

Exhibition for Climate Protection in 2008 - Texts of the panels

Title:

1. Greenhouse Earth

Protecting the climate with the BUND

Science:

2. Sky

Ninety-nine percent of the gases in the air above Denzlingen are produced by organisms living on land or in the sea; the small remainder of one percent is made up of noble gases.

Even nitrogen, which makes up 78 percent of the air, is produced by living organisms alone. Above the clouds in the troposphere, a layer of trace gases - mainly carbon dioxide (CO₂), ozone (O₃), methane (CH₄) and nitrous oxide (N₂O) - absorbs the solar heat radiated from the Earth's surface. Without this layer of the stratosphere (10-50 km altitude), the Earth's surface would be minus 18°C. At present, however, the effect of this 'glass roof' is stronger than desired.

3. Calmness

Why has the Earth maintained a climate that supports life for four billion years?

A temperature between 0°C and protein coagulation is a narrow ridge on which the earth wanders. Although the sun is now 30 percent brighter than when the planet was born, it has not become 30 percent warmer. According to the Gaia hypothesis of the British James Lovelock (b. 1919), the Earth regulates its operating temperature through the interaction of soil, water, air, plants, bacteria and all animals.

So anyone who wants to protect the climate really only needs to behave in such a way as not to interfere with this self-regulation.

4. 1896, 1957

Concerns about a dangerous greenhouse effect are not new. It was first expressed by Svante Arrhenius in a scientific work. He combined atmospheric physics of his time with knowledge of the extent of industrial coal combustion.

Since the International Geophysical Year (1957-1958), CO₂ levels in the atmosphere have been recorded regularly. In order to obtain a global average value, corresponding measurements are taken on the peak of the Mauna Loa volcano in Hawaii. The CO₂ concentration is higher today than at any time in the past 600,000 years.

By the way, man has only been around for 150,000 years.

Consequences:

5. Glaciers adieu

Nothing illustrates the effects of global warming more than the dramatic decline of glaciers. The white giants are melting faster and faster. Between 1850 and 1975, they lost about half of their mass. Since then again more than 20 percent.

Researchers assume that only the 4000-metre-high Jungfrau Glacier in Switzerland will survive the 21st century.

The melting of the glaciers can also be observed in the far north, in South America and in the Himalaya. In China, at the source of the Yellow River, large glaciers have shrunk by 17% in the last 30 years.

6. Ice of the Arctic

In the Arctic, more ice melted in the summer of 2007 than ever before. The water temperature in 2007 was five degrees above average. Due to the disappearance of the protective reflective ice layer, the sun's heat heats up the ocean.

There are currently about 20,000 to 25,000 polar bears worldwide. Now that the pack ice is gone, they can't hunt seals. According to scientific data, the polar bear population will decline by about 30 percent over the next 40 years (according to other data, there will be no more polar bears in the wilderness by 2030).

In Antarctica, too, the ice is melting faster and faster. In some places, 60 percent more thaw than is replenished by snowfall. In 2000, it rained in Antarctica.

7. Flood

The change in the Earth's atmosphere also affects the transfer of water from the oceans to the mainland and back again. Warmer temperatures promote evaporation and precipitation, thus speeding up the entire water cycle. Extreme rainfall and flooding are becoming more frequent.

According to a February 2007 report by the World Climate Council (IPPC), sea levels in the 21st century increase by 18 to 58 cm.

8. Droughts

Two Chinese children play with the cracked earth of the dried riverbed of the Jialing River in the summer of 2006. Behind them lies the skyline of Chongqing, a city of 7.5 million inhabitants.

It has not rained for months, the temperatures do not drop below 35 degrees for a month. Many people and around 17 million animals are without water, victims of the most extreme drought in China for over 50 years.

The crippling heatwave of 2003 in Europe, which claimed tenths of lives, will already be an everyday phenomenon in 2010, the experts are warning.

9. Storms

The wind scale of the British Admiral Sir Francis Beaufort (1774-1857) ends at wind strength 12 (hurricane). A hurricane is a wind of more than 120 km/h.

While the maximum speed of a hurricane in 1980 was 180 km/h, in 2003 a speed of 335 km/h was measured.

The strong winds that occur in Europe arise over the northeast of the Atlantic. With increasing warming of the oceans also the storms become increasingly violent. An increase in storm frequency is not yet statistically proven.

The pictures on this panel are reminiscent of the Hurricane 'Kyrill', which raged through Europe at a speed of 200 on 18 January 2007.

10. Corals

At the end of 2005, a new study was published: Coral reefs are formed by small polyps. They absorb calcium carbonate from the water and convert it into the skeleton of the reef. The main reason for the extinction of the reefs is the rising sea temperature.

But there is another burden for polyps and other marine animals: every day we discharge 70 million tonnes of CO₂ (up from 74.8 million tonnes in 2005) into the Earth's atmosphere. The world's oceans absorb 25 million tonnes of this every day. Much of it becomes carbonic acid (H₂CO₃) and changes the pH value of the water. The acidified water makes it much more difficult for the coral polyps to form reefs out of calcium carbonate. By the end of the century, all corals could be gone, a Greenpeace study predicts.

11. Losses

The New Earth Period (Cenozoic) began about 65 million years ago. During this time a far greater number of more diverse life forms arose than in any other epoch of Earth's 4.6 billion-year history. In the 20th century, humanity suddenly increased enormously (1900: 1.7 billion, 2000: 6 billion). At the same time, the 'animality' is getting smaller and smaller.

The theologian Thomas Berry has stated that human civilization is currently bringing about the end of the Cenozoic: according to the assessment of the UN, in the 21st century, almost a third of all species are threatened with extinction.

Professor Chris Thomas, a conservation expert at the University of Leeds, England, predicts that by 2050, around one million species will be threatened with extinction as a result of climate change unless greenhouse gas emissions are drastically reduced.

12. Water crisis

Whether dams, excessive groundwater abstraction or pollution - many things brought more disadvantages than improvements in the long run. Water problems, especially in developing countries, are exacerbated by global warming. Investors are trying (also in Germany) to take over the water supply from the municipalities. It would be better, they wouldn't try that!

„The privatization of water will not reverse the decline of this resource,“ says the Indian civil rights activist Vandana Shiva, „it will only accelerate it. It will lead to water wars between people, regions, between rural areas and the privileged, wealthy urban centers, and between poor and rich.“

Politics and Religion:

13. Nightmare Oil

Since industrialization, people have opted for mineral oil, fossil gas and coal because the raw materials seemed infinite. They were convenient and cheap. This was one of the biggest and most expensive mistakes of the last century.

Unfortunately, in the 20th century, most of us still lacked knowledge about the effects of too many fossil emissions on the climate.

In the meantime, all that remains to be said is that many small and large climate sins are causing more greenhouse gases to be released globally every day than ever before. The only way to counteract this is to avoid as many of them as possible.

“The true happiness is sufficiency. ” (Johann W. v. Goethe)

14. Politics

Global energy-related CO₂ emissions must be reduced from 27.3 billion tonnes in 2005 to around 15 billion tonnes by 2020. For comparison: in 1970 there were still 12 billion tonnes

On the whole, the opposite is still happening: CO₂ emissions increased by 1.3% per year in the years up to 2000. In the meantime, the annual increase is unfortunately more than three percent. This exceeds the growth rates of all the calculated scenarios. In the Kyoto-Protocol of 1997, the industrialised countries actually committed themselves to reducing CO₂ emissions to 20 billion tonnes by 2012.

At the 2007 Bali Climate Change Conference, it was agreed to negotiate a follow-up agreement to the Kyoto-Protocol.

15. Errors

There are probably two major misconceptions that have led to the current climate and environmental crisis:

First, people in industrialized countries seem to think of the earth primarily as a playground for people. Secondly, violence against anything that stands in the way of human interests seems to be a recipe for success.

This selfish attitude has done great damage to the world. It proved to be a boomerang, because by destroying our natural live basis, we are also harming ourselves. It is high time that we develop a way of life close to nature that also respects the needs of all other living beings on Earth.

16. Our Stronghold

„And God said: Let there be a stronghold between the waters, and let it divide the waters. And God made the stronghold, and separated the water under the stronghold from the water that was above the stronghold. And so it happened. And God called the stronghold Sky. And the evening and the morning besame the first day.“
Genesis 1:6-8

Maybe the sky wasn't created in just one day. Even the idea of water above the sky at that time does not correspond to reality.

According to Jewish, Christian and Muslim beliefs, God created all life. The troposphere was then formed by the living beings in many millennia.

So it can be said that ‚our stronghold‘ really was created by God.

Measures:

17. Green Lung

According to Greenpeace, the equivalent of 300 football fields full of forest disappears every hour.

Indonesia lost a quarter of its total forest area between 1990 and 2006. The other major forest destroyers on the planet are Brazil and several Central African countries.

How can we contribute to the preservation of forests here? There are many possibilities: whether we use recycled paper, FSC-certified wood, buy meat from regional organic farming or organic cane sugar from fair trade - any environmentally conscious purchase can also make a small contribution to the green lungs of the earth.

The Global Canopy Programme stated in a 2007 report: „If we lose the forests, we lose the fight against climate change.“

18. Die drei E

The main purpose of this exhibition is to make it clear how important climate protection is for all life and how few time there is left for it. If you really want to do something for it, you will surely find the required informations. For this reason, only the three main possibilities of action are mentioned in this table, together with a few examples:

- **Einsparung:** Whether thermal insulation, cycling or food from the region - you can do without loss of quality of life with less energy achieve the same goals.
- **Effizienz:** Modern appliances, vehicles and heaters need for the same performance significantly less energy than their predecessors.
- **Erneuerbare:** In particular, the use of biomass for heat and electricity generation should continual be extended.

19. ‚Mild tourism‘

„The travel catalogues promise paradise. Sun, sea, what more do I want. The plane flies anyway, even if I'm not sitting in it. I need my vacation, I won't let it be taken away. Can't the environmentalists at least leave me alone while I'm on vacation?“

This collection is meant to inspire you to think about whether there are forms of vacation where you can relax well and at the same time put less strain on Gods planet.

End:

20. Time window

In February 2007, the Intergovernmental Panel on Climate Change (IPCC) presented its fourth report in Paris: During the 20th century, the Earth has warmed by an average of 0.74°C. Even if we no longer produce greenhouse gases from now on, we are certain of a further warming of 0.6°C. According to the researchers, we still have about 10-15 years to implement measures to slow the temperature rise to less than two degrees Celsius compared to pre-industrial times. Only if we don't cross this threshold will we be able to limit the dramatic effects of climate change and prevent worst-case scenarios.