxide stored in the wood and leaves of dead trees decomposes on the forest floor.

Forests contribute to the carbon dioxide cycle in the ecosystem by absorbing carbon dioxide from the atmosphere and storing it in plant material such as wood through photosynthesis.

If this material is used after the

plants, it is released again and returns completely to the atmosphere as harmful carbon dioxide.
The unused heat from wood naturally contributes to global warming.
However, it is estimated that the decomposition of wood releases around 2.1 gigatons of carbon dioxide every year.
This corresponds to 3.9 % of global annual carbon dioxide emissions from all human activities.

One idea for solving this problem is this,

to burn rotting wood and leaves from the forest floor in heating and power plants.
As a result, much less oil and coal would be burned, consumption would fall and ultimately less carbon dioxide would be released into the atmosphere.

**These are the goals of every climate researcher, and we are actively looking for the best methods to achieve them.**

## We can easily save carbon dioxide ourselves every day!

Each of us, whether at home or in the office, must do our part!

Together, we could save billions of watts of electricity every day by simply pulling the plug out of the socket.

Even when appliances such as washing machines, dishwashers, printers and many others are not in use (e.g. in standby mode), they consume electricity.

This means that when the appliances are not switched on and are just waiting for us to use them, they each consume between 6 and 13 watts of electricity!

That adds up, especially in the digital age where most people own multiple devices.

When this technology and this idea are fully

were used, billions of watts of electricity could be saved every day in the USA alone.

Less energy consumption also means less carbon dioxide emissions for the environment.

For individuals, this means savings of almost 150 dollars per year per household; for companies and public authorities, thousands of dollars per year.

The sheer volume of electrical appliances makes it

impossible to make precise estimates, but it is clear that we are wasting electricity without any benefit.

from it, and that is something we have to try to solve.

The level of electricity consumption depends on

This depends on various factors, such as the number of appliances, their efficiency, how long they are used and the respective electricity tariffs. One thing is certain: the problem has been increasing for decades and will not slow down in the future.

According to estimates, standby appliances consume billions of kilowatt hours of electricity every day worldwide.

## Strategies for the future

### What causes climate change?

- Body heat of 8 billion people
- Body heat of farm animals, wild animals and pets
- Heated apartments, schools, stores and offices.
- Street lighting
- Steel furnaces
- Internal combustion engines
- Generators, including wind power and hydropower plants.
- Fireplaces
- Rotting wood and leaves in forests and parks
- Standby devices

The effects of climate change include an increase in the number and intensity of extreme weather events such as heatwaves, droughts and floods.
A rise in global temperatures is usually accompanied by a rise in sea levels due to the melting of glaciers. In addition, an increased concentration of carbon dioxide in the atmosphere can lead to acidification of the oceans.

When carbon dioxide dissolves in the oceans, it reacts

It forms carbonic acid with the water, which lowers the pH value and makes the water acidic.
This can affect marine organisms with calcareous skeletons or mussels, as the more acidic water can dissolve these structures.
However, this acidification affects far more than just marine organisms and can also affect humans directly via various food cycles. A higher concentration of carbon dioxide can also impair photosynthesis and plant growth.

## How can we stop or even reverse the global rise in temperature?

Our research has shown that temperatures correlate with past carbon dioxide levels.
There is a simple solution to lowering the Earth's temperature, and it is far less complicated than some people think.
The answer is simple.

**We need to remove a large proportion of carbon dioxide from the atmosphere.**

**What are the effects of a higher concentration of carbon dioxide in the atmosphere?**

**The first strategy:**
convert carbon dioxide into oxygen.
A proven strategy in the fight against climate change is the conversion of carbon dioxide into oxygen, in very large quantities and through processes such as photosynthesis.
In this way, we can massively reduce the amount of carbon dioxide in the atmosphere.
It's as simple as that:

## Less carbon dioxide in the atmosphere means less climate change.

**But how do we convert carbon dioxide back into oxygen?**

**And what binds carbon dioxide better than trees?**

Green algae and seagrass can have a positive impact on the earth's climate by removing carbon dioxide from the atmosphere and producing oxygen - without the negative side effects of reforestation with trees.
First and foremost, green algae absorb carbon dioxide directly from the atmosphere and store it.

With the help of photosynthesis, green algae convert

carbon dioxide and water into sugar and oxygen with the help of solar energy. The oxygen is released into the atmosphere, while the carbon dioxide is stored in the algae.
Green algae are the largest oxygen producers on earth. They produce around half of all the oxygen in the atmosphere.
Oxygen is required by all carbon-based life forms.
Green algae can also help to improve water quality.

They remove pollutants such as nitrogen and phosphorus from the water, which deteriorate water quality and affect human and animal health.

Green algae must play an important role in the fight against

They have the unique ability to efficiently and effectively remove carbon dioxide from the atmosphere, produce oxygen and improve water quality.
We propose to build huge water tanks (>100,000 liters) with seawater, algae and seaweed.

According to our plans, these water tanks would be in and

most effective around city centers. If used correctly, they could replace trees as a source of oxygen.
Green algae and seaweed improve air quality and bind carbon dioxide at the same time, especially in cities.
Seagrass can also be a means of combating climate change. A special type of seagrass produces oxygen and binds carbon dioxide from the atmosphere. It can also filter pollutants out of the water and thus improve water quality.
Seagrass is a proven carbon dioxide absorber.

**A study by the University of California Davis found that seagrass can absorb a hundred times more carbon dioxide from the atmosphere than trees.**

In addition, seagrass can filter up to 97% of pollutants from the water.

Seagrass is a sustainable and cost-effective

Opportunity to improve air and water quality in cities.

It's also an effective way to combat climate change. Here are some of the benefits of planting and managing seagrass in our large urban water basins:

- **Improving air quality:** Seagrass produces oxygen and removes carbon dioxide from the atmosphere. This can improve air quality and people's general health.
- **Improving water quality:** Seagrass can filter pollutants out of the water and thus improve water quality.
- **Combating climate change:** seagrass can remove carbon dioxide from the atmosphere and store it. This can counteract climate change and protect the environment.

Seagrasses produce more per unit area

oxygen than trees, as they photosynthesize particularly efficiently in water.

It also achieves high growth rates under ideal conditions.

During photosynthesis, plants such as seagrass absorb carbon dioxide from the atmosphere and convert it into organic compounds using only sunlight and water.
Oxygen is released as a by-product.
The main difference between seagrasses and trees is that trees are comparatively slow-growing plants whose photosynthetic performance is highly dependent on the seasons and environmental conditions.
Seagrasses, on the other hand, grow in a marine environment with constant light and temperature conditions.
Due to their high productivity, seagrasses can produce more oxygen per unit area than trees.

At night, the water tanks could still be filled with

solar-powered LED lights to encourage the growth of algae and seaweed throughout the day.
This type of algae produces the most oxygen and can multiply very quickly in both salt and fresh water.
Through photosynthesis, algae absorb carbon dioxide and produce oxygen. Part of our master plan is to inoculate controlled seas, lakes and rivers with our algae and thus massively increase their growth potential.

There is more space for oxygen-producing flora in seas, lakes and rivers than on land.

**It is important to note that algae grow much faster than trees.**

They reproduce rapidly and can reach a considerable biomass within a few weeks.
Unlike trees, they are not tied to specific soil conditions and can grow in both fresh and salt water.
Chlorophyta algae are highly efficient in the use of light, water and nutrients for photosynthesis.

They can also use water and nutrients more efficiently.

than trees, which leads to efficient biomass production.
Algae have many advantages, including being less susceptible to forest fires and storms than trees and forests.

## The second strategy

is the increase in fish stocks in the world's oceans.
One consequence of the first strategy is a massive expansion of fish and seafood products that can be consumed.

Through the mass reproduction of algae in the waters, we can achieve an increase in fish populations worldwide.
Fish and other aquatic food sources will find more food due to the increase in algae and the fish population in the world's oceans will explode. If necessary, we will also reintroduce juvenile fish into the waters.

**The third strategy:**

Waters such as oceans, lakes and rivers are being cleared of algae again.
As already mentioned, algae play an important role in the purification of water.
Algae can absorb and store pollutants such as heavy metals, nitrogen compounds and phosphates from the water.
This process is known as "algae fixation" or "algae absorption". This also reduces the turbidity of the water.

With their thread-like structures or

Mucus secretions can retain suspended matter and sediment in the water and even help to clarify the water.
Algae use organic pollutants as a food source, which they break down in the water and thus contribute to improving the water quality.

**Fourth strategy:**

Production of biofuels.

According to our plans, the development of biofuels on a large scale is possible because green algae also produce large quantities of biomass.

Algae cells also contain oils and fats that can be used as a raw material for biofuel production.

### How much biofuel can be obtained from one ton of chlorophyta?

One ton of Chlorophyta algae has an average oil content of 30%.

This means that one ton of algae contains around 300 kilograms of oil. We estimate that almost 300 liters of biodiesel or other biofuels (bioethanol, biogas) can be obtained from 300 kilograms of algae oil.

**The fifth strategy:**

Freeing the oceans from plastic waste with bacteria.

### Can bacteria break down plastic?

Yes, some bacteria actually break down chemical compounds in plastics and use them as a food source.

This process is as "biological degradation".

One example of such a bacterium is Ideonella sakaiensis.

It was recently discovered that this bacterium is able to break down polyethylene terephthalate (PET).

The bacterium produces an enzyme called PETase, which enables the degradation of PET plastics.

**The depth of tree roots.**

How deep the roots of a 30-meter-high tree reach depends on the tree species, soil composition and other environmental conditions.

In general, however, the roots of a tree can reach two to three times as deep into the ground as the tree is tall.

Depending on the species and growth

conditions absorb different amounts of water from the soil.

However, it is estimated that a mature deciduous tree absorbs an average of around 70 to 135 liters of water per day, while a coniferous tree requires slightly less.

Individual trees can absorb up to 265 liters per day.

This is the main reason why it is better to create artificial lakes to combat sea level rise than to plant a forest of trees.

**Put simply, trees extract water from the soil too quickly to store carbon dioxide efficiently.**

**What's more, an artificial lake stores much more water than a tree or an entire forest!**

In addition, compared to a forest, an artificial lake can provide much more food, including fish, mussels, crabs, shrimps, squid, shellfish and algae, much faster and more efficiently than any food source from the forest.

In addition, an artificial lake provides clean and

safe drinking water for millions of people and animals.
From a macro perspective, a lake with green plants can produce a considerable amount of oxygen for the atmosphere.
The quantity depends entirely on the size of the lake and the number of green plants it contains.
The photosynthesis of plants produces oxygen, so that plants play an essential role in the production of oxygen in water.

Lakes, whether artificially created or not, not only contribute to oxygen production.
Lakes and oceans also play an important role in the Storage of carbon dioxide, as carbon dioxide is soluble in water.
Of course can a forest much more carbon dioxide than water, but unfortunately it can only store it.
A forest cannot completely convert carbon dioxide into oxygen.
At some point in the future, the tree will release this carbon dioxide back into the atmosphere when it dies or the wood is burned.

Another function of lakes and forests is the regulation of the water table, but our research has shown that an artificial lake does this more efficiently.
An artificial lake or waterhole raises the groundwater level in its surroundings.
The forest neither raises the groundwater level nor does it contribute to water storage in the soil.

**On the contrary, trees and forests have several negative effects on water storage.**

The trees draw moisture from the soil, and if it doesn't rain, the groundwater level sinks rapidly.

As the trees draw water from the groundwater around the clock, the groundwater level is also affected.

**Worse still, as the groundwater level drops, the water level of lakes and rivers is also falling.**

This dramatic effect happens thousands of times around the world every year. If you take it too far, the lake can dry up completely.

To prevent this, our research has developed the

The use of rainwater collection pipes is proposed in order to maintain the volume of these water holes and lakes.
These would make it possible to transport heavy rainfall in an area to where the water is needed.

In other words:

If it rains heavily in one area, this rain can be transported to other lakes and waterholes.
We have been connecting the world with railroads, roads, electricity, telephone and gas lines for more than a century. There is no reason why we should have

trend and build a network of water pipes.
Technically speaking, it would be easy to lay water pipes underground.

## The production of oxygen from carbon dioxide.

Sometimes we think that taking carbon dioxide out of the air is all we need to do and that there will be no unexpected consequences.
However, our research has focused on all the possible consequences associated with removing carbon dioxide from the atmosphere, and they are all positive.

**Removing large quantities of carbon dioxide from the air would help to reduce the carbon dioxide content in the atmosphere and thus mitigate the greenhouse effect.**

The greenhouse effect is a natural process in which gases such as carbon dioxide, water vapor and methane trap the sun's heat in the earth's atmosphere and keep the earth warm - sometimes too warm.
The proportion of carbon dioxide in the atmosphere is currently around 0.04%, or 400 parts per million.
This means that around 400 out of every million air molecules consist of carbon dioxide.

The truth is clear.

The carbon dioxide content of the atmosphere has risen over the course of human history, particularly in recent decades, due to human activities such as the burning of fossil fuels and deforestation.
These destructive activities have led to a rise in global temperatures and other tragic effects of climate change.

When we inject carbon dioxide under high pressure into a

5,000 miles of pipe, we can store millions of tons of carbon dioxide - more than enough to stop global warming.
5,000 kilometers may sound like an impossible distance, but the Chinese already have much longer gas pipelines.
The longest gas pipeline in the world is the Petro-China West-East Pipeline, which stretches 8,704 kilometers between Xinjiang and Shanghai.

The west-east pipeline was completed in 2005 and

has a capacity of 17 billion cubic meters of gas per year.
It is part of a larger pipeline and infrastructure network that transports natural gas from various regions of China for consumption.

Consider the Chinese pipeline only from the point of view of feasibility.
New pipelines have to be built for our plans,
probably on a difficult world map.
But if we can find a way to manufacture and install these pipelines, we could pump the carbon dioxide through them.
Of course, the storage of carbon dioxide in our system is much higher than in the relatively pure forest air.
There is no doubt about that. We can store a huge amount of carbon dioxide in a much shorter time than any forest.

Petro-China's west-east pipeline has been built via

five thousand miles long and has a diameter of
13 feet. It could store almost four billion cubic meters of carbon dioxide.
This amount would compensate for all human impact on the environment and climate change since the beginning of human history until today - and much more.
The promotion is the easy part.
Each country must create and secure its own storage facilities.

*If* we succeed in winning the world over to our plans, we can remove a considerable amount of carbon dioxide from the atmosphere in a short time, and if every country stores it, we can significantly reduce global warming.

### How is carbon dioxide turned back into oxygen?

If you read up on our technology, most people are concerned about carbon dioxide being stored in solid or liquid form.
This is reminiscent of the time when we buried nuclear fuel, as if that could not be a problem in the future.
But of course we also have a plan for this, and there are two options, the natural way and the artificial way.

The natural way relies on algae. As described earlier in this book, an important part of our plan is to create and maintain large artificial lakes in which huge algae grow that naturally convert carbon dioxide into oxygen.

There, the stored carbon dioxide is released slowly and as efficiently as possible into the water so that the algae can absorb carbon dioxide from the environment and convert it into oxygen.
Some algae can absorb up to twenty times more carbon dioxide per unit area than land plants.
Chlorella vulgaris and Chlorella pyrenoidosa, for example, are algae species that have been scientifically proven to be effective in lowering carbon dioxide levels. This family of algae primarily binds carbon so that it essentially eats up the carbon dioxide and produces clean and healthy oxygen as its only by-product.

**And an artificial method?**

Even if it is artificial, this does not mean that it is harmful.
Under laboratory conditions, this process could even be safer than the imponderables of nature.
In the International Space Station, oxygen has to be produced artificially so that the astronauts can breathe.

This is done by electrolysis, a quick and simple method of converting carbon dioxide into oxygen.
To do this, the carbon dioxide atom is split into carbon monoxide and oxygen, with carbon monoxide being produced as an intermediate product.

In science, these processes are referred to as the "Sabatier reaction" and the "Boudouard reaction".

Their effect is used in closed systems to produce oxygen for the breathing air in spaceships or space stations.
The best thing is that we don't have to fly into space to do the same with our stored carbon dioxide.

It is possible to create an artificial photosynthesis

to convert carbon dioxide into oxygen.
During photosynthesis in plants and other organisms, carbon dioxide is absorbed from the air with the help of chlorophyll and sunlight and converted into various organic compounds, including oxygen.

Artificial photosynthesis attempts to imitate this process. One promising approach is the use of such
so-called "heterogeneous catalysts", which are applied to the surface of solid carbon dioxide.
The conversion into oxygen is fast, efficient and safe. Carbon dioxide can thus be stored in large quantities and released again later.

**This method helps the world to lower global temperatures and reduce harmful winds and storms.**

## The influence of humans on tornadoes.

*Tornadoes* are the result of complex weather phenomena caused by the interplay of air currents, humidity and temperature differences in the atmosphere.
temperature differences in the atmosphere. A tornado occurs when warm and moist air masses meet cold and dry air masses and collide with them.
This leads to instability in the atmosphere, which is known as a supercell.

A supercell is a thunderstorm with a rotating upward movement that creates an area of low pressure.
If the rotation speed of the air cells is high
enough, this can cause the air to spiral and form a vortex.
This vortex can intensify into a tornado, as warm and moist air from the surrounding area is sucked into the vortex, strengthening it even further.
The amount of air moved by a tornado can vary greatly depending on the size and intensity of the storm.

To give a rough estimate: A strong

Tornadoes can reach air speeds of over 400 km/h and have a diameter of several hundred meters. These weather phenomena are powerful and move quickly.
Assuming a cylindrical shape and a height of one kilometer, a tornado can theoretically move an air mass of several hundred thousand cubic meters within a few minutes.

Humans have a dramatic influence on the

The number and strength of tornadoes around the world. If it is agreed that humans influence the climate, it is only a small step to include tornadoes in this analysis.

## What can you do against tornadoes ?

Our prevention concept begins with a ring of pipes sunk into the ground around a tornado-prone town.
Depending on the size of the city, the pipe could be 35 kilometers long and have a diameter of 4 meters, for example.
This pipe would have a volume of almost 440,000 cubic meters.
When a tornado approaches this city, we activate the system and suck this pipe dry with our Petawatt 2025, creating a quasi-vacuum.

In other words: We would

Remove 440,000 cubic meters of air from the pipe.
The volume of our Petawatt 2025 system is just under 50,000 cubic meters, which means we would only have to move the two cylinders ten times to generate the vacuum.
If a tornado approaches the city, there are flaps in the floor that can be opened and closed manually or automatically.

These flaps are connected to the pipe using our proprietary technology and open the moment the tornado hits the city.
If the tornado's body whirls over a flap, the tornado itself is trapped in the tube, where it can do no further damage.
To calculate the flow velocity of air, we need to apply Bernoulli's equation, which describes the relationship between the pressure and velocity of a fluid.

The Bernoulli equation: The Bernoulli equation is

is a basic equation of fluid mechanics and describes the relationship between pressure, velocity and height of a compressible fluid in a closed system.

**In our context, the Bernoulli equation is**
P1 + ½(ρ)(v12) = P2 + ½(ρ)(v22), where P1 and P2 are the pressures at the two ends of the pipe, ρ is the density of the air and v1 and v2 are the velocities of the air at the two ends of the pipe.
As the pipe is empty of air, the pressure at one end of the pipe is close to zero, while the pressure at the other end of the pipe corresponds to the atmospheric pressure of 1 bar.

This means that the air would flow into the container if the pressure difference between the container and the environment was one atmosphere and the opening of the container was ten meters.
This would be enough to completely suck the tornado's fuselage into the pipe in just a few seconds.
But we don't have to pull the whole tornado through the pipe.
If it doesn't work the first time, we simply open other flaps in the city to catch and collect the tornado.

The other open flaps are then immediately

closed again so that the danger is completely eliminated.
This technology could save countless lives.
Of course, the Petawatt 2025 is also put back into operation immediately, so that the tube is repeatedly sucked empty in order to suck in as much air as possible from the tornado.

This system will undoubtedly eliminate the tornado

within a few seconds.
This pipe system can also fulfill several other functions.
If necessary, we can ventilate an entire city.

*In* other words, the vacuum tubes can simply suck the bad air (e.g. pollution, industry, etc.) out of a city.
This pipe system is also advantageous for cities without the risk of tornadoes.
Apart from tornadoes the the applications in the real world are unlimited, including the elimination of smog and pollution in any city.

Think of cities that constantly suffer from smog, such as z. B.:

- **Los Angeles, California:** Los Angeles is known for its poor air quality due to the high number of cars and its location in a valley.
- **Houston, Texas:** Houston is a city with many industrial and refinery facilities that contribute to smog formation.
- **New York, New York:** New York City is one of the most densely populated cities in the United States and has countless cars and trucks. Smog in the city is also caused by nearby industry, shipping traffic and air pollution from other regional cities.
- **Phoenix, Arizona:** Phoenix is known for hot and dry conditions that contribute to smog formation.

- **Salt Lake City, Utah:** Salt Lake City is surrounded by high mountains that cause the smog to settle in the city.

These are just a few examples of the many cities in the

USA that are struggling with smog problems.
Since we are writing the book for the world and the USA wants to help the whole world solve climate problems with new technologies, this pipe system can of course also help many other cities around the world.

With Petawatt 2025, the total amount of polluted

Air in the cities is simply sucked in through the vacuum of the pipe system and then transported into a water basin with a step system so that the air cannot rise to the surface immediately.
This technology makes it possible to keep the air in this water basin for the time required for cleaning (several minutes).
It then returns to the surface of the water in the form of pearls.

An important consideration is the relative weight of the

Gases. Carbon dioxide is heavier than oxygen. Carbon dioxide has a molecular mass (44 grams per molecule), while oxygen has a lower molecular mass (32 grams per molecule).

**This means that carbon dioxide molecules exert a greater gravitational pull on the earth's surface and therefore tend to accumulate near the ground.**

Oxygen, on the other hand, is lighter and tends to accumulate in higher layers of air.

## Earthquake-proof houses.

Earthquakes can be triggered by various causes.

The most common causes of earthquakes are

- **Plate tectonics:** Earthquakes are often caused by the movement of tectonic plates in the earth's crust. When two plates move against each other, tension builds up which is eventually released in the form of earthquakes.
- **Volcanism:** Earthquakes can also be caused by volcanic activity such as magma upwelling and lava eruptions.
- **Human activities:** Blasting during mining, construction or geothermal projects can lead to induced earthquakes. The damming of water in reservoirs can also change the tectonic stresses due to the resulting pressure.

- **Glacier melting:** When large masses of ice melt, the underlying earth's crust can rise or fall, causing stresses that can be released in the form of earthquakes.
- **Meteorite impacts:** Extremely rare events in which a large meteorite strikes the earth can lead to very strong earthquakes.

Explosions in the earth's interior can trigger earthquakes, by changing the natural stresses in the earth's crust.
An explosion inside the earth creates a shock that spreads in all directions.
If this shock hits existing tectonic stresses in the earth's crust, these stresses can be released and trigger an earthquake.
There are numerous cases in which explosions in the earth's interior have triggered earthquakes.
A well-known example is the 1989 Newcastle earthquake in Australia.

Blasting was carried out continuously in a coal mine to extract coal.
These blasts caused tremors that released tectonic stresses and triggered a magnitude 5.6 earthquake that caused serious damage to property and personal injury.

Another example is the Pohang earthquake in South Korea in 2017.
A geothermal spring near the city of Pohang
was repeatedly blasted to inject water into the geothermal plant.
These explosions ultimately led to a magnitude 5.5 quake, which also caused property damage and injuries.

**How can we protect ourselves from earthquakes so that people are no longer injured or even killed?**

## Our idea to build residential ships at .

In the future, we should build residential vessels that float on water in earthquake zones or in areas with known risks of other unpredictable natural disasters.
Our master plan envisages the development of these floating cities, not unlike the large cruise ships that already ply the seas.
However, these ships would not be designed for tourism, but for the best possible way of living.

Residential ships can of course be anywhere in the world

are built to create temporary living space under various circumstances.

*The* flexibility of houseboats for emergencies is incredible, from accommodating the homeless, students, senior citizens (with or without wrap-around care), temporary workers and even vacationers. Live-aboards or houseboats would be particularly suitable for:

- Earthquake
- Hurricanes, tornadoes, cyclones, hurricanes
- Heavy, torrential rain
- Devastating forest fires
- Chemical accident
- Volcanic eruption
- Nuclear power plant core meltdown
- Plagues from animals or insects
- Heat waves/cold waves
- Temporary accommodation during epidemics
- Refugees, homeless people, students, senior citizens
- Temporary workers

A decisive advantage of residential vessels is the

The fact that water has absorbent properties that significantly dampen the vibrations and shock waves of earthquakes.

Put simply, boats and ships are not shaken as much as buildings on land.

No ship is damaged by an earthquake! No one is killed or injured!

But there are many more advantages.

Residential vessels can be built very quickly in shipyards and returned to a shipyard at any time for renovation, maintenance or repair.
Compared to conventional houses, residential ships are often 100% recyclable. They can be designed and built in a very short time and offer affordable living space close to the water, even in large cities.

We envision a modular approach in which

these ships can be designed and built as easily as Lego bricks.
Another major advantage of the residential ships is that they can change their location at any time.
If a natural disaster threatens, the accommodation vessels can leave their location quickly, with or without a plan for a later return.

**But what about areas that are not close to waterways?**

Tornadoes usually occur on land, far away from lakes or rivers that could accommodate a residential vessel.

To solve this problem, we should use existing lakes or canals, including the artificial lakes and waterways already mentioned in this book.
Our instruments for combating climate change have the side effect of providing safe shelter in an emergency.

Residential ship projects need to be built as quickly as possible.

This is because there will be new and unforeseen natural events and disasters.
The sooner we are prepared, the safer the world will be.
If there are already canals connecting individual lakes or if a new canal is being built, the residential boat can be moved very quickly to avoid an imminent danger.
Imagine you could bring the population of a city to safety from an approaching hurricane.

When the event or danger h a s passed, the

the residential boat can be easily returned to its original location.

Based on our research and know-how, a well-equipped group of excavators and trucks could build 500 meters of canal per day.

In other words, it would take a little over a year to design and build a 200-kilometer canal, but once completed, it could immediately serve as an escape route in the event of a natural disaster or man-made tragedy.
These canals would have to be fitted with a lockable gate every ten kilometers to protect them from external influences such as climate, geology, earthquakes or other unpredictable events. These gates would make it possible to repair the canal and fill it with water again after the repair.

The locks should always be closed and only

are put into operation when the floating residential vessels are moving.
As soon as the first ten kilometers have been completed, the first residential ships could arrive and the first residents could move in.
If the channels are built in very dry areas, they would have to be sealed at ground level to prevent water from escaping.

Various techniques can be used to seal the sewer at ground level and prevent water from seeping out of the sewer into the surrounding soil.
The exact method depends on the soil conditions and other factors.
A residential ship is not only a place where everyone can live safely and comfortably, but also offers a variety of shopping and leisure options.

Not every boat has to offer all possibilities,

just as every ship does not have to have a movie theater. Residential ships can visit each other and offer different goods and services than their own residential ship.

**Why would anyone want to visit another ship?**

- **Shopping:** Some residential ships have a shopping center, boutiques and jewelry stores.
- **Culinary experiences:** various restaurants, from the buffet restaurant to the upscale Michelin-starred restaurant.
- **Spa and wellness:** Many cruise ships have a spa and wellness center where you can enjoy massages, beauty treatments and other relaxation offers.

- **Sport and fitness:** a gym, a jogging track or a sports field. Courses such as: Yoga, Pilates, Intensity Workout, Zumba, dancing, strength training, karate, taekwondo, kung fu, judo and more.
- **Entertainment: There** are often live music shows, theater performances, film screenings and karaoke.
- **Games:** On board residential ships, you can also play slot machines or table games such as blackjack, roulette and poker.
- **Learning and culture:** Some accommodation ships offer lectures, workshops and courses on various topics, including history, art, culture and science. But also cooking and baking courses.

In earthquake zones in particular, we should provide the inhabitants of endangered regions with residential vessels as quickly as possible.
These artificial canals, which will be filled with water, will also make a decisive contribution to lowering sea levels.

## Megacities the future or science fiction?

The idea of a fresh start with new cities in new locations that function better under modern conditions is not new. Economists and governments have been exploring this idea for decades.
Our research confirms the potential benefits of this long-term strategy to tackle our planet's biggest problems.

These huge projects, which are sometimes

economic islands or megacities would largely eliminate hunger, unemployment, refugee problems and poverty.
The concept is based on a simple starting point: the creation of a new home for an estimated 200,000 people.

Our research has shown that Mega-City is most effective

at this population level.
At this level, people and refugees (from war or poverty) can start their best lives.
Of course, recreational opportunities are an important focus of our plan.

**People have to live, not just exist.**

When this book was first published, millions of refugees were forced to leave their homes and flee to safety, often losing everything they owned.
The wars in Ukraine and Syria have caused refugee numbers to skyrocket.
Natural disasters and economic problems also contribute to the long list of people in need of help.
But unlike most of the world's refugee camps, megacities offer the people living there the chance to develop and flourish as individuals and as a society.

People can decide to temporarily

or move permanently to a megacity, work and go to school there, just like in the cities we have today.
People who do not have the necessary skills to participate in the megacity society would be trained to enrich it.
These projects could be built in countless places around the world.

Every country in the world could be home to one or more of these modern marvels.

*Imagine* if we could choose the climate and the place where we could do the most good for the world.
Our designs focus on an area of 400 square kilometers in order to use the space as efficiently as possible.
One of the most important considerations is that these economic islands can arise anywhere on the American continent, in Africa, Europe, Asia and other countries.

The focal point of the mega city is the central building.

Our design, which is based on years of research, shows that several 300-meter-high building complexes will house the infrastructure, stores and apartments for the citizens of the mega-city.
These 50-storey buildings with a floor space of around 10,000 square meters will house far more than just apartments and stores.
Every floor and every area is well thought out and designed for maximum efficiency.

**Mega-city agriculture**

Part of this efficiency is based on innovative methods of food cultivation.
Several floors of each central building are dedicated to animal and plant breeding.

Vertical hydroponic systems could be used to grow a variety of fruit and vegetables that are adapted to the climate and the needs of Mega City residents.

**Even coffee and cocoa can be grown in a closed greenhouse, allowing us to grow plants that would otherwise not thrive in a particular location.**

*Imagine* living in a remote part of the world, such as Iceland, and still having the opportunity to eat fresh strawberries at any time of the year.
In addition to fruit and vegetables, these central structures would also house various types of livestock.
Here too, efficiency and quality would be paramount.
Imagine you could eat the most tender beef in the world, better than Wagyu or Kobe, without having to leave the house.

**All agricultural systems in the megacity would be designed for efficiency and would make sensible use of the biological waste produced through aquaponics.**

*This is* an integrated agricultural system in which fish are bred in an aquaculture facility and the resulting wastewater is used to irrigate fruit and vegetable crops.
To go one step further:
The wastewater from fish farming contains nitrogen compounds, phosphates and other nutrients that can be used as fertilizer for plants.

This system offers a number of advantages

compared to conventional farming methods, including more efficient use of resources such as water and fertilizer, less dependence on chemical fertilizers and greater biodiversity.
But we don't just want to focus on the cultivation methods of the past.

The consumption of insects and mealworms is

perhaps the most efficient food source of all, even if it seems unappetizing to some people today.
Megacities will be designed to include the breeding of these creatures for human and animal consumption.

**Insects and mealworms are increasingly being researched and bred as sustainable alternatives to conventional animal proteins in the diet**.

Even today, some cultures have discovered insects as a food source, and in some places like Siam Reap in Cambodia there are even top restaurants that serve insects as a delicacy.
Insects have a high nutritional value and a low ecological footprint, as they require less water, land and feed than conventional farm animals.
Insect breeding is also a much faster process.

Mealworms need four to eight weeks to develop from an egg into an adult.
A cow or a rabbit, on the other hand, take much longer to become a source of food.
A variety of insect species can also be bred as a food source, including grasshoppers, mealworms and bee larvae.
Insects, farm animals and fruit/vegetables are grown, harvested and delivered in such a way that little waste is produced.

## Power generation in the mega cities.

Biogas plants are installed in every economic island to generate electricity.
In addition to the electrical infrastructure, these
biogas plants can also supply the entire municipality with hot water.
All agricultural and personal waste is used as a raw material in the biogas plant to produce even more fuel.
This system offers several advantages over conventional methods of waste disposal and energy generation.

It enables waste to be used more efficiently,

by converting them into a sustainable energy source.
That is a huge advantage!
With vertical farming, a megacity can grow what it wants, where it wants and when it wants.
A Florida megacity could continue to grow oranges as they do today in the Sunshine State, or it could shift to more profitable crops.
This flexibility is one of the most important elements of the economic island.

The traditional fears of flooding,

Droughts or climate change would be a thing of the past.

Our cultivation plans would also never be destroyed by vermin or other pests.
A specific light and heat cycle would be
to breed plants and animals as efficiently as possible.
The 300-metre-high central structure would be surrounded by a comprehensive infrastructure that would enable the processing of meat, fruit, vegetables and fish grown in this mega-city. The products would then be sold on site in newly designed supermarkets or via various home delivery options.

**In the event of overproduction, all products could be packaged and shipped all over the world.**

These economic islands do not have to be used exclusively for the production of agricultural products.
There are many different industrial productions, so that a variety of products can also be manufactured on these economic islands:

- **Motor vehicles:**Motor vehicles and motor vehicle parts
- **Pharmaceutical and chemical products:** chemical products such as plastics, paints, varnishes, medicines and more.

- **Electronics:** electronic devices such as smartphones, computers, consoles, televisions and more.
- **Food:** the production of food, beverages and packaging.
- **Textiles:** clothing, fabrics, carpets and other textile products.
- **Building industry:** Tools, construction and building materials .
- **Technology:** machines, equipment and tools.
- **Paper:** production of paper, cardboard and other paper products.
- **Plastics:** Production of plastics and plastic products such as films, containers, packaging and more.

The electricity consumption of these megacities is not insignificant, and our planning and research are more than ready to cover even the most demanding electricity consumption.

Electricity and heat are generated from biogas, but we also use geothermal energy and other renewable energy sources such as solar and wind.

A probe is drilled almost two kilometers deep into the earth for geothermal energy.

It will supply the entire megacity with electricity and hot water.

**Geothermal energy is one of the most economical sources of energy in the long term, as it lies directly beneath our feet and therefore does not incur any distribution costs.**

Scientists and researchers estimate that the geothermal energy available today is sufficient to meet humanity's energy needs for thousands of years.

The advantages of geothermal energy are:

- **Sustainability:** a truly inexhaustible and renewable source of energy
- **Cost efficiency:** Geothermal energy is cost-efficient (over a long period of time)
- **Availability:** Geothermal energy is available worldwide
- **Reliability:** Geothermal power plants have high operational availability and a long service life
- **Versatility:** Geothermal energy can be used for heating, electricity and cooling

The Mega City will be much more than a central transportation hub.
We have designed further, even higher towers especially for the houses and apartments of the residents. Of course, tall, space-saving residential buildings are also integrated into these economic islands.

With a minimum height of 500 meters, these buildings are designed to provide people with a comfortable, efficient and beautiful living space.

Leisure, sports and retail facilities,

Daycare centers and educational facilities for all age groups are being built right next to the residential complexes.
Think of the cities we live in today.

**How many roads, sewers, electricity and telephone lines and much more are needed today to connect houses to electricity, water, sewage and telephone?**

In the past, cities were built outwards, often extending hundreds of kilometers to cover an entire metropolitan area.
Everything that people in our megacities could ever need is easily accessible.
Most of the facilities can be reached by elevator, others are just a short walk away.

And imagine the view!

The sheer size of these buildings offers some of the most beautiful views a modern city could wish for.

If your apartment is 500 meters high, your horizon could be almost 80 kilometers above the natural landscape of the country.
This really is a great view.

On a clear day, you can see up to 100 kilometers from an apartment or store, depending on where the building is located:

| Height | Visibility |
|---|---|
| 2m | 5km |
| 10m | 11km |
| 50m | 25km |
| 100m | 35km |
| 200m | 50km |
| 300m | 61km |
| 400m | 71km |
| 500m | 79km |
| 600m | 87km |
| 700m | 94km |
| 800m | 100km |

But a beautiful view is only part of what the Mega City Residences have to offer.
Comfort is not neglected either.

All modern amenities such as bakeries, butchers, hairdressers, florists, post offices, supermarkets, laundries, health and care services, pharmacies, banks, gyms and restaurants would be located in the same buildings where people live.

The errands would no longer take hours, but only minutes.

It would be enough to take the elevator up or down or take a short walk to the neighboring building.

Of course, there would also be a cinema, a theater and much more in these high-rise buildings.

People will not only save time, but

also achieve considerable savings on other living costs.

But these megacities will not manage without nature. Parks will play a central role in the construction of these projects.

Our designs call for a park modeled after New York's famous Central Park, with a lake, seating, fountains, a playground for children (and pets), a skate park, a golf course, archery facilities, a giant chess board and other activities.

Only our creativity sets us limits.

Our master plan envisages the construction of a total of a thousand megacities around the world.
If we succeed in completing it, 200 million people will have a comfortable place to live and work that far surpasses even the most cosmopolitan cities that exist today.

**Work-life balance.**

We have developed an innovative work-life balance model for the residents of Mega-City.
Our model is based on the concept, that a independent and pleasant working environment for the residents is the top priority.
We are doing away with the traditional 40-hour week.
We want to encourage people to work in the way that suits them best.
This can mean working intensively for two full months and then having a full month off.

Wages would be adjusted so that they remain constant during these three months.
Similarly, someone who prefers to work a weekly schedule could work three weeks in a row before having a full week off.

Some of these models can be industry-specific. Another focus is flexibility in terms of working hours and the industry in which a person works.
works.
The technology allows the job seeker to consider the work to be done and the shifts available before choosing their schedule.
This means that a person can, if they wish, work overnight in fish production and the next day in a large bakery.

There are prescribed rest periods, but everyone,

who has the necessary skills can work at any workplace whenever they want.
There will be more than enough work for everyone.
Large training centers are being set up for those who are not qualified to work in the megacity.

**What's more, there will be manuals and explanatory videos at every workstation that explain each individual work step.**

These will be multilingual and help to assess the quality of the work performed.
The aim is for everyone to be able to participate without a long familiarization period.

If necessary, transportation within the mega-city will be provided by electric cars and trains.
The road and rail network is controlled by control centers which coordinate the smooth operation of the entire economic island.
Moving from one area to another will be much easier than even the most modern subway systems and roads.

We are firmly convinced that the shortest way

The future will be better with an educated population, and a megacity will offer immense educational opportunities.
Through online and face-to-face learning, we will offer courses for children and adults in a variety of subjects.
People will be able to learn when and where they want.
Special schools and classrooms will be built, but online learning will also play a major role.
Any computer or smartphone will provide access to the best teachers in the world.

Some courses will help people to be more efficient

to work, others will help them to enjoy their lives more.
Theoretical, practical and hands-on learning is a great way to encourage everyone.

Some topics that are of particular importance to us.

- **Languages:** a better language i m p r o v e s communication skills and understanding of other cultures
- **Math:** important for many careers, including science, technology, engineering and more**.**
- **Science:** Gives children and adults an understanding of the world around them and encourages their curiosity and interest in research and exploration
- **Social sciences:** help children understand human society and culture and teach important skills such as empathy, collaboration and critical thinking
- **Art:** contributes to the development of creativity and promotes emotional, social and cognitive skills
- **Sport:** because it teaches us physical fitness, teamwork and leadership skills
- **Arts and crafts:** We can get creative with paper, cardboard, fabrics and other materials to improve fine motor skills and hand-eye coordination.
- **Gardening:** We learn about plants and nature while working and planting in the garden

- **Cooking/baking:** We learn something about food and its composition.

Learning apps enable a personalized and interactive learning environment and can adapt learning to the needs and progress of the individual.
It is important to note that the effectiveness of videos and learning apps depends on the quality and relevance of the content.

## Conclusion

If we succeed in simply sucking up the carbon dioxide, exhaust fumes and soot in the streets of our cities and replacing them with fresh air, we will make a major contribution to combating climate change.

We have put forward a series of global plans to combat climate change and save humanity.

We can actually stop climate change in a short time and perhaps even reverse it.

If we ignore climate change, we will achieve nothing in the long term.

We can only act, and our technology in

Combined with our know-how, this enables us to move mountains where others are afraid to even move paper.

**The earth will continue to revolve around the sun every year, but if we act now, those sunbeams might be a little more pleasant.**

**Volker Mothes**
**President Fidegogard**