

Commission of Inquiry for "The Protection of the Earth's Atmosphere" (1994)

Abstract

In June 1994, the Bundestag's Commission of Inquiry for "The Protection of the Earth's Atmosphere" filed its lengthy final report, which is presented here in excerpted form. The report's preface laid out its central concerns, with foremost emphasis being given to the enormous impact of CO_2 emissions on the greenhouse effect and global warming. The primary cause of these emissions was the combustion of carbon-based energy sources such as oil. According to the report, economical energy use and the expansion of renewable energy sources were of crucial importance for climate protection. The preface also addressed the political goal of reducing CO_2 emissions by 25 percent by 2005. At the beginning of the main portion of the report, the Commission described its mandate. Toward the end, the report included a section on the anthropogenic greenhouse effect, which appears here in excerpted form.

Source

Preface

If our earth is to have any sort of chance in the future, then it is necessary to balance economic, social, and ecological development.

Between 1950 and today, worldwide energy consumption has more than quadrupled. A growing human population and economic growth in both developing and threshold countries will perpetuate this trend. If we do not succeed in managing our natural resources more carefully than in the past, and if we do not make better use of existing technological capabilities, while also developing new, environmentally friendly technologies, then rising energy demands will lead to an increase in emissions of the climate-changing greenhouse gas CO_2 .

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m CO_2}$ emissions resulting from energy use are responsible for about half of the anthropogenic greenhouse effect. If these ${
m CO_2}$ emissions and the emissions of other climate changing trace gases continue unchecked, then the average global temperature will rise about 3 \pm 1.5 °C by the end of the next century. This is no longer questioned by international science. Scientists are just as certain that a temperature increase will result in climate change. We can expect changes in the distribution of precipitation, shifting climate and vegetation zones, soil degradation, and the deterioration of the global food supply, to name just a few examples. Even if the scale, timespan, and regional consequences of climate change cannot be precisely predicted, immediate political action is urgently required for precautionary reasons and out of a sense of responsibility for future generations.

Climate policy in the energy sector focuses primarily on rational energy use. Existing buildings alone present enormous opportunities for energy savings. Additional focal points include the reduction of brown and hard coal usage and the question of whether to continue using nuclear energy, which the Club of Rome considers a conceivable option in light of the impending climate catastrophe. All of this deserves consideration.

Climate protection means first and foremost the economical utilization of energy. For this reason, rational energy conversion is especially important. This report shows all the current, technically feasible means for increasing the efficiency of converting fossil fuels into usable energy. In order to exploit this potential, we must promote an

energy sector with low material and energy costs and bet on highly efficient technologies. These recommendations pertain to all energy users: domestic, small-scale, business, and, not least, transportation.

Additionally, renewable energies are of critical importance. Support for the testing and usage of alternative energy sources, as well as research and development in this area, will continue to be one of the most important tasks of state-led energy and environmental policy.

On the way toward a permanently sustainable energy sector, climate ecology, energy provision, and the market economy must be brought into harmony. The market was and is the foundation of economic prosperity, social stability, and prosperity. The market's ability to reform and adapt will also provide the basis for ecologically responsible management and for efforts to achieve balance with nature. In the search for an environmentally friendly, economically competitive, and future-oriented energy supply, answers must be found to the questions of securing Germany's position as a center for manufacturing, trade, and finance; fully integrating the new German states into federal energy and economic policy; meeting the challenges in the internal European market, in global development; and not least in meeting the need for active climate protection.

Climate protection cannot and must not stop at national borders. It is gratifying that in the Federal Republic of Germany CO₂ emissions resulting from energy usage have already decreased by 15% between 1987 and 1993, primarily through reductions in the new federal states. Thus, the goal of a 25% CO₂ reduction is attainable by 2005. Beyond this national effort, however, possible solutions to the climate problem must be sought within the international community. The Conference on Environment and Development in Rio de Janeiro was a first step in this direction. The Conference of the Parties in Berlin in spring 1995 must bring about a breakthrough for global climate protection. Concrete reduction targets must be laid down there so that climate protection becomes tangible. In addition, certain political steps and measures should be adopted. These include the transfer of technology and financial resources, and transnational cooperation models.

I hope that we will remain conscious of our nation's pioneering role in climate protection. We must swiftly push ahead with the implementation of numerous national measures as a signal to other countries and as proof that climate protection is not incompatible with economic development. It is necessary for the Conference of the Parties in Berlin to make substantial progress. This must be the goal of all collective efforts.

[...]

Bonn, October 31, 1994

Dr. Klaus W. Lippold, Member of the Bundestag Chair of the Commission of Inquiry for "The Protection of the Earth's Atmosphere"

[...]

Responsibilities and Previous Work of the Commission

1. Description of the Problem, Origin and Mission of the Commission

The Commission of Inquiry for "Measures for the Protection of the Earth's Atmosphere" of the 11th German Bundestag prepared three reports for the legislative assembly. The themes were "Destruction of the Ozone Layer," "Destruction of Tropical Forests," and "The Anthropogenic Greenhouse Effect."

[...]

The Commission's mandate initially entailed reviewing and updating the [statistical] findings of international climate research; investigating the effects of possible climate changes on natural ecosystems and on the shifting of current climate zones; and presenting the resulting political, economic, social, and ecological consequences internationally. Besides these responsibilities, which essentially continued the work of the previous Commission, this Commission had the special task of going above and beyond the more general recommendations of its predecessor and developing specific, climate-protective, implementation-oriented recommendations for the energy-consuming sectors (i.e., households, skilled crafts and trades, service industries, public institutions, and industry), the energy conversion sector, transportation, as well as agriculture and forestry. At the same time, special attention was to be given to the new federal states.

With regard to the United Nations Conference on Environment and Development in Rio de Janeiro in June 1992, the Commission was to present an initial interim report in 1992 and propose measures for an internationally coordinated environmental policy.

The following additional priorities were identified:

- -- Proposals for the improvement of cooperation between industrialized and developing countries for joint consultations on the problems surrounding technological and financial transfers
- -- The issue of future environmental refugees and questions of international security
- -- The significance of worldwide population growth, its structure and distribution, and thus questions about global food supply.

The Commission consists of thirteen members of the German Bundestag, as well as thirteen experts appointed or proposed by the CDU/CSU, SPD, and FDP parliamentary groups, according to their respective numerical strength. The PDS/LL group as well as Bündnis 90/The Greens each sent one advisory member.

[...]

Part A – Protecting the Earth's Atmosphere

1. Current Scientific Consensus regarding Anthropogenic Influence on the Climate and Ozone Content of the Atmosphere

[...]

Anthropogenic Greenhouse Effect

The Commission of Inquiry concludes that the state of scientific knowledge about the anthropogenic greenhouse effect and its consequences for the earth's climate has consolidated further in the past four years. [...] In comparison to these natural variations in CO_2 content, the drastic anthropogenically-induced increase in the atmospheric concentration of CO_2 over the past 100 years is unprecedented in terms of the acceleration and amplitude of this "disturbance." The current proportion of CO_2 is already some 30% over the CO_2 value normally observed in an interglacial period. If CO_2 emissions continue to rise unchecked, they will have doubled by the middle of the next century compared to the pre-industrial level. It may thus be assumed that humans today have already changed the global climate through the increase in greenhouse gases caused by them, whereby the climate system has reacted to this disturbance with a time delay of several decades. If emissions continue unchecked, climate change will assume dimensions whose associated socio-economic effects will be incalculable.

[...]

2.1.3 Human Interventions in the Climate System

[...]

Anthropogenic Greenhouse Effect

The increase in atmospheric concentrations of greenhouse trace gases caused by human activities, that is, the most significant anthropogenic intervention, represents a considerable disturbance in the energy balance of the planet (anthropogenic greenhouse effect), which will result in a change in global climate conditions. The recorded rise in the concentration of the greenhouse trace gas carbon dioxide (CO_2) is primarily due to the burning of fossil fuels. [...]

2.2.1 The Greenhouse Gas Carbon Dioxide (CO₂)

The most important anthropogenic greenhouse gas is carbon dioxide ($\rm CO_2$), which since industrialization has risen from a mid-range mixture ratio of 274 parts per million by volume (ppmv) to about 358 ppmv (Bolin, 1993), an increase of about 30%. The current $\rm CO_2$ content of the atmosphere is higher than at any other time during the past 250,000 years.

[...]

Anthropogenic Changes to the CO₂ Cycle

[...] Approximately 40% of anthropogenically emitted carbon dioxides has remained in the atmosphere; approximately 60% has been absorbed by the oceans and biospheres (Siegenthaler and Sarmiento, 1993). [...]

Since about the middle of this century, the burning of fossil fuels has predominated as the source of anthropogenic CO_2 . The quantity of CO_2 emitted by fossil fuels between 1750 and 1990 amounts to 217 billion [metric] tons of carbon (t C), corresponding to about 57% of overall anthropogenic CO_2 emissions since 1750. During the past 40 years, in particular, the annual rise in "fossil" CO_2 emissions has increased exponentially. The annual amount of CO_2 emitted by burning fossil fuels is currently approximately. 6 billion t C. Its contribution to overall anthropogenic atmospheric CO_2 thus climbed to over 75%.

[...]

Source: Schlußbericht der Enquete-Kommission "Schutz der Erdatmosphäre" zum Thema Mehr Zukunft für die Erde – Nachhaltige Energiepolitik und dauerhaften Klimaschutz. [The Final Report of the Commission of Inquiry for "The Protection of the Earth's Atmosphere" on the Topic: Better Future for the Earth – Sustainable Energy Policy and Long-Term Climate Protection]. German Bundestag, 12th election period, printed materials 12/8600, 31. October 1994, pp. 3–26. Available online at:

http://dip21.bundestag.de/dip21/btd/12/086/1208600.pdf

Translation: David Haney and GHI staff

Recommended Citation: Commission of Inquiry for "The Protection of the Earth's Atmosphere" (1994), published in: German History Intersections,

https://germanhistory-intersections.org/en/knowledge-and-education/ghis:document-26 [July 03, 2025].