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It is not too late
to respond to climate change

An appeal
by the Chair of the Evangelical Church in Germany,
Bishop Wolfgang Huber

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May 30, 2007.

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I. What is at stake?

Conditions for life on Earth are not secure but are now more frequently threatened by catastrophic change. This is a fundamental experience of humankind, one that religious traditions have expressed in the form of a great flood that destroys nearly all life on earth. The motif of a deluge of rain, speaking of the catastrophe as resulting from a deluge of human sin, and of life rescued by the ark, are cemented in the foundations of our tradition. This applies equally to the way the biblical flood narrative ends, with God ensuring conditions for life on Earth and promising that the Earth will never be touched by such destruction again:

"I will never again curse the ground because of humankind, for the inclination of the human heart is evil from youth; nor will I ever again destroy every living creature as I have done. As long as the earth endures, seedtime and harvest, cold and heat, summer and winter, day and night, shall not cease."

This assurance is borne out by the wonderful stability of natural rhythms from generation to generation. The closer we look at this, the greater our astonishment: The natural world is characterized by a reliability unimaginable in the world of human history, which is continuously subject to profound change. No human power is so strong that it cannot crumble and fall. In stark contrast to this is the reliability with which day becomes night, the seasons change, celestial bodies make their path in the skies, things grow and then shrivel. Since time immemorial, nature has been a source of great reliability.

Or at least this was the case until climate change began to be noticed and humankind came to understand what was now underway! The climate, so reliable since time immemorial, now frequently reaches extremes, and seems to spin out of control as natural rhythms threaten to lose their stability.

Should we, despite everything, console ourselves with the thought that God's promise cannot fail? Are the projections of climate change in reality mere fantasies of fear? Or must we entertain the possibility that God would have us bear the brunt of the negative consequences of our continual sins against his good gifts of creation.

Current knowledge and research on climate change leads us to three conclusions:

- We must seriously reckon with disasters due to climate change.
- We need to recognize that this has been precipitated by human action to a considerable degree.
- We must be willing to take rapid and determined measures to curb global warming.

Given this outlook, the biblical flood narrative appears to us in a whole new light, while the voice of the prophets seems closer to us. It is time for that voice to wake us from our slumber.

In the prophecy of Isaiah, we read (Isaiah 30:8-13, NRSV): "Go now, write it before them on a tablet, and inscribe it in a book, so that it may be for the time to come as a witness for ever. For they are a rebellious people, faithless children, children who will not hear the instruction of the LORD; who say to the seers, 'Do not see'; and to the prophets, 'Do not prophesy to us what is right; speak to us smooth things ... let us hear no more about the Holy One of Israel!' Therefore thus says the Holy One of Israel: Because you reject this word, and put your trust in oppression and deceit, and rely on them; therefore this iniquity shall become for you like a break in a high wall, bulging out, and about to collapse, whose crash comes suddenly, in an instant."

Such prophetic words do not lose their force; they develop new power and take on new meaning in new situations. Are we the ones who do not see and hear, although we are able to know what climate change is about? Do we place our trust in false prophets who console us by speaking smooth and pleasant things? Are we allowing the breach in the wall to grow larger while we discuss whether the situation is really as serious as all that? Will we only begin to see how serious it all is when the consequences become obviously catastrophic?

We must not give in to a sense of cynicism and resignation. It is cynical and lacking in courage to support the view there is no longer any point in getting involved.

This appeal is meant to outline what our responsibility for the Earth as a living space demands from us. It is not too late. God is granting us more time. How can we let this period of grace simply pass by!

II. What are we now able to know?

The International Panel of Climate Change (IPCC) assesses the latest research on climate change at regular intervals and summarizes its findings in a report. The IPCC's Fourth Assessment Report was published in 2007, and in March 2007, an abridged report entitled "Summary for Policymakers" was presented to the public. The wording of these summaries is, in contrast to the full reports, subject to political negotiations before being published. As a consequence, some of the more forthright language was toned down in the report. In spite of their bland tone, the "Summaries" are still striking in their content. The key points of the IPCC findings are as follows:

1. **There can no longer be any serious doubt that the present climate change is caused by human activity.**

The degree of certainty and reliability of our knowledge has grown over the past 15 years. The correlation of direct and indirect data, theories and models leads to a coherent picture of a significant rise in global temperature, caused in part by human activity. Alternative explanations of the warming – for example through solar activity – are not satisfactory. There is now a very high probability that we can rule out a "null hypothesis", according to which there would be no proof of human influence on climate change.

The present global atmospheric concentration of carbon dioxide far exceeds the natural range found over the last 650,000 years of geological history. Eleven of the last twelve years rank among the twelve warmest years on record in terms of global surface temperature since measurements were first taken in 1850. The increase in global average temperature since the mid-20th century is unusual when compared with the period of the past 1,300 years.

In view of recent data, many climate researchers draw geological comparisons between the near future and the Pliocene geological epoch 3 million years ago. During the Pliocene, the sea level was 15 – 25 metres higher than it is at present. This comparison serves to illustrate the geological dimensions of anthropogenic climate change.

2. **The climate system is more dynamic than had originally been expected.**

The hypothesis that the global climate system is a relatively inert system is currently under critical review. More recent research on climate change has focussed, in particular, on regions in which any changes would have far-reaching and to some

extent global consequences for the climatic system. This includes the Northeast Atlantic with its significance for the Gulf Stream, the Amazon River Basin, the monsoon regions of Central India, Bengal and Burma, and the vast permafrost regions of Siberia. The increase in sea temperature and acidity as well as the thawing of permafrost wetlands generate additional risks through the release of methane locked up beneath the ocean floor and in bog areas. The consequences of large-scale ecological change in these areas can no longer be predicted accurately.

The IPCC's best estimate of the rise in global average temperature is 3°C, while estimates range between 2 to 4.5°C. The increase in accuracy over earlier estimates is of real concern. If we accept this estimate of 3°C and continue to pursue the target recommended by many scientists and expert groups of limiting the increase in global average temperature to no more than 2°C in comparison with the pre-industrial period, we will be faced with the challenge of allowing the concentration of atmospheric greenhouse gases to increase only by an extremely limited degree. This calls for an immediate and determined change of direction in energy policy at all political levels in order to reach a turning point in global emissions by no later than 2020.

3. The reasons for concern listed in earlier IPCC reports have been confirmed and in part exacerbated.

According to the IPCC's latest report, there is evidence that climate change has already had a discernible influence on the natural world. Settlements in mountain regions face an increased danger of melting glaciers, while avalanches, glacier lake outbursts and rock avalanches from destabilised slopes are becoming more likely. The rise in sea level is exposing many coastal settlements to increasing risks, particularly in delta regions which cannot be sufficiently protected using dikes. This will affect the mega-deltas of Africa and Asia in particular. Pacific Islands may become uninhabitable, while countries whose water supplies depend mainly on meltwater from major mountain ranges may experience a surplus of water and flooding through increased melting in the coming decades. This may also be followed by a permanent reduction of water availability. About 1 billion people live in these countries. Changes in precipitation can have considerable negative effects when long periods of drought and heavy precipitation alternate, even if the total amount of rainfall remains the same.

Longer and more intense droughts have been observed mainly in the tropics and subtropics since the 1970s. These findings confirm worries about a drop in food security in the affected regions. The length of the growing season has shortened in Africa's Sahel region, while food security is falling in tropical and subtropical regi-

ons, especially for the poor and most vulnerable parts of the population, with even slight increases in local temperatures leading to an increased risk of famine. In some African regions, yields from rain-fed agriculture could diminish by up to 50 percent by 2020. Health risks will also rise disproportionately for poor communities with problems such as malnutrition, a lack of access to clean drinking water, heat waves and an increase in the range of malaria.

The effect of climate change on the natural world and our fellow creatures is also dramatic. The adaptive capacity and resilience of many ecosystems is likely to be overburdened by an unprecedented combination of climate change and its associated consequences (such as wildfires), by intensified land use, deforestation, pollution and an increase in environmental pollutants.

It seems certain that the greatest extinctions of species have coincided with climate change. Similar concerns are connected with the looming increase in the global average temperature. An increase of 1.5-2.5°C could be enough to bring about profound change in the structure and functioning of ecological systems. A temperature rise of this magnitude will increase the risk of extinction for 20-30 percent of all known plant and animal species. A temperature rise of 3-4°C would, however, not only lead to the extinction of species throughout the world, but would also bring about the destruction of entire ecosystems. The carbon absorption of the Earth's ecosystems (forests, soil, etc.) is likely to diminish or even reverse in the case of a significant temperature rise. The clearing of tropical rain forests and the degradation of tropical wetlands are major causes of the emission of greenhouse gases. The oceans have increased in temperature through to depths of 3000 metres. The effects of ocean acidification, in combination with an increase in water temperatures, have had a severe negative impact on marine ecosystems (such as coral reefs).

4. There is, however, no reason (yet) for resignation or fatalism.

Responsible political action to reduce climate change may still allow us a "soft landing", in other words a way of coping with a moderate climate change through intelligent strategies of adaptation. Limiting the increase in global average temperature to 2°C, however, is a vital precondition for the success of the adaptation measures that have to start immediately on a global scale. If the rise in global average temperature is not slowed down, the likelihood of success in combating climate change will diminish more and more, as the capacity of ecological and social systems to adapt is exhausted. That is why the trend needs to be turned around *now*.

While the past two decades have been marked by failures and delays, some changes have begun:

- awareness of the problem has risen on the whole;
- the technological options for the use of regenerative energy sources have improved significantly;
- political instruments (such as emissions trading) are being tested at the moment or are already in use.

It would thus still be possible for the international community, given the political will for action, to limit the climate change to a just about tolerable level. The framework for a change of direction has in fact improved. Indeed, humanity now finds itself at a crucial moment, in which the worst consequences of unrestricted climate change can still be stopped. That is why the political will to act is now of the greatest importance. It is possible to turn the emissions trend around *now*. We must be determined in countering the widespread view that a significant change cannot be brought about by 2020, and must begin turning things around as soon as possible – before 2020.

III. What do ethical approaches say about climate change?

In applied ethics, a position is considered to be particularly well founded if there is evidence that the most important ethical theories lead to the same or similar results when applied to a particular problem. In this case, we can speak of "ethical convergence". In the case of climate change, we can see that diverse ethical theories lead to the same conclusion, which is a demand to limit the average global temperature as much as possible in an attempt to meet our responsibility for future generations. This means that we should, in any event, not allow the average temperature to rise above the 2°C-mark. These theories thus agree on the demand for as great a reduction in greenhouse gas emissions as possible.

Ethical approaches also agree that there is no moral justification why one inhabitant of the earth should claim a greater right to the use of the atmosphere, a global community asset, than another. This is, however, exactly what happens. Wealthy nations make greater use of the atmosphere, while the dangers involved disproportionately affect poorer countries and the poorest segments of their populations. The wealthy nations have historically caused this problem to a great extent through their carbon dioxide emissions, and their per-capita emissions continue to exceed by far the per-capita emissions of developing and newly industrialised nations. Yet the poorest and most vulnerable demographic segments of these countries are in fact exposed to the greatest dangers. This is unjustifiable.

The concept of "contraction and convergence" (C&C) as well as "reduction and approximation" and has therefore proved to be very popular in ethical positions concerning climate change. "Contraction" calls for us to maintain the 2°C target through a rapid and satisfactory reduction in emissions, while "convergence" calls for the gradual evening-out of the per-capita emissions of rich and poor nations, with a more equitable distribution of emissions per capita among the world population. On the basis of the C&C concept, it is fairly easy to calculate the level of emissions that each country can be allowed in order to keep global emissions within the tolerable range. A global emissions trading system would be appropriate as an instrument to implement the C&C concept. However, the political implementation of such a system seems almost impossible in view of the present state of international climate change politics due to the sharp clash of interests. This calculation thus provides us with an ideal case scenario as a point of reference, but not a goal that we could achieve in the short term. Climate policy should instead focus first on a decisive reduction of global greenhouse gas emissions.

IV. What can the theology of creation tell us about climate change?

We need to limit the foreseeably dramatic consequences of climate change which humans have in part caused. This is necessary in order to protect the earth from serious dangers which reach far beyond the usual personal or political experience and horizon in terms of space and time. Individual action focuses primarily on each person's own individual future; political action normally remains within the limits of the particular realm of political responsibility. Climate change, however, makes us aware that we are directly involved in forming our natural environment, beyond our own life spans and the horizons of our own responsibility.

We live in a natural environment that we, as individuals, cannot directly mould, but upon which we all have an indirect influence with regard to the future. Therefore, whether and to what extent the emerging disastrous developments can be averted or at least reduced to a tolerable degree by the end of the 21st century, depends essentially on whether we are willing to take on this responsibility.

This requires a radical change of mentality and awareness in society as a whole and especially among decision makers in economics, politics and society. A shift to a truly sustainable, nature-friendly way of life and economy requires, in biblical language, *metanoia*, which is to say, a radical change of mind. Such a change can have healing and liberating effects, while it also demands of us that we become aware of the negative aspects of our culture's underlying attitudes towards the rest of creation and towards other cultural approaches to dealing with it.

The modern mastery of nature was influenced by a way of thinking that places human interests above all others and which views the rest of the world from this perspective. This approach has formed an integral part of the concept of salvation in Western churches and theologies since the Middle Ages, and has been carried forward radically in the guise of methodical scientific atheism since the Enlightenment. The technological-industrial revolution, the political and economic colonization of the world and the global exploitation of resources have all unfolded in this context.

This focus on human interests is connected with one particular theological interpretation of the first account of creation (Gen. 1:1-2,4), which was broadly supported by churches and theologians until the middle of the 20th century. It led to human beings' creation in the image of God (Gen. 1:26f.) being believed to mean that humans had an exceptional or dominant position over nature and the animal world. God's commission to humans to take dominion over the Earth (Gen. 1:28)

was, moreover, regarded as the divine authorisation of the right to subdue the Earth with all its natural resources, in order to increase humankind's own life chances. This also provided the theological justification of all technological progress with its unrestrained consumption of resources.

Climate change, together with the finite nature of many energy resources and long-term risks of energy generation from nuclear power, constitutes enough of a warning signal to start a global process of rethinking in both politics and the economy. A close reading of the creation accounts in the Old Testament provides a precursor to a way of managing natural resources compatible with creation and the environment, which could serve as the basis for this rethinking process. This new understanding of the creation accounts provides theological direction for decisions that are now urgent in view of climate change. The following should be taken into consideration:

- The description of humankind as God's image bearers (Gen. 1:26f.) depicts humans as the earthly agents of God's work in creation. We are regarded as proxies and communicative representatives of the constant caring reign of God. We are allocated a position of co-responsibility in the sustainable use and beneficial management of the living space created by God, with the responsibility before God of carrying this out.
- The creation narrative of Genesis 1 is mainly theocentric in character, calling to mind the universal action of God in creation and its history. This concludes with the creation of the Sabbath, the day of rest (cf. Gen. 2:1-4). Within this framework, humans recognize themselves doubly as creatures of God, created, on the one hand, as man and woman alongside the beasts and the terrestrial animals and sharing with them their habitat here on Earth (Gen. 1:24-30). On the other hand, humans are the only creatures who can communicate with God and be addressed by him (cf. Gen. 1:29f.). This explains the exceptional position of humankind within creation, which empowers humans to take on co-responsibility in ensuring living conditions conducive to life, and to exercise their mandate to rule over and take care of the earth with responsibility before God.
- The biblical creation narrative is thus not to be understood as an unlimited licence to exploit, but rather as a *promise of blessing* that humankind should and can live up to. This mandate for rule and stewardship was, however, put in place in the context of a relationship between humankind and nature that is fundamentally different from that which we experience today. In this context, the mandate for rule was meant to serve the increase of blessing and general welfare of all against the overpowering natural and dangerous animal world.

Humankind now has ways to influence nature that go far beyond what was possible in biblical times. But the increased human ability to form nature is connected with new dangers. With the change in climate caused by humans today, the forces of chaos that were banned and regulated on the second and third days of creation (cf. Gen. 1:6-13), are stirring again. The flood narrative (Gen. 6-8) illustrates how these forces of chaos can emerge within creation, demonstrating what can happen when humankind does not fulfil its regulatory mandate of rule as the result of its false direction (Gen. 6:5) or violent conflict resolution (Gen. 6:11-13). Today, we connect these biblical narratives with the geohistorical dimension of climate change, which could change or even disfigure the face of the earth in this very century.

The creation narratives express a humble self-conception of humankind in contrast with God and his creation. In the Psalms, this can be seen in the worship of God the Creator (Ps. 104) and in instruction for living in harmony with creation (Ps. 8). Even today, this human self-conception, anchored in a confession of faith in God the Creator, can be renewed in prayer and worship, and brought closer to others in sermons and lessons. This is characterized by:

- an attitude of admiration and awe as we contemplate the construction of the world "the more often and steadily reflection is occupied with [it]" (I.Kant);
- an attitude of gratitude, caution and humility, bearing responsibility and knowing that we are in good hands as God's image bearers within his good creation;
- and a joyous attitude based on an aware enjoyment of life.

Such an orientation, anchored in responsibility before God, provides a workable basis for the decisions that need to be made with the growing urgency connected with climate change. This does not, with regard to content, contrast with the findings of other ethical approaches, but instead strengthens these approaches and provides the necessary motivation and drive for their political and social implementation. This strength derives from trust in God, creator of heaven and the earth, and from a living faith in him.

V. What can we do?

Our present situation seems paradoxical. On the one hand, the dangers of climate change have begun making headlines. On the other hand, almost all conceivable climate policies are immediately overruled and undermined by pressure groups. This happened recently to the proposal of a tax on kerosene, to the promotion of a combined heat and power system, to plans to introduce a speed limit to the *Autobahn*, to many aspects of planned emissions trading, and even to the goal of limiting global temperature increases to 2°C. A multitude of diverse and conflicting special interests have formed obstacles to decisions on climate policy, which are impeded by massive political pressure. Society has, nevertheless, gradually grown aware of the fact that something has to be done, indeed much more than has been done so far.

Necessary changes are, however, not being initiated quickly enough and, most significantly, are not being implemented with the necessary determination. Specific climate policy measures could of course mean economic disadvantage for certain individuals and groups, who would attempt to oppose them. Fair compensation must then be sought, proportionate to each case. Refusing necessary decisions, however, is equivalent to that which is described as "sin" in the language of the Christian faith.

People denying their own responsibility and shifting it onto others ("It is not I who am guilty but the woman, the snake, God himself", Gen. 3:9-19) – and meeting disadvantage and insult with aggression and vengeance (cf. Cain murdering his brother, Gen. 4:1-16) constitute particular forms of sin.

In this context, we come to face the temptation that challenges us today. While arguments denying the significance of climate change have lost their persuasiveness, we will now witness more attempts to shift responsibility onto other people or nations, or fatalistic capitulation in the face of the enormity of the task. Old rivalries will resurface both within society and in relationships between nations, and claims of sovereignty will inexorably be made at the expense of a responsible climate policy.

This cannot, however, continue in this way. We thus call upon Christians to be decisive in rethinking and setting new trends in climate policy. They know that they are called upon to take climatic protection seriously in their own personal areas of responsibility, whether the corporate world, media and public organizations, the sciences, or public administration and politics. They are also called upon to take initiatives in their own private lives – however small and insignificant these may at first appear.

Every individual contribution to climate protection is helpful, as these effects add up. It is also not too late for these contributions, even if others are not (yet) ready to follow suit. The more people actively support climate protection, the more likely it becomes for this to be translated into political action.

The church itself can and must take action as well. Many practical steps are possible for church congregations and institutions as active contributors to climate protection. Such steps are not just a vision for the future but constitute a tried and tested practice for numerous congregations and church and diaconal institutions.

Examples for individual contributions to climatic protection include:

- There are many ways of saving energy. Energy consumption could be reduced tremendously in private households, church congregations, and church and diaconal institutions. Saving energy is often cheap and frequently requires neither expensive investment nor great sacrifice. We therefore call upon all congregations and church institutions to learn about the issue and to actively support this cause. You could establish – with the help of experts, possibly known to the church's environmental officers – energy and environmental management schemes in your church or institution. As a first step, you could improve the energy efficiency of your buildings.
- The energy and environmental management policies already in place in many congregations and regional churches can now be connected within the "Green Rooster" programme. This can develop into a collective strategy for reducing greenhouse gases within the churches and thus within the Evangelical Church in Germany (EKD) as a whole. This will provide a basis for hard and fast criteria in decisions affecting climate policy throughout the church's sphere of activity. In the next few years, church and diaconal organizations will need to allocate funds to make it possible to reach their goals in reducing their own carbon emissions.
- The churches are able to generate energy with small systems that tap into renewable energy sources. This was borne out in the "Solar Energy on Church Roofs" programme supported by the *Deutschen Bundesstiftung Umwelt* environmental foundation. Over 900 congregations took part in the programme. A commitment to regenerative energy sources makes us value energy more and use it sensibly. Sustainable energy production is profitable for the entire community.

The British historian Arnold Toynbee viewed the history of humankind in terms of "challenge and response". Let us provide a response to one of the greatest challen-

ges of our time! Passivity in the face of the dangers of climate change and hiding behind the façade of symbolic politics would be irresponsible, and would divide humanity increasingly into competing systems of self-preservation. Humanity must come together to accept the challenge of climate change. A global community dedicated to solving climate problems would grow together strongly in terms of culture, morals and spirituality.

Climate protection is a practical task arising today from our responsibility for peace, justice and the integrity of creation. The key to limiting climate change is to be found at the level of international climate policy, building on the Kyoto Protocol towards much more ambitious aims. It seems certain that the goals of the Kyoto Protocol, which run until 2012, cannot meet the requirements of climate protection in the long term, especially since certain important nations – and most significantly the USA – have not even committed themselves to the Protocol's aims.

This is why new impetus to raise the goals of international climate policy can now no longer be achieved solely on the level of negotiation by delegations or environment ministers. It is now the task of the heads of state and government of the most important nations to take new steps towards climate protection, a task which can no longer be postponed or delegated. The goals that they need to pursue are bound to entail particular requirements for the development and use of sustainable technologies in the rich countries.

The heads of state and government will be faster in taking up their obligation to take courageous steps in climate policy once they understand that many people in their countries have become aware of the significance of climate protection and are prepared to commit themselves to it in their own actions.

This movement must, however, first continue to gain momentum, and we wish to do all that we can to further these efforts. We are moved by the prophetic voice telling us not, through our sins, to allow the "break in the wall" to grow so large that it collapses. We must remember the words of St. Paul (Gal. 6:7): "Do not be deceived; God is not mocked, for you reap whatever you sow."

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