

Perspectives

Today's ideas for tomorrow's world



Münchener Rück
Munich Re Group



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environmental issues



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Dear Reader,

For more than 125 years, Munich Re has been making reliable promises for the future with the products it offers. It recognises the opportunities inherent in the risks and paves the way for them with know-how and capital strength. Dealing with risk in a professional manner requires both a clear view of future developments and the resolve to translate knowledge into action.

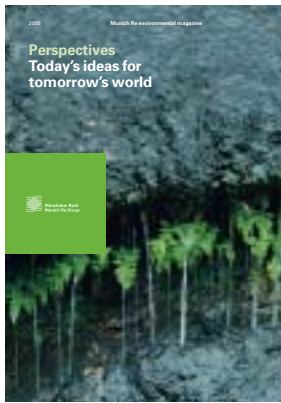
What awaits us after a year of natural catastrophes like the major hurricanes in the United States, the devastating earthquake in Pakistan, and the catastrophic flooding in the Alpine regions – a record-breaking year in both monetary and meteorological terms? The trend towards more frequent and more intense extreme events will continue. More and more people will populate this planet and will number around nine billion by the middle of the century. The associated economic growth and continuing industrialisation will intensify the pressure on our natural resources. Future demand for energy will cause global CO₂ emissions to increase even more strongly, particularly if fossil fuels are used to meet that demand. The costs of climate change must therefore be expected to rise too. Even if many influencing factors cannot yet be expressed in monetary terms, it is possible to estimate the magnitude of these costs. In view of such prognoses, we need courage and must be inventive in our thinking and acting so as to seize the opportunities inherent in every risk.

This issue of “Perspectives” focuses on highlighting opportunities. Opportunities like vehicles driven by alternative fuel systems, the development of renewable energy supplies in the growth markets of Asia, or closed-loop recycling systems. Opportunities like the ones we see in a growing socially responsible capital market. Opportunities for the sustainable development of our company and the world we live in.

Munich, July 2006

Dr. Torsten Jeworrek

Prof. Dr. Dr. Peter Höppe



China's economic boom is based on energy intensive industries. The growing demand can only be met in the long term by renewable energy sources.

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Living with catastrophes: the people in developing countries are particularly affected by natural catastrophes. At the same time, they have the least access to insurance protection.

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The Middle Kingdom sets its sights on renewable energy sources

The rapidly expanding Chinese economy needs lots of energy. This demand is to be met with power from renewable energy sources, in order to reduce the strain on the environment in China and to prevent further global warming. The international support of financial markets and the insurance industry is required.

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The latest results of research provide further proof that the world's climate is changing. This is of profound importance for both insureds and insurers in terms of both claims distribution and risk management.

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Weather-related natural catastrophes have a much greater impact on developing countries than on industrialised countries. Munich Re is one of the founders of the Munich Climate Insurance Initiative which was launched in order to develop solutions to the problems caused by continuing climate change.

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The trend is have a tank filled with natural gas rather than petrol or diesel. The insurance industry provides the appropriate cover.

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Munich Re recognised very early the significance of social and ecological criteria for both profitability and risk. For this reason, it focuses increasingly on socially responsible criteria in the selection of its investments.

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Between tradition and modernity. China is already the world's second-largest energy consumer after the United States. With an economy that is still growing at a rate of almost 10%, China is on the way to becoming the world's most important energy consumer.

The Middle Kingdom sets its sights on renewable energy sources

The rapidly expanding Chinese economy needs energy. A lot of energy. With the help of power generated from wind, sun, and water, biomass, geothermal energy, and the tides, the People's Republic of China hopes to become largely independent of imported oil, reduce the environmental burden, and counteract global warming. To achieve these goals, it needs the support of international financial markets and the insurance sector.

Till Heydel

Oil, coal, gas, and uranium are raw materials that deliver energy – but their reserves are limited. How long will they last? One indicator is the so-called static range, which is based on current consumption per year. It thus provides comparative figures but no precise dates because world-wide energy consumption is changing. At present, it is increasing dramatically. According to the Central Association of the German Coal Mining Industry (GVSt), the world's coal reserves will last for another 100 years at the current rate of consumption and for an even shorter period of time if energy demand increases. Natural gas reserves will be depleted in 70 years. The same applies to uranium – which makes nuclear power plants only a temporary answer to the world's energy problems at the most. Oil is our scarcest fossil energy source. Reserves of conventional crude oil are only expected to last for around 40 years. The German Federal Institute for Geosciences and Natural Resources (BGR) estimates that oil production will already reach its peak between 2015 and 2035 and that output will decline from then on. Renewable energy sources, on the other hand, are inexhaustible. This is one of the reasons underlying the People's Republic of China's announcement of its ambitious goals for this energy sector at the first International Conference for Renewable Energies held in Bonn in 2004. By 2010, China plans to have an installed capacity of 60 GW (one gigawatt is equivalent to 1,000 megawatts) from renewable energy sources, ten times the present capacity of its nuclear power plants. By that same year, renewable energy sources are to provide 10% of the electricity generated and satisfy 5% of the country's primary energy needs. At the Beijing International Renewable Energy Conference 2005 on 7 and 8 November 2005, representatives of the People's Republic of China announced even longer-term objectives. By 2020, renewable sources' share of total energy consumption is to increase to 15%.

Wind power capacity alone should by then amount to around 30 GW, thirty times the current amount. If this wind power capacity were fully and permanently maintained, it would theoretically be sufficient to cover half of Germany's annual power consumption. Furthermore, the aim is to generate 20 GW from biomass and 4 GW from solar power. With the additional output from large hydroelectric power plants, the country aims to produce more than 30% of its electricity from renewable sources. Investments amounting to €150bn will be needed for this purpose.

One of the most important steps towards achieving this goal was decided by the National People's Congress in Peking in March 2005, when it enacted the bill for the promotion of renewable energies. The German Agency for Technical Cooperation (GTZ) advised the National Development and Reform Commission (NDRC) in its drafting of the legislation and also contributed its experience with the German Renewable Energies Act (EEG). The Chinese law comprises three core components. First, it guarantees a specific minimum remuneration for power from renewable sources. Secondly, it obliges the network operators to give preference to the use of this electricity. Thirdly, any increased costs associated with power from renewable energy will be shared by all power consumers. In this way, the People's Republic of China has established a reliable framework that will also attract foreign investors. They can work with the state to plan the necessary power plant capacities and set up the infrastructure. The law also provides a firm basis for the economic fundamentals, such as plant insurability. This will speed up the growth of China's renewable energy market.

With now 60% of global installed capacity, China leads the market in solar thermal systems. Also, the country already uses geothermal energy on a large scale and is a leader in hydropower generation. With the aid of renewable energy sources, it has made electricity available to one million people in remote regions within the space of just three years. All this goes to show that China is by no means still at the beginning as far as renewable energy is concerned.

Germany plans to cooperate with the People's Republic of China in this field. Among other things, the two countries have launched the German-Chinese Sustainable Fuel Partnership, an initiative devoted to the use of renewable energy in traffic and transport, biogenic fuels, synthetic fuels produced from biomass, and hydrogen as a fuel.

Renewable energy sources for a rapidly expanding national economy?

By and large, China was self-sufficient in terms of energy up until about 1994. The development of renewable energies can enable it to regain this status and in particular help to reduce oil imports, thus satisfying its need for long-term energy security. At present, the People's Republic has only three major sources of energy: coal, oil, and water. Coal covers 65% of total energy consumption, oil 25%, and hydro power 7%, these three thus accounting for 97% of the country's total energy consumption. Nuclear power and gas contribute only 3% to total power generation. All other fuels have played a negligible role so far. However, renewable energy will enable China to improve the infrastructure in rural areas rapidly and cost-efficiently, for instance, because decentralised renewable energy sources make it possible to provide sufficient electricity for people far away from the metropolitan centres without having to invest in supraregional supply networks.

Another argument in favour of developing renewable energies in the People's Republic is that China is one of the signatories of the Kyoto Protocol, which is part of the United Nations Framework Convention on Climate Protection. Although not subject to the binding targets prescribed for the industrialised countries, the emerging countries should be placed in a situation where they can stabilise their emissions of greenhouse gases with the aid of technological partnerships. Greenhouse gases are held to be the main cause of global warming and China is the world's second-largest producer of carbon dioxide after the United States. By signing the Kyoto Protocol, China has indicated that it has recognised the importance of climate protection for the future: it will be one of the prerequisites for establishing the basis for sustainable economic growth in the decades to come.

Renewable energies and reinsurance

Renewable energies are both a high-potential technology and a dynamic growth sector. Munich Re supports endeavours to significantly increase the share of renewable energies in the global power supply with the aim of giving more and more people in the world access to modern forms of energy in the future and of combating climate change. It offers coverage concepts for the risks associated with this young industry. For many years, Munich Re has supported its clients in the development of renewable energies and has helped them to contain the risks. For instance, by comparing new projects with existing technologies, its insurance experts can make assumptions regarding renewable energies that facilitate insurance cover even without long-term statistics. Moreover, since it has been involved in the booming German renewable energy sector from the beginning, it has acquired unique skills and experience in this field. The same applies to the impact of climate change on renewable energy technology: climate change increases the risk potentials for



A solar plant in Shenzhen (near Hong Kong): it produces 140 tonnes less carbon dioxide every year than a conventional power plant.

wind power plants, for example. Thanks to Munich Re's unparalleled database on extreme weather-related events, it is also in a position to appraise the risks associated with strongly fluctuating wind speeds and offer appropriate covers.

The renewable energy sector is a prime example of how Munich Re develops effective insurance solutions to new problems. Europe's first productivity risk insurance for a geothermal power plant is a case in point. It was designed to protect the plant's operators against the risk that the water they were seeking could be less hot or flow less strongly than expected. Munich Re was also involved in the first offshore wind parks off the coasts of Europe. For several years, it has also been offering special financial instruments, including weather derivatives which reduce the financial risks associated with the whims of nature –

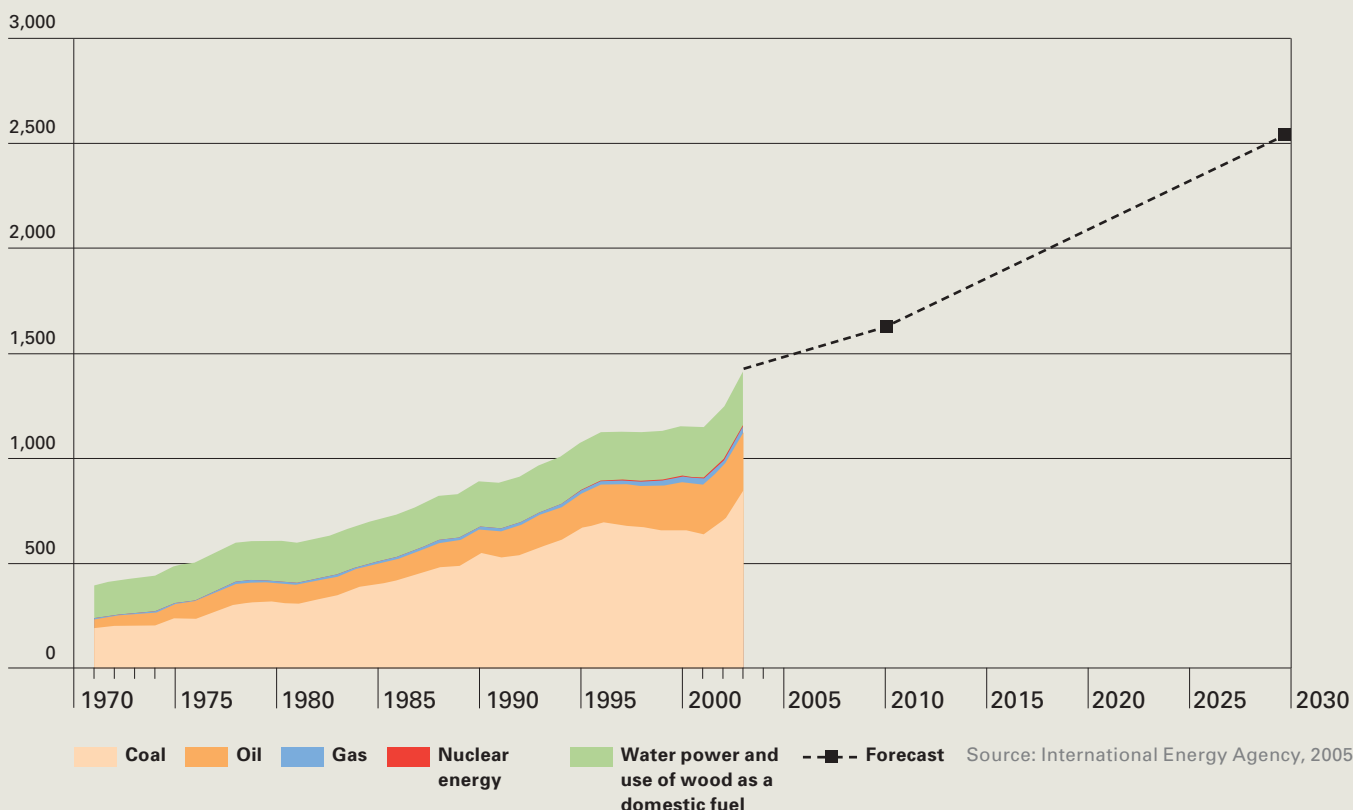
be it an above-average number of rainy days that reduce the yield of a solar energy system or unduly calm winds. Munich Re also became involved at a very early stage in the debate over the Kyoto Convention on Climate Protection and carbon dioxide emissions trading. Although the prices for emission allowances have been subject to strong fluctuations since trading officially started, the climate protection instrument will make a long-term contribution to further increasing the competitiveness of renewable energies.

The International Energy Agency forecasts a sharp increase in energy consumption in the People's Republic of China. It says that China will account for 15% of world energy consumption in 2006. The only renewable energy source to have attained any significance in the generation of power so far is water power, apart from the still common use of wood as a domestic fuel. Renewable fuels like solar, wind, and geothermal power will make an increasing contribution to power generation in the future.

China: Total primary energy supply

Development from 1971 to 2003 and outlook for 2010 and 2030

mtoe (million tonnes of oil equivalent)



These pieces of concrete were once part of a bridge near Biloxi (Gulf of Mexico) – until it was demolished by the force of the wind and waves during Hurricane Katrina.



The further outlook

“Everything used to be better. Even the weather.” Do such statements glorify the past? Not entirely, for the climate is indeed changing, as researchers have recently confirmed. Their findings are of profound importance for both insureds and insurers, especially as regards risk management.

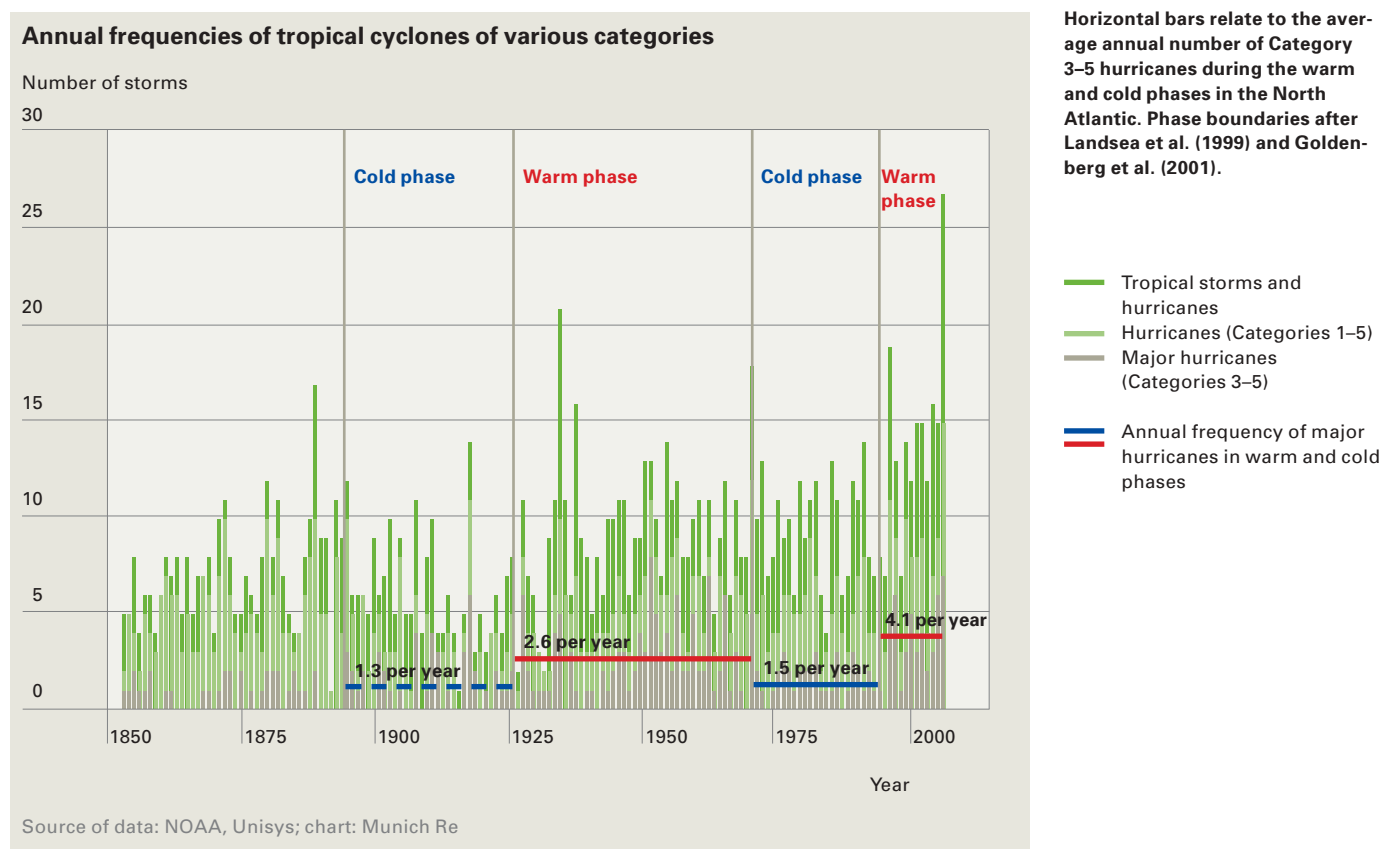
Dr. Eberhard Faust

Global mean annual temperatures can be followed back to 1861. In 2006, 145 years later, a trend has emerged which can no longer be ascribed to chance: the nine hottest years ever recorded were all between 1995 and 2005. According to provisional calculations by the World Meteorological Organisation (WMO), the mean global temperature in 2005 deviated by +0.47 °C from the average temperature between 1961 and 1990. By only half a degree? Then there's nothing to worry about, is there? Well, maybe there is, as a closer look at the repercussions reveals. The area of sea ice covering the northern hemisphere in late September every year has declined by roughly 8% in the last 25 years, for example. Glaciers in mountainous areas are on the decline.

2005 was a year of weather extremes in many regions. Just two years after the “hundred-year summer” of 2003, Spain and Portugal suffered their worst drought since the 1940s. Between October 2004 and June 2005, western France, Spain, Portugal, and the United Kingdom had only half as much rain as usual. Australians sweltered in a heatwave with an average temperature that was 1.75°C above the mean in the first five months of the year. 2005 turned out to be the hottest year there since records began in 1910. Major floods hit the Alpine regions in August, especially in Switzerland, Austria, and Germany. They were caused by a central European weather trough, involving a low-pressure system which picks up considerable amounts of moisture over the warm water of the northern Mediterranean and deposits them over the Alpine region and the low mountain ranges of central, eastern, and southeastern Europe as it heads (north)east. Such weather troughs were responsible for the floods on the Odra in 1997, the Vistula in 2001, and the Danube and Elbe in 2002 – despite the fact that the amount of rain falling in an average central European summer is steadily decreasing and that the probability of very hot and dry summers has considerably increased.

The insurance industry was affected above all by the losses caused by tropical cyclones in the North Atlantic. These storms develop over tropical oceans and depending on their intensity and the region involved, are called hurricanes (Atlantic and Northeast Pacific), typhoons (North-west Pacific), or cyclones (Indian Ocean and Australia). Worldwide, the proportion of severe tropical cyclones – Categories 4 and 5 on the Saffir-Simpson scale – is growing steadily. Since 1970, their number has risen from an average of 8 per year to 18. In 2005, 27 tropical cyclones were recorded in the North Atlantic, including 15 of hurricane force – a record number. 2004 had been a very active season too. In view of such increases, the question is: what has changed in the last 10 to 15 years? An important part of this is how tropical cyclones work. They are fuelled by the difference in temperature and pressure between the surrounding atmosphere and its warm centre. The relatively low pressure in the centre is caused by the evaporation of ocean surface water – the warmer the water, the stronger the evaporation. Climate simulations using cyclone models show that a “heated” earth with higher temperatures in tropical oceans gives rise to more intense storms characterised by higher wind speeds and heavier rainfall.

Indeed, this has been confirmed by our observations over the last few decades. At the same time, the increase is “masked” by natural oscillations. Over time, the average surface temperature of the North Atlantic has fluctuated in long waves; there have been exceptionally warm and exceptionally cool phases, each lasting several decades. Higher temperatures prevailed before 1900, between the mid-1920s and the late 1960s, and again since the mid-1990s. This phenomenon is probably due to a natural



cause known as thermohaline circulation (THC). This means, in strongly simplified terms, that warm, saline water from the tropical North Atlantic, the Caribbean, and the Gulf of Mexico is transported northwards and eastwards in the upper sea layers by the Gulf Stream and the North Atlantic Current. Once it has discharged its heat into the atmosphere, the water, which is very dense due to its salt concentration, sinks to the depths in the Labrador Sea and off the coast of Europe between Greenland and Scotland. Then it flows back towards the south. A more active THC contributes to higher North Atlantic temperatures.

Besides increasing the intensity of storms in the North Atlantic, warm phases like the one we are currently experiencing also generate more frequent hurricanes, whereas cold phases have the opposite effect. This alternation between warm and cold phases has now been supplemented by a new effect: the overall rise in temperature. The cold phases are not as cold as they used to be and the warm phases are getting hotter. 2005 made history with the highest value since 1880. Between July and September 2005, positive sea surface temperature anomalies of up to 2°C were registered in some parts of the tropical North Atlantic and the Caribbean, with average readings for

January to November 2005 reaching record levels at several points on the map. Since the intensity and frequency of hurricanes increases with sea surface temperatures, the average number per year has also risen: from 2.6 to 4.1 hurricanes (Categories 3-5) between the last warm period and this one – an increase of around 60%. A study by the Scripps Institute in 2005 reveals that the cause of this general warming is probably climate change, which, in turn, is due to human factors.

Significantly more cyclones and a growing number of severe storms are also changing the prevailing hazard situations and loss distributions – factors of particular importance to the insurance industry. The models used until spring 2006 were mainly based on all loss events since 1900, so that present loss levels are underestimated by insurance companies. Recent analyses by Munich Re have shown that the expected annual loss value increases on the basis of a distribution which only takes into account losses occurring in warm phases. This is the great challenge for the insurance industry. It must respond to the current hazard situation and take it into account appropri-



In 2004, Hurricane Charley sped over Cuba, Jamaica, the Caymans, and the US South with wind speeds of up to 240 km/h. Mobile homes like this one in Bokeelia, Florida, put up very little resistance.

ately in its risk management. The record losses generated by Hurricane Katrina also showed that some aspects of the total insured loss are still not sufficiently factored into loss models even today. Improvements must be made particularly with regard to the following:

- Modelling the effects of storm surge and flood
- The complex interrelation of aspects relating to business interruption covers that lead to higher losses
- The limited resources available to loss adjusters, which hampers settlement when there are large numbers of individual claims (no fewer than two million claims were filed after Katrina)
- The substantial increases in the price of materials and labour for the reconstruction work and the costs of alternative accommodation for people whose buildings have become uninhabitable
- More serious damage and delayed, more expensive repairs when the same region is hit by several storms within a short time
- The interruption of business activities in an entire region when this is aggravated by people returning to their homes slowly or not at all and by inefficient disaster management

These factors should also be taken into account in the insurance industry's risk management. Losses can be avoided if insurers additionally draw attention to the consequences of climate change and supports measures to counteract it.

Do the people in developing countries have to learn to live with natural catastrophes? Innovative coverage concepts will enable them to cope better with the effects of natural catastrophes.



Natural hazards: The increasing importance of insurance for the poorest of the poor

Weather-related natural catastrophes have a much greater impact on developing countries than on industrialised countries. Most of the people living in these countries are without insurance protection. The Munich Climate Insurance Initiative was launched by Munich Re with the aim of developing insurance solutions designed to contend with the increasing losses from extreme weather events.

Prof. Dr. Dr. Peter Höppe

Awareness is growing in the industrialised countries that climate change is not merely an immense environmental problem but also a challenge to national economies in that weather catastrophes cause billion-dollar losses. Yet the impact on developing countries is immeasurably greater. Their national economies are less powerful and significantly more vulnerable, with the result that they are less able to cope with losses, if at all. Between 1985 and 1999, natural catastrophes caused losses equal to 13.4% of the gross domestic product (GDP) in developing countries, as compared with only 2.5% in industrialised countries. Most of these countries are unable to meet the costs of weather damage – either by higher taxes or by new borrowings. The small Caribbean island states are already so heavily in debt, for example, that they can hardly take out further loans.

Development aid is increasingly used to subsidise repairs

Industrialised nations and their citizens display an immense willingness to donate money when regions are stricken by weather-related catastrophes, especially in developing countries. Donations and gifts help to pay for medication, medical assistance, emergency accommodation, or the reconstruction of hospitals, roads, and buildings. According to World Bank information, it has paid out US\$ 38bn to developing countries in the form of subsidies and loans for emergency aid in the last two decades. The Asian Development Bank has similarly reported large payments for such purposes. But this also goes to show that a growing share of financial aid is not available for development projects in these countries but is channelled into reconstruction projects following natural catastrophes

associated with climate change. This change, as researchers now firmly believe, is primarily attributable to the greenhouse gases emitted by industrialised and emerging countries.

Climate change is a threat to the livelihood and health of millions of people, particularly the poorest of the poor, who have had no access to insurance up to now. It was with this in mind that Munich Re launched the Munich Climate Insurance Initiative (MCII) in 2005, whose mission is to develop insurance solutions that address the consequences of climate change. One of its focal areas is developing countries because it is in particular the poor people of this world that need to be given a chance of protecting themselves more effectively in future. The basic idea underlying the initiative is to create a balance between the emitters of greenhouse gases and the developing countries hit by the effects of climate change. MCII shows that Munich Re is looking beyond traditional reinsurance business to launch new and innovative solutions in an ever-changing risk environment. The initiative is the only one of its kind in the world. It brings global insurance players to the same table as UN organisations, non-governmental organisations (NGOs), and leading scientists.

Microinsurance: One possible option

The idea of developing insurance-related solutions to the effects of climate change was first conceived in 1991 by the Alliance of Small Island States (AOSIS), which proposed the establishment of a fund financed by the industrialised countries. Article 4.8 of the United Nations Framework Convention on Climate Change (UNFCCC) and Article 3.14 of the Kyoto Protocol both call on the industrialised countries to develop measures which will enable developing countries to react to climate change. Insurance is mentioned as a possible option.

However, a look at the insurance penetration shows that access to insurance varies greatly around the world today. Covers for catastrophic events are still scarcely available in Africa, Asia, and Latin America. Of the four billion people worldwide who have less than two dollars a day at their disposal, only ten million are able to purchase insurance.

There are three essential reasons for this. Firstly, many people are unable to afford insurance on account of their low income. Secondly, the infrastructure needed to give the people requiring protection access to insurance is frequently lacking, especially in rural areas. And thirdly, the concept of insurance and the principle of solidarity underlying it are virtually unknown in some cultures.

Microinsurance can play an important part in overcoming these hurdles, and a successful start has already been made in agricultural insurance and in the life and health sector. Weather insurance based on rainfall indices are currently being developed, for example. The cover attaches if the rainfall drops below a certain level within a given period of time. In this way, farmers can protect themselves against the effects of drought – which may in turn be a result of climate change.

The MCII first unveiled its ideas on such insurance solutions at the 2005 Climate Conference in Montreal. This autumn, five fundamental papers on different aspects of MCII's activities will be published in cooperation with the reputed journal *Climate Policy*.

The first step has been taken, but there is still a long way to go before large parts of the world's population will be able to insure themselves against the effects of climate change. The pace adopted by those concerned will be just as important as choosing the right path. The MCII will help them.

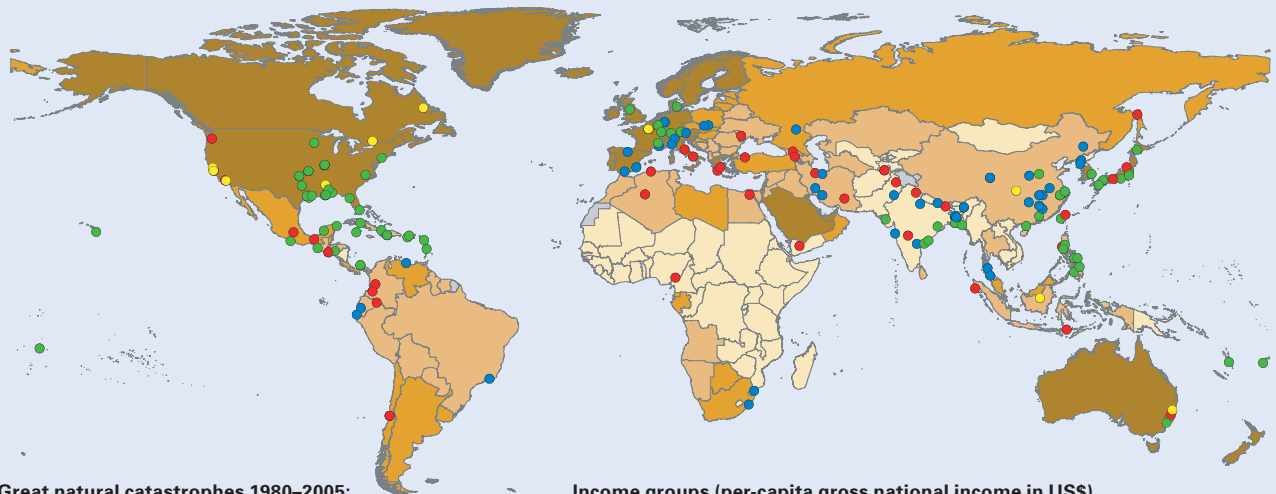
The MCII brings together insurers, climate experts, economists, and independent organisations.



The MCII's representatives include the following institutions and organisations:

- European Climate Forum (ECF)
- Germanwatch
- International Institute for Applied Systems Analysis (IIASA)
- Munich Re and the Munich Re Foundation
- Potsdam Institute for Climate Impact Research (PIK)
- The Energy and Resources Institute (TERI)
- The Tyndall Centre for Climate Change Research
- United Nations Framework Convention on Climate Change (UNFCCC)
- World Bank
- World Meteorological Organization (WMO)

Natural catastrophes and income distribution



Great natural catastrophes 1980–2005:

- earthquake, tsunami, volcanic eruption
- windstorm
- flood
- temperature extremes (e.g. heatwave, wildfire), mass movement (e.g. avalanche, landslide)

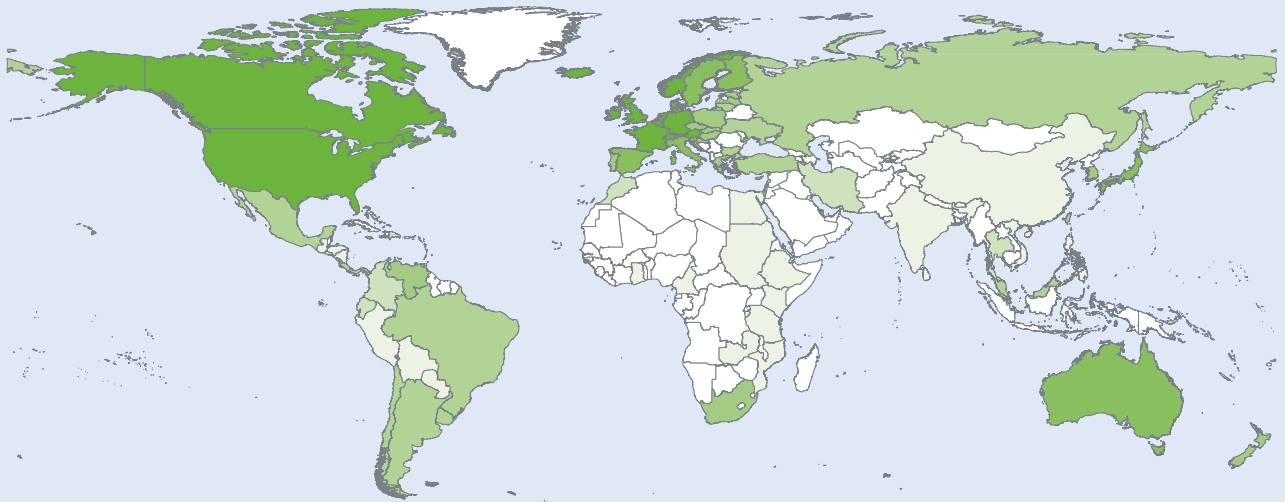
Income groups (per-capita gross national income in US\$)

- low income (below 826)
- lower middle income (826–3,255)
- upper middle income (3,256–10,065)
- high income (10,065+)
- not classified

Source: Geo Risks Research, Munich Re 2006
(income groups based on the World Bank's classification)

Natural catastrophes are just as severe in industrial countries as in developing countries, as the distribution of major catastrophes between 1980 and 2005 shows. Having less economic strength, however, developing countries have a harder time coping with the effects of catastrophes. A considerable portion of development aid is used nowadays to pay for the removal of damage.

Insurance penetration



Property insurance premium (non-life including health) per capita per year

- | | | |
|--------------------------|-----------------------|------------------|
| The inadequately insured | The basically insured | The well insured |
| no data available | US\$ 26–50 | US\$ 51–100 |
| US\$ 1–25 | | US\$ 101–500 |
| | | US\$ 501–1,000 |
| | | US\$ 1,000+ |

Source: MR-Economic-Research/
MRNatCatSERVICE® 2006

Natural catastrophes have a major impact on the poorest of the poor, who often lose their entire livelihood as a result. Insurance is a common way of making provision in industrial countries, but for many people in the world it has been inaccessible or unaffordable up to now. This is reflected in the low insurance penetration in developing and threshold countries.

New life for old equipment

Television sets, computers, refrigerators, washing machines, and toasters: such appliances have had to be disposed of separately in Germany since March 2006. Manufacturers and importers are now obliged to take them back and recycle them. Munich Re has developed a bond insurance to cover the costs of recycling which will support the recycling industry and help to maintain its viability.

Dr. Thomas Arnoldt

At least four kilograms of electrical and electronic scrap per capita are expected to be fed back into Germany's material cycle every year. Unwanted or defective computers, energy-saving bulbs, freezers, mobile phones, mixers, shavers, vacuum cleaners, and video recorders are no longer to be thrown away with the household refuse but must be taken to one of the country's 1,500 municipal collection centres.

Individual duties are itemised in the Electrical and Electronic Equipment Act (ElektroG). This Act translates into German law the requirements to be met throughout Europe stipulated by the EU Directives 2002/96/EC on waste electrical and electronic equipment (WEEE) and 2002/95/EC on the use of hazardous substances in electrical and electronic equipment (RoHS). The aim is to recycle material more extensively and thus relieve the burden on the environment. More than a million tonnes of electrical and electronic scrap accumulate in Germany every year, sometimes with highly toxic constituents.

Private consumers do not incur any costs since it is the manufacturers, importers, and dealers of equipment who are addressed by the law. They must take the products back free of charge and recycle them in accordance with the current state of the art. The law covers many different kinds of electrical and electronic appliances (see box on page 18).

Product responsibility rests first and foremost with the manufacturers. A manufacturer is defined as an entity that manufactures its own equipment or assembles equipment produced by other firms and places it on the market under its own brand name. Anyone who imports equipment or exports it to another EU country for sale to users also qualifies as a manufacturer. Distributors like supermarkets or retailers that sell equipment made by unregistered producers are also considered manufacturers under the law and thus have the same obligations as manufacturers.

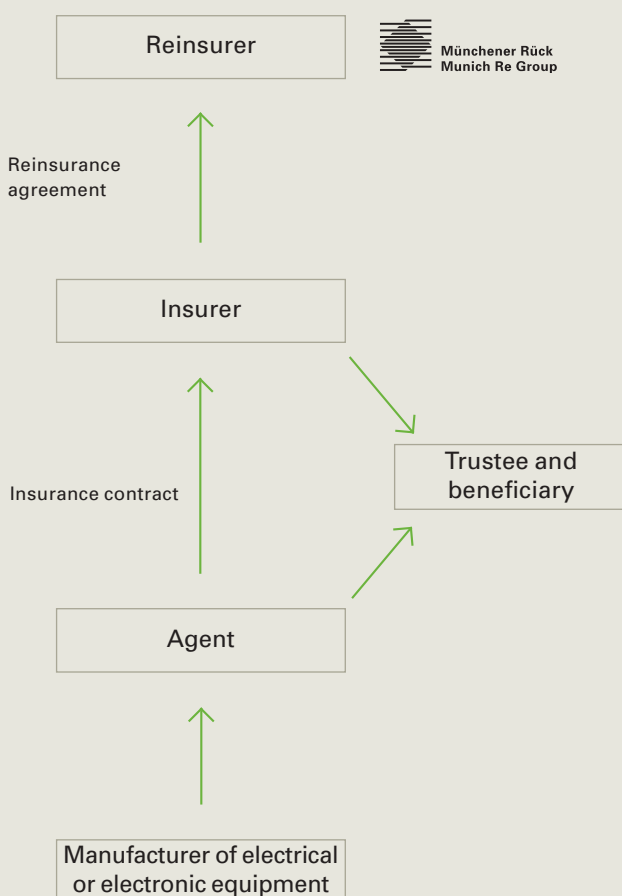
The collection centres for scrap equipment are set up by municipal authorities, whilst appropriate containers are supplied by the manufacturers. Collection is coordinated by the Stiftung Elektro-Altgeräte Register (EAR) in Fürth. Under the supervision of the Federal Environment Agency, the EAR monitors the manufacturers and importers to make sure they all meet their obligations. All new equipment must be labelled; household appliances, for example, bear a symbol showing a crossed-out household refuse bin. The law penalises violators, for instance, by forbidding the sale of equipment made by unregistered manufacturers. Public authorities may order dealers to strike such products from their lists. Around 10,000 manufacturers and importers are affected. Fines are also imposed on manufacturers if their disposal contractors do not collect the containers from the collection centres in good time or if they violate other duties under the ElektroG.

Recycling guaranteed by insurance

To ensure that they are able to bear the costs of taking back their products, the manufacturers must deposit an insolvency-proof financing guarantee with the EAR. Munich Re has developed a specially tailored product to this end: bond insurance for the costs of recycling. This bond insurance product is offered by way of special processing companies which provide not only the service but also take over the portfolio management. For companies represented by the Central Association of the German Electrical and Electronics Industry (ZVEI) these services are offered by Aon Credit. It has developed a dedicated internet platform for potential customers to take out their insurance cover online. Great Lakes (UK) acts as primary insurer and passes on the risk in full to Munich Re. For Munich Re, the risk would be triggered by a so-called "guarantee case", which would only happen, for instance, if a market for electronic toys or large household appliances ceased to exist.

With this innovative product, Munich Re has come yet another step closer to fulfilling its goal of supporting commitments to sustainability in all branches of industry.

Bond insurance for recycling costs



Bond insurance for recycling costs enables manufacturers of equipment to meet the strict requirements of the Electrical and Electronic Equipment Act.

To what equipment does the Electrical and Electronic Equipment Act apply?

Electrical or electronic equipment is defined as everything that is electrically operated or that operates electronically but is not part of another device governed by separate disposal regulations. Car radios, for example, are not covered by the Electrical and Electronic Equipment Act and must be disposed of together with the vehicle as before. In case of doubt, a product's category is always determined by its primary purpose.

The Act embraces the following types of equipment:

- Large and small household appliances
- Information and communications technology and consumer electronics
- Lights but not conventional light bulbs
- Electrical and electronic tools but not permanently installed machines
- Toys and sports and leisure equipment
- Medical products which are neither implanted nor infectious
- Surveillance and control equipment, automatic dispensers

Responsible investments

Social and ecological criteria have become an increasingly important aspect of asset management in recent years. Munich Re recognised the importance of these criteria for profitability and risk early on and increasingly takes sustainability into account in its worldwide investments.

Mathias Walterspiel and Rolf D. Häßler

For a long time, the sustainable investment market was considered a genuine niche for investors with a particular sense of responsibility for environmental and social issues. This view has shifted perceptibly in recent years, however: Socially Responsible Investment (SRI), as it is officially known, has experienced a resounding upswing. The Sustainable Business Institute at the European Business School in Oestrich-Winkel has estimated that some €500bn has been invested throughout Europe in accordance with SRI criteria, mostly by institutional investors. About 5% of this sum was invested in the 375 socially responsible mutual funds which existed in Europe in June 2005. Their volume has doubled in just two years. In fact, the socially responsible mutual funds licensed in the German-speaking region doubled their investment volume within just one year: at the end of 2005, the Sustainable Business Institute counted 116 socially responsible funds with a total volume of €9.2bn.

Conventional investors are also paying more attention to such investment aspects. There are increasing signs that their appreciation of a holistic investment analysis is growing. There are numerous examples of this trend. To begin with, more than 200 institutional investors support the Carbon Disclosure Project (CDP), which monitors 1,800 firms around the world in terms of their efforts to protect the climate. It is also evidenced by the foundation of the Enhanced Analytics Initiative (EAI), an association of asset managers and institutional investors who channel part of their broker's commission into "extra financial research", and by the widespread recognition of the Principles for Responsible Investment (PRI), which provide institutional investors with a framework for taking sustainability aspects into account in their investments.

But is it permissible to take ecological, social, and governance aspects into account in investment decision-making, is it legally required, or is it only tolerated to a certain degree by the dictates of fiduciary duty? The international law firm Freshfields Bruckhaus Deringer has investigated this question for the UNEP Financial Initiative. The result of this investigation, which was conducted in various countries, is conclusive: it is not only permissible to integrate these aspects into the investment analysis but may even be necessary from a legal point of view.

The importance of SRI to Munich Re

SRI is of importance to Munich Re in three respects. Firstly, Munich Re offers socially responsible investments itself in the form of the MEAG Sustainability Fund, which has been available since October 2003. It is based on the Dow Jones Sustainability World Index ex All (DJSI), in which Munich Re has been listed since 2001. The fund's management invests between 10% and 20% of its volume – which totalled more than €46m at the end of April 2006 – in so-called innovators, such as wind power generators or the manufacturers of water treatment plants.



Munich Re shares in the changing course of time. They have already been listed on the stock exchange for 118 years. Approximately 2% of our shares are currently held by socially responsible investors.

Secondly, socially responsible investors already hold 2% of Munich Re shares (as at the end of 2005). As a rule, they do not carry out any investment without a comprehensive analysis. Munich Re receives more and more enquiries and questionnaires on these topics every year; they are handled by experts in various units of the company. The listing in the DJSI, FTSE4Good, and in other sustainability indexes shows that Munich Re is on the right track with its commitment to environment protection and sustainability.

Thirdly, Munich Re already began taking sustainability criteria into account when investing in stocks and corporate bonds in 2002, basing its investments on the criteria of approved sustainability indexes. Corresponding criteria similarly apply when investing in government bonds. The main challenge in this context is to comply with our principle of currency matching. For technical reasons, capital must be allocated in the currencies in which Munich Re has a relatively large volume of risks. The sustainable development of the states whose bonds are purchased is taken into account within the context of this requirement. Our aim is to have socially responsible investments account for 80% of our portfolio of shares, corporate bonds, and government bonds. As at 31.12.2005, the Munich Re Group had attained a rate of over 82%.

In Munich Re's view, real estate is a class of investment that is frequently overlooked in the discussion of considering environmental and sustainability criteria. Yet this class is of major importance, particularly in the insurance sector. Applying energy conservation principles when refurbishing property can make a great contribution towards climate protection and will safeguard the value of the property at the same time. MEAG, which is in charge of real estate within the Munich Re Group, has therefore drawn up a detailed catalogue of environmental criteria for the purchase, construction, and renovation of property.

Sustainability criteria in the management of our shareholdings

Sustainability criteria play an important role particularly in conjunction with corporate shareholdings, i.e. Munich Re's long-term investments. The decisive aspect here is to rule out risks that could arise from a poor environmental or social performance. These include not only cases of long-standing pollution on real estate but also damage to our image due to unfair business practices by the companies in which we have participations.

The UN Principles for Responsible Investment were signed in New York on 27 April 2006 in the presence of UN Secretary-General Kofi Annan. Munich Re will provide regular reports on its implementation of these principles.



Munich Re therefore imposes stringent standards when reviewing potential shareholdings. In 2001, we adopted a set of sustainability criteria for the acquisition of participations. Among other things, it excludes firms with significant operations in areas which are considered critical, such as the manufacture of tobacco products. It is also assessed whether a company has a functioning environmental or sustainability management. In Munich Re's view, an active response to the challenges of sustainable development is an indicator that a company is an innovative and open-minded company with a viable future.

Since late 2004, Munich Re has regularly reviewed its participations on the basis of sustainability criteria. It analyses their environmental and sustainability performance and management with the aid of published information such as annual reports and environmental, human resources, and sustainability reports. These aspects are additionally examined by the units responsible for corporate shareholdings within the framework of active monitoring.

Support for the UN Principles for Responsible Investment

Thanks to its extensive specialist knowledge, Munich Re was invited to participate in the development of the UN Principles for Responsible Investment (PRI), and, with a view to promoting a technically sound formulation of these principles, contributed its internationally acknowledged expertise in this field to the work of both the Expert Group and the Investor Group. The result is a set of six principles covering the incorporation of sustainability criteria in investment analyses, the promotion of sustainable investment approaches in the financial sector, and regular reporting on the implementation of the principles. Munich Re was one of the first signatories of the PRI and will regularly report on the implementation of these principles in its sustainability reports.

On this highly developed basis for asset management, Munich Re will continue its efforts to make its socially recognised contribution to sustainable development through a policy of responsible investment.

Erdgas

Powerful stuff: natural gas is becoming more and more popular among drivers, not only because of the larger number of gas filling stations in place.



Stepping on the gas

Rapidly increasing petrol and diesel prices have directed attention to alternative fuels, especially gas. The number of cars using natural gas on Europe's roads is growing steadily and there are also more and more gas filling stations. And the next trend is already on the horizon: natural gas could be supplemented and in some cases replaced by biogas.

Ludwig Scheitle

Driving should be clean and cheap. Options for the future include vehicles running on hydrogen, electricity, or solar energy. However, hydrogen-powered drive systems are unlikely to be suitable for installation in mass-produced cars before 2020, and the other alternatives are not yet technically mature or economically viable. For this reason, the only new system to have attained widespread use in recent times is gas propulsion. For a long time, it had to struggle with the chicken and egg problem. Since there were too few natural gas filling stations, very few gas-powered vehicles were sold, with the result that no additional gas filling stations were built. Even so, at the time of writing (early 2006), Germany already has more than 650 natural gas filling stations, and by 2007 there should be around 1,000 covering the whole country. The natural gas infrastructure for motor vehicles is also expanding rapidly in Italy, Austria, Switzerland, Sweden, and France. Today's models can drive 400 to 500 km without refuelling – and even further with an additional tank full of conventional petrol.

Two different gas propulsion systems have been developed. One uses liquefied petroleum gas (LPG). This is a mixture of propane and butane and is supplied in liquid form at a pressure of roughly 8 bar. The other uses compressed natural gas (CNG), which is available from filling stations at a charging pressure of roughly 200 bar.

450,000 gas-powered cars on Italian roads

At the beginning of 2006, there were more than 35,000 natural gas cars in Germany. This bears no comparison to the 450,000 on Italian roads, where they have been a common sight for the last 40 years. They are served by 530 filling stations. Experts estimate that 400,000 such vehicles could also be registered in Germany by 2010. Demand is rising, not only from private drivers, but also among industrial corporations and in the public sector, such as for refuse disposal. Buses powered by natural gas have been on the road for over ten years. The public transport system in the Bavarian city of Augsburg uses more than 50 of them, and the plan is to have the entire fleet running on natural gas soon. Large fleet operators like DHL and Deutsche Telekom are also gradually converting their vehicles.



Air pollution is lower in towns and cities thanks to natural gas buses.



Filling up with natural gas is easy – and when the tank is empty, the engine automatically switches over to using petrol.

Cut costs and pollution

Many manufacturers build vehicles with gas propulsion as a standard feature. Owing to the additional space needed for the extra tanks, these are mostly estate cars, vans, and light commercial vehicles. They all have a combined (bivalent) drive system which accepts either natural gas or petrol. The difference in price between a factory-made gas car and a diesel car is roughly the same as between a diesel car and a petrol car. Gas offers distinct operating advantages: the fuel costs only about half as much as conventional petrol and roughly 30% less than diesel. The advantage is essentially due to the fact that natural gas fuel is subject to a lower rate of mineral oil tax. This ruling will remain in force until at least 2020. Also, gas car drivers do not have to worry that the price will be tied to the price of oil as in the case of town gas, because natural gas used in motor vehicles is not priced and taxed in the same way as natural gas used for heating. It is based on the prices of the other fuels, which are determined above all by supply and demand.

Gas cars are better for the environment in many ways: their pollutant load is roughly one-fifth as high as that of petrol cars, and there are no emissions of particulates like soot or dust. These vehicles could even make a name for themselves as “renewable energy cars” as they run on both natural gas and biogas. Farmers produce biogas in fermentation processes, e.g. from such organic wastes as manure, silage, and abattoir waste. The gas is purified and mainly used in engines to generate electricity, but it can also be used to drive motor cars. The first biogas refuelling site in Germany opened in spring 2006; it will not be the last.

Gas from the fields

According to the Biogas Association, biogas could replace at least 10 and possibly even 16 billion cubic metres of natural gas by 2020. To achieve this, energy crops for biogas production would have to be planted on 10% of Germany's arable land. Mono-cropping is not necessary: mixed cropping, crop rotation, grasslands, and fallow land are equally suitable. Based on the current volume of natural gas imports, it would mean that almost €7bn could be invested at home every year – in, among other things, jobs in the agricultural sector.



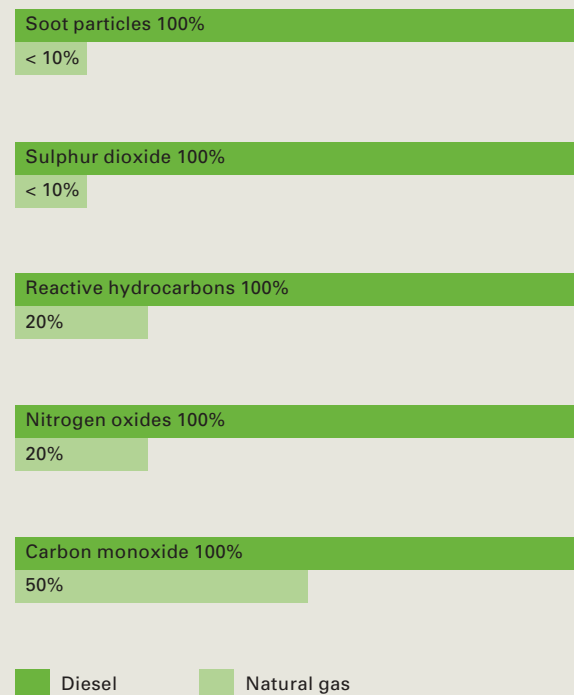
**No fear of natural gas in the tank.
Crash tests reveal that it is less
prone to cause fires or explosions
than conventional fuels.**

Source: ADAC

Risks

Most vehicles running on LPG have been converted from petrol to gas in a car workshop. Natural gas vehicles are normally built as such on the production line, where the quality and safety standards are higher. There are no particular risks typically associated with gas propulsion systems. According to the ADAC, Germany's largest automobile association, and the TÜV, Germany's Technical Inspection Agency, gas cars are just as safe as petrol or diesel cars. In fact, as crash tests have demonstrated, the risk of fire and explosion is even lower. Gas vehicles have been allowed to use underground parking facilities since 1993. Motor insurers have supported the spread of this new generation of vehicles in Germany from the very outset. Since the advertising campaign for natural gas vehicles was launched in 2001, they have been insured under the same terms and conditions as petrol cars (despite the higher value insured) in the German motor insurers' rating catalogue. Some motor insurers also grant an extra green bonus with a promotional discount of up to 20%. As these vehicles become more widespread, the cost of insurance will be increasingly based on the claims expenditure of natural gas models. It is the buyers who will ultimately prove decisive: are they private or commercial buyers, with high or low mileage?

Effective way of combating smog: natural gas vehicles



**Natural gas vehicles are already
more environmentally sound
than petrol or diesel vehicles.
Once biogas is added to natural
gas, pollution levels will fall
even further.**

Source: www.asue.de
Graph: Munich Re

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Munich Re environmental report 2005

01 Introduction

Dear Reader,

2005 saw the most active hurricane season since recordings began and the most expensive in the history of the insurance industry. Thus extreme weather events continue to dominate insurers' loss figures. Here are the meteorological and loss records set last year:

- 27 named tropical cyclones in the North Atlantic, 15 of which reached hurricane force
- Katrina, the most costly insured natural catastrophe ever at US\$ 60bn
- Wilma, the strongest hurricane with the lowest central pressure ever recorded (882 hPa) and probably the highest wind speeds
- The heaviest-ever claims burden for the insurance industry from tropical cyclones with insured losses exceeding US\$ 84bn in the United States, the Caribbean, and Mexico alone.
- Hurricane Vince, the most easterly and northerly tropical cyclone ever recorded in the Atlantic, near Madeira

In their impact, last year's windstorms markedly exceeded those of 2004, the previous record-holder in terms of natural catastrophe costs, and curbed the optimism of many market players that 2004 was an "outlier" year. The weather-related natural catastrophes also resulted in exceptionally high claims costs for Munich Re. Our risk models and trend observations leave little doubt that we will have to reckon with losses of this dimension more often.

Even if it is not scientifically admissible to causally attribute individual weather-related extreme events to global climate change, no one in modern climate research seriously doubts any longer that, in addition to natural temperature fluctuations, man is a primary long-term influence on climatic processes.

Climate change and climate protection were again a key element of our environmental commitment in Munich Re's anniversary year. True to the motto "Manage risks – Take opportunities – Share knowledge", we aim to consider changes in risk situations at an early stage in the underwriting of risks, develop new products, and tap markets that in particular promote development which is low on CO₂ emissions through the expansion of renewable energies and the use of energy-efficient technologies. Consequently, we also support international efforts to reduce carbon-dioxide emissions worldwide. Besides this commercial aspect, we see it as our duty to share our knowledge with others.

With various initiatives, Munich Re used the occasion of its 125th anniversary in 2005 to highlight the many facets of risk: not just the hazards, threats, and suffering, but also the


inherent opportunities, the momentum with which risk drives development. The new **Munich Re Foundation**, with a capitalisation of €50m, will support people in risk situations through its global project work. **CHANCE : RISIKO** was the motto of our anniversary exhibition at Munich's Haus der Kunst which, from July to November 2005, invited visitors to look at risk from a different angle and see the opportunities in it. At the German National Garden Festival BUGA 05, which opened its doors to the public on the same day as Munich Re's AGM in München-Riem, Munich Re sponsored one of the "cells" in the twelve-section Event Garden dealing with the subject of weather change. It also presented its competence in the area of climate change in the **Climate House**.

Public debate on the subject of sustainability is becoming more vigorous and is reflected in a whole range of areas: in more stringent legislation that expresses what is socially desirable and what is not; quite generally in the capital markets' demands with regard to transparency on the issue of sustainability and specifically in initiatives by investors regarding companies' climate protection strategies; and lastly in extended company reporting requirements relating to non-financial performance indicators that include environmental and employee aspects.

Munich Re, too, answered enquiries from a growing number of specialised sustainability analysts last year. We have again made substantial advances, particularly as regards transparency. Our website – to which a section on Munich Re and sustainability has been added – provides detailed information on our commitment and involvement. Besides this, we produced our first-ever SRI report last year, aimed at our partners in the sustainability-oriented capital market. The present environmental report informs you in detail about this and numerous other activities in the field of environmental protection and sustainable development in 2005, as well as following up on our environmental statement of previous years.

Our approach has proved successful: Munich Re shares are included in all the important sustainability indexes, such as the Dow Jones Sustainability Index (DJSI) and FTSE4Good. In other words, we are on the right track, and we intend to go further!

We again look forward to receiving your questions and suggestions. Just give us a call or drop us a line!



Prof. Dr. Dr. Peter Höppe
Environmental Officer

Claudia Wippich
Head of Environmental
Management

02 Munich Reinsurance Company

Our company, our business, 2005

This environmental report (environmental statement) relates to our activities at Munich Reinsurance Company's head office in Munich. As a professional reinsurer, Munich Reinsurance Company operates worldwide in all classes of insurance. It is the parent company of the Munich Re Group, whose business encompasses reinsurance, primary insurance, and asset management.

Munich Reinsurance Company was founded in 1880 and was one of the first independent reinsurance companies that did not itself conduct primary insurance. Today it is one of the largest reinsurers in the world: 5,000 insurance companies in around 160 countries rely on our expertise and financial strength. We see ourselves as risk managers and offer solutions for the whole spectrum of risk management – from the assessment and assumption of fire, engineering, liability, and natural catastrophe risks to the coverage of large individual risks such as oil rigs and satellites. We also assess and underwrite risks arising from the use of genetic engineering and information technology or from the management of companies.

Our underwriting result last year was impacted by exceptional burdens. One of these was the reserve strengthening at our US subsidiary American Re-Insurance Company. Another was the series of unusually strong hurricanes in the Gulf of Mexico in the second half of the year. The losses from Hurricane Katrina alone cost us over €1,500m net before tax.

But the result was also significantly affected by Winter Storm Erwin in northern Europe, Hurricanes Rita and Wilma, and the floods in Switzerland, Austria, and Germany.

Realised capital gains had a positive influence on the investment result in the business year 2005. By selling shares in Allianz and Commerzbank and exchanging HypoVereinsbank shares for UniCredit stock, we appreciably reduced the proportion of our investments in German financial stocks. We sold our holding in Karlsruher Lebensversicherung for strategic reasons and also disposed of our indirectly held MAN shares.

Besides these realised capital gains, however, the investment result was also affected by write-downs, which were required in connection with the additional reserving at American Re-Insurance Company and the subsequent strengthening of its equity capital base.

At the end of last year, Stefan Heyd and Dr. Detlef Schneidawind retired as members of the Board of Management. Dr. Thomas Blunck and Dr. Wolfgang Strassl

were appointed as new members of the Board with effect from October 2005. Since January 2006, Thomas Blunck has been responsible for the Special and Financial Risks Division and IT, whilst Wolfgang Strassl has taken charge of the Life and Health Division and Human Resources. He is also the Board member officially responsible for personnel and welfare matters (within in the meaning of Section 33 of the German Co-Determination Act).

With the Board Committee structure introduced at the start of 2006, an organisational distinction is now made on Munich Reinsurance Company's Board of Management between Group matters and the operative management of our reinsurance business. As a result, there have been changes in the areas of responsibility of the other Board members as well. Information on the current distribution of responsibilities on the Board of Management can be obtained from the Munich Re Group annual report.

Munich Reinsurance Company in figures

(Munich Reinsurance Company's 2005 annual report)

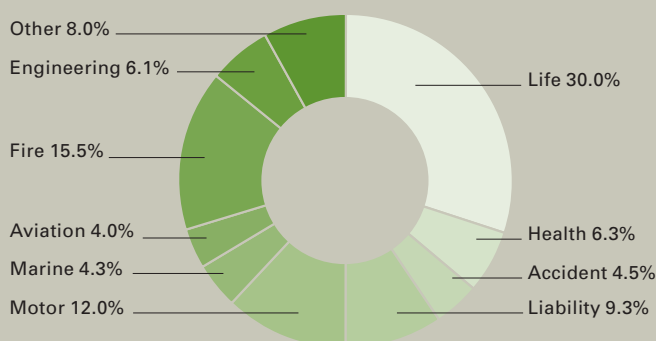
in €m	2005	2004	2003
Gross premiums written	19,167	19,243	21,748
Investments	78,326	72,794	70,893
Net underwriting provisions	63,653	55,102	52,099
Shareholders' equity	10,417	11,866	11,375
Profit/loss for the year	-992	777	511
Dividend	707	457	286
Dividend per share (€)	3.10	2.00	1.25
Share price at 31.12. (€)*	114.38	90.45	96.12
Market capitalisation at 31.12.	26,259	20,766	22,067

* Share prices adjusted to take account of the capital increase in November 2003

The carrying amount of Munich Reinsurance Company's most important investments (excluding deposits retained on assumed reinsurance business)

in €m	31.12.2005	31.12.2004
Land, land rights, and buildings, including buildings on third-party land	1,005	1,037
Investments in affiliated companies and participating interests	12,054	13,015
Loans to affiliated companies and participating interests	211	1 236
Shares, investment certificates, and other non-fixed-interest securities	15,385	12,927
Bearer bonds and other fixed-interest securities	19,266	17,937
Other investments	522	502
Total	48,443	46,654

Gross premiums written in 2005 by class of business



Further information can be found in Munich Reinsurance Company's annual report at www.munichre.com.

The Munich Re Group

The second main pillar of the Munich Re Group is primary insurance business, which is concentrated on Europe, especially Germany, where the major portion of our nearly 38,000 staff are employed.

Our primary insurers comprise the ERGO Insurance Group, Europäische Reiseversicherung, and the assistance services provider Mercur Assistance. As mentioned above, we sold our majority holding in the Karlsruher Insurance Group last year.

The ERGO Insurance Group is made up of VICTORIA, Hamburg-Mannheimer, DKV, D.A.S., and KarstadtQuelle Versicherungen. The ERGO Group focuses on personal lines business, particularly in the areas of life, health, and personal accident insurance. Another important segment of ERGO's business is insurance for small and medium-sized firms and also, on a selective basis, industrial business. Besides this, ERGO is one of the leading providers in the market for company pensions. In health insurance and legal expenses insurance, it holds a leading position in Europe through DKV and D.A.S. respectively. ERGO's marketing strategy is built on the interplay of different distribution channels: apart from its own strong sales organisations, its exclusive banking partnership with the HVB Group in Germany plays an important role.

With numerous subsidiaries and affiliated companies in 11 countries, as well as a network of strategic cooperation agreements, Europäische Reiseversicherung is an effective international alliance. Its most important product is travel cancellation insurance.

Mercur Assistance offers 24-hour assistance services worldwide in the field of medicine and mobility.

The Watkins Syndicate, which operates within Lloyd's of London, has been part of the Munich Re Group since 1997. It specialises in marine insurance business, being in fact the largest marine syndicate at Lloyd's, and is represented in the UK, Hong Kong, and Singapore.

MEAG MUNICH ERGO AssetManagement GmbH is the third pillar of the Munich Re Group. It is one of the major asset managers in the European financial sector, combining Group investment activities with the management of Munich Re's and ERGO's real estate. MEAG manages virtually all of the Munich Re Group's assets, totalling around €154bn for the insurance companies in the Group at the end of 2005. It is responsible for direct investment in securities and real estate, and for the assets held in segregated managed funds (special funds). Beyond this, it offers its expertise and know-how both to institutional investors and to private clients.

Further information can be obtained in Munich Reinsurance Company's annual report at www.munichre.com and at the following websites:

www.ergo.de
www.victoria.de
www.hamburg-mannheimer.de
www.das.de
www.dkv.com
www.erv.de
www.meag.com

03 Munich Re's environmental guidelines

The environmental guidelines form an integral part of our corporate strategy and are applicable throughout the re-insurance group.

Environmental protection and sustainability: Our commitment

Preamble to the environmental guidelines of Munich Reinsurance Company

As a leading risk carrier and provider of financial services operating worldwide, Munich Re acknowledges its responsibility for environmental protection and sustainability. Preserving the natural foundations of life is also a contribution to value-based management, as our economic success is inseparably linked with protection for people, the environment, and physical resources.

Seeing opportunities in risks

As reinsurers, we support and safeguard innovative technologies and large industrial projects. The risks associated with these form the focus of our interest and responsibility, both locally and globally. We use our knowledge of climatic and environmental changes – which are increasingly caused by man – to manage risks by consistently promoting preventive measures. In our financial sphere, we take account of environmental criteria when taking investment decisions. Through our investments, we promote suitable environmental related projects, and we observe ecological aspects when managing our property investments. In close cooperation with our clients we develop our services further on an on-going basis in order to continually reduce environmental damage and environmental risks for everyone's benefit and to exploit the business opportunities inherent in the risks, both today and tomorrow.

Acting prospectively at our business locations

We aim to reduce as far as possible the environmental impact arising from our business operations and in connection with the use of our properties. Besides complying with statutory provisions, of course, we also need to pay particular attention to consistently avoiding waste and emissions, as well as to reducing our energy and water consumption. To this end, we orient ourselves towards the highest technical standards wherever economically reasonable. We also choose our suppliers and service providers according to these principles.

Learning from each other through dialogue

Intensive research and development help us to assess current and future risks and to find appropriate starting points for our environmental related activities. This enables us to exert a positive influence on our partners' risk behaviour, in order to meet the challenges of the future together.

We take our knowledge and experience to the public at large and encourage the exchange of information on relationships in the area of environmental risks. We communicate openly on the subjects of the environment and risk, both in house and with the outside world.

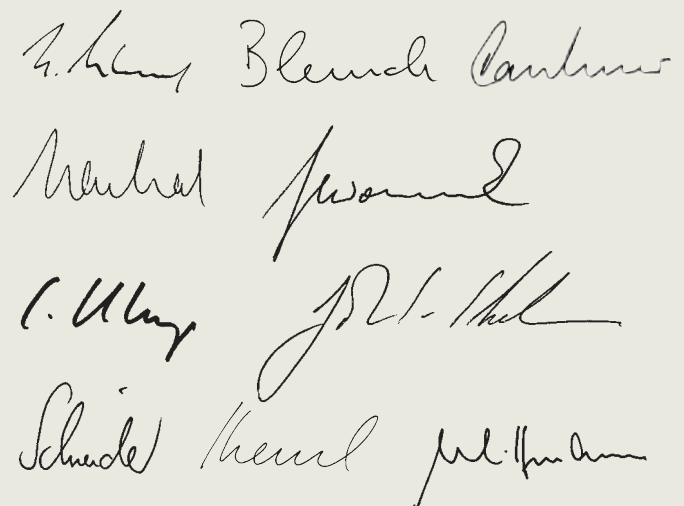
Taking responsibility with commitment

Our staff are responsible for implementing the environmental guidelines in their particular area of influence, observing the environmental impact of their actions and decisions. We agree concrete goals which we document each year in our environmental programme and against which we measure our performance. By means of targeted training and promotional measures as part of our environmental management system, we are continually developing our professional and personal skills as regards environmental protection and sustainability.

On the basis of our mission statement, we declare these to be the general principles of our dealings.

The Board of Management of Munich Reinsurance Company

Munich, May 2006



The image shows five handwritten signatures in black ink, arranged in two rows. The top row contains two signatures, and the bottom row contains three. The signatures are cursive and appear to be of various individuals, likely members of the Board of Management.

04 Product ecology

Risk is our business in the insurance industry. The better we can assess the risks assumed, including their long-term development, the higher the quality of our risk portfolio. Our objective is therefore to enhance the quality of the risks we accept, and this entails systematically considering sustainability criteria. Essentially, we have to structure conditions and calculate prices so that they are commensurate with the risk. By considering the consequences of climate and environmental change in our product policy, we give signals to the market, help increase awareness and influence behaviour. In terms of our fiduciary duty, it also means reducing risks on the assets side of the balance sheet, i.e. protecting our assets against long-term change processes and their economic implications, and gearing our investments to sustainability criteria.

Above all, it is our aim to pave the way for opportunities and enhance our position as the preferred partner in risk. We do this by working together with our clients worldwide to develop insurance solutions for new risks and by taking advantage of business opportunities that arise from, say, political parameters in different countries, such as from the Kyoto Protocol or the restructuring of global energy systems. A particular focal point of our commitment continues to be contributing our specialist knowledge and our many years of claims experience to international forums and institutions.

11th Conference of the Parties (COP 11) in Montreal

The 11th World Climate Conference in Montreal from 28 November to 9 December 2005 was the first UN climate conference to take place since the Kyoto Protocol came into force in February 2005. The signatory states to the Kyoto Protocol agreed to begin negotiations to decide on mandatory targets for industrialised countries for the period after 2012 – an outcome of central importance. This means, crucially, that there will be no gap after the first commitment period of the Kyoto Protocol (2008–2012). So far there is no plan to extend mandatory emission reduction targets to other states, such as important developing and emerging countries. However, it proved possible to devise means of negotiation designed to support these countries – via technological partnerships – in stabilising their greenhouse gas emissions. It remained unclear whether, and if so when, the USA would commit itself to reducing its emissions, but the way back to the negotiating table was kept open.

At various side events and in several papers at the climate conference in Montreal, Munich Re again stated its positions. One of these events featured the Munich Climate Insurance Initiative (MCII – see below), which unveiled its ideas on insurance solutions for people in developing countries especially affected by the consequences of climate change.

At a number of other events, including the Fourth Municipal Leaders Summit on Climate Change, we presented Munich Re's latest findings on climate change. And at a press conference jointly arranged by UNEP and the Munich Re Foundation, Prof. Klaus Töpfer, Executive Director of UNEP, and Thomas Loster, Chairman of the Munich Re Foundation, answered journalists' questions.

Munich Re Foundation

In Munich Re's anniversary year, on 8 April 2005, the Munich Re Foundation was officially launched. Its objective is to translate the knowledge of its benefactor into action, reflected in its motto "From Knowledge to Action". The foundation devotes itself to addressing the major challenges of our time – climate change, urbanisation, disaster prevention, and poverty. In establishing the foundation on the occasion of its anniversary, Munich Re recognised its responsibility arising from its knowledge of global risks. As an expression of this, Munich Reinsurance Company furnished the Munich Re Foundation with a capital of €50m.

Munich Re has been handling global risks for 125 years, and the foundation profits from this in a special way, being able to draw on the unique expertise of its benefactor. It intends to exploit this knowledge edge in effective, social action. Environmental change and climate change are slowly evolving processes which, however, have fatal implications for the people affected, especially in developing countries. The foundation aims primarily to minimise the risks and help improve the lives of those concerned. It therefore supports projects that focus on people.

Project examples:

- Financing a Foundation Chair at the Institute for Environment and Human Security of the UN University in Bonn. Outstanding scientists conduct research in the field of risk perception and disaster prevention in different cultures
- Supporting the development of an early-warning system in Mozambique as the central component of effective protection against flood disasters

The foundation not only provides direct support: its areas of work also include promoting knowledge, heightening awareness, and networking. In 2005, for instance, it conducted an international expert workshop on the subject of microinsurance and, together with the Hypo Foundation for Culture, initiated a series of dialogues on the Decade of Water. More information on the foundation can be found at www.munichre-foundation.org.

4.1 Reinsurance

The latest scientific findings confirm that anthropogenic climate change is a factor that can no longer be neglected. Temperatures of upper sea layers, for example, show a marked rise, which significantly increases the probability of more intense cyclones with higher wind speeds and heavier precipitation.

Following 2004, which had proved to be the most costly year ever for insurers as regards natural catastrophe losses, the insurance industry was hit by even bigger losses in 2005. In particular, there were the 27 tropical cyclones in the Atlantic, 15 of which reached hurricane force and which broke all records in both meteorological and loss terms. At US\$ 84bn, insured losses caused by tropical cyclones were more than twice as high as the claims burden in the previous year. Munich Re's net share (before tax and after retrocession) was around €2.3bn, with especially heavy claims in property and offshore energy insurance (oil rigs).

Compared with the dramatic natural catastrophes, Munich Re's burden from major man-made losses in the business year 2005 was on the low side, totalling €664m net before tax.

Given the unsettling trends with regard to natural catastrophes, a particular focal area of our commitment continues to be climate change. But we also consistently implemented Munich Re's environmental guidelines in our operative reinsurance business last year in other areas as well. The following are just a few examples.

Katrina, Rita, Wilma, etc. and the consequences for underwriting

The 2005 hurricane season demonstrated that there has been a further increase in exposure. Katrina, Rita, and Wilma made a noticeable dent in many insurers' balance sheets in 2005. In conjunction with the 2004 losses (Charley, Ivan, Frances, and Jeanne), they made it clear that the hurricane hazard must be completely re-evaluated. This necessitates an adjustment of the models for assessing risks from a scientific and actuarial perspective and for calculating the right price. There is a particular need for modification as regards the following:

- Adjustment of the frequencies and intensities (occurrence and landfall) of tropical cyclones on the basis of scientific findings on natural climate cycles and global warming
- Adjustment of risk evaluation and loss expectancy for the different regions worldwide
- Consideration of loss-aggravating factors in connection with large and very large losses (e.g. price increase for building work, delays in putting commercial facilities back into operation because disaster areas are closed off)
- Further improvement in accumulation control (risk accumulations occur if risks are concentrated regionally or if they exhibit similar developments in exposure or parallel loss trends because of their size)

Professional risk management has long ceased to be just a matter of looking at historical claims statistics. Munich Re is consistently gearing its risk management to the enormous loss potentials and the changing risk situation in order to be able to continue making capacity available in this area – but only at risk-adequate prices, terms, and conditions.

Further details are provided in the Munich Re publications "Topics Geo – Annual review: Natural catastrophes 2005" and "Hurricanes – More intense, more frequent, more expensive".

Insurance products in connection with emissions trading

Following the launch of the European emissions trading system at the start of 2005 and the positive trends in the area of the Clean Development Mechanism after the resolutions of the climate conference in Montreal, international trading in CO₂ emission allowances is gaining momentum. We are also finding that the demand for specific insurance solutions in this field is growing. Under the leadership of the innovation team in our Special & Financial Risks (SFR) Division, our experts are therefore looking at what opportunities there are for assuming risks in the area of emissions trading.

The idea of the Clean Development Mechanism (CDM) is that plant operators included in emissions trading can also meet their reduction targets in an industrialised country by investing in climate-friendly technologies in a developing country. The reduction of greenhouse gases thus achieved in the developing country can be credited to the investor.

Emission allowances in connection with CDM projects involve numerous project and process risks – for example, increased exposure to natural hazards, the application of new technologies with which users have insufficient experience, political, economic, and social instability in the host countries, and not least the price risks for emission allowances in the form securities traded on the stock exchange. The individual risks are already familiar to Munich Re but the new feature is their close intermeshing. In Munich Re's view, some of the risks that may cause aversion among investors can be cushioned using insurance cover. By developing products that are technically viable and at the same time attractive for investors, Munich Re can tap a new field of business and make a valuable contribution to the spread of ecologically-friendly technologies. The target group for such policies are CDM project investors, but also buyers of the resulting emission allowances (e.g. power companies, banks, investment funds).

Munich Climate Insurance Initiative (MCII)

Climate change is certain to have a major effect on the lives, health and property of millions of people. Particularly the world's poorest are exposed to the related hazards – frequently without effective protection. And they currently have virtually no access to affordable insurance against the consequences of extreme weather events.

In April 2005, with Munich Re taking the lead, the Munich Climate Insurance Initiative was launched. Reflecting the growing conviction that insurance solutions may also play a significant part in adjustment to climate change, this initiative brings together experts from the fields of insurance, climate change, and adaptation, and also NGOs. Its members include representatives of the World Bank, the Potsdam Institute for Climate Impact Research, the IIASA, and Germanwatch.

The initiative aims to develop insurance solutions geared primarily to people in developing countries that are particularly exposed to the impact of climate change, thus giving them an opportunity to obtain better protection in the future.

Environmental liability: Special environmental policies in the USA

Exclusions of environmental damage in public liability, motor, and property policies mean that companies face gaps in their insurance cover. These gaps can be bridged with special environmental policies. Their history goes back to the end of the 1970s in the USA, when the insurance industry reacted to the mushrooming, incalculable costs for cleaning up contaminated land and water, and the related legal disputes, by excluding environmental damage. Over decades, firms' activities had – unnoticed – polluted soil and water in many places, and stricter environmental liability laws were forcing the companies and their insurers to pay for this damage.

Since the end of the 1980s, there has been a growing market for environmental insurers, who offer cover for first-party losses and third-party claims involving pollution on and outside companies' operating sites. The insurers' target group consists of ecology- and risk-conscious firms that apply general rules of environmental protection and safety technology in handling hazardous substances. Insurance cover against unknown past pollution and new environmental damage are also offered to buyers, sellers, building owners, contractors, consultants, and service companies for real estate, construction, and service projects. The range of insurance products provided by environmental insurers is broad, but they can be roughly grouped into site-related and service-related covers. The former are aimed at industrial firms and companies involved in real estate transactions, whilst the latter offer construction firms, service companies, and consultants financial security with regard to environmental damage. Site-related coverage provides compensation in respect of liability for property damage and bodily injury caused by environmental impact and also for clean-up costs on the policyholders' and third-party sites. In the case of service-related coverage, pecuniary losses resulting from environmental impact are added to the cover under professional indemnity insurance. All the covers include costs for defending the policyholder against unjustified claims.

We provide reinsurance cover for specialist environmental insurers that select the above-mentioned target group on the basis of a risk analysis and advise their clients on environmental risk management and clean-ups. Professional environmental consultancy can detect weaknesses and produce recommendations for environmental protection measures. In this way, company environmental protection that is initially unacceptable for the insurer can be improved to an insurable level. In the event of pollution occurring, the insurance cover makes an important contribution to restoring the site to its previous state and thus to meaningful conservation.

Example: Agriculture

Increased use of renewable energies is an important element in creating sustainable energy systems for the future. Agriculture can contribute significantly here in the form of biomass energy feedstock. The cultivation of regenerative resources also helps to reduce the growing concentration of carbon dioxide in the atmosphere, as the CO₂ released in energy production is bound again during the growth of new crops and thus remains within a virtually closed carbon-dioxide cycle.

The use of bioenergy makes up 2% of primary energy consumption in Germany at present. By 2030, it could cover 14% of energy requirements (16% electricity, 10% heating, 15% fuel – data provided by BBE, the German Federal Bioenergy Association). These targets do not appear unrealistic, given further improvements in process technology, more effective cultivation, and the development of specially suited crop varieties. But farmers who produce bioenergy first have to invest – in new production methods and storage capacity, as well as in processing facilities and residue treatment. In connection with these investments, they face new risks such as

- the property risk if processing facilities are defective or break down;
- the liability risk if residue treatment causes problems for neighbours or the environment;
- the risk of change if there is an alteration in the law, for example;
- the crop failure risk if the loss of a harvest means that processing facilities cannot be fed or supply contracts cannot be fulfilled.

Coverage against crop failure resulting from the expected increase in weather extremes due to climate change will become a particularly important element of operational risk management in the cultivation of energy crops.

Unlike in the USA, for example, where energy crops – just like food and feed crops – are covered by extensive state-subsidised multi-peril crop insurance against virtually all natural hazards, in Germany and some other EU countries there is only limited coverage. However, the insurance industry in Europe is actively working on introducing a form of state-supported multi-peril crop insurance cover.

Implementation of measures specified in our environmental programme

The following table shows the status reached by the various projects in our current environmental programme at the end of 2005. For projects and measures already completed by the end of 2004, please see earlier issues of "Perspectives".

Objective: Develop knowledge and transfer expertise inside and outside the company

Measure	Deadline	Status	Comments
Examine the correlation between production intensity and vulnerability to insurable hazards.	6/04	In progress	Trials regarding the different exposure of conventionally and organically grown crops to hail are being continued in collaboration with the hail insurance group in the German Insurance Association, since representative results can only be obtained from field trials over several years.
Support multinational institutions in the development of risk management instruments for the agricultural sector of developing countries.	12/03	In progress	Dialogue established in 2005 with the World Bank, the World Food Programme and CGIAR (Consultative Group of International Agricultural Research). An exchange of information on current initiatives in agricultural insurance has taken place. It has been agreed to intensify the collaboration.
Draft an overview of the ways Munich Re can exert influence on environmental standards.	4/04	Deadline put back	Completion is planned for 2006.
Further develop didactic material on environmental liability and environmental liability insurance.	12/04	Completed	
Produce the publication "Environmental policy, liability and insurance".	6/04	In progress	This publication will deal with the role of private insurance and its options in the areas of environmental liability and with the role of environmental liability in national and international environmental politics. Completion is planned for 2006.
Produce a publication "Genetically modified plants" in the series "Casualty Risk Consulting – Information for Insurers".	2005	Completed	Originally a publication "Sewage treatment plants" was planned (see below); given current events – changes in legislation regarding liability – a publication on genetic engineering was brought forward.
Produce a publication "Sewage treatment plants" in the series "Casualty Risk Consulting – Information for Insurers".	2006	In progress	

Objective: Modify existing products and develop new products in connection with the Kyoto mechanisms

Measure	Deadline	Status	Comments
Investigate the insurability of regenerative resources in the light of emissions trading.	12/06	In progress	
Pilot project on product innovations in connection with emissions trading.	2006	In progress	See text. Insurance products in connection with emissions trading

4.2 Finance

Sustainability and Munich Re shares

The market for Socially Responsible Investment (SRI) again recorded high growth rates in 2005. According to a study carried out by Avanzi SRI Research and the SiRi Company, the number of SRI mutual funds admitted in Europe increased to 375 by mid-2005 (2004: 354). At the end of June 2005, the sum invested was around €24bn, double the amount as at June 2003. A large percentage of this growth was accounted for by the German-speaking market. The Sustainable Business Institute (SBI) at the European Business School registered 116 SRI funds in the German-speaking region at the reporting date of 31 December 2005. The investment volume of these funds amounted to €9.2bn, over 43% higher than in the previous year. The greatest portion was invested in equity funds (€5.2bn), which achieved an average return of some 24% in 2005.

Institutional investors are becoming increasingly active in this field as well. Whereas in 2003 the relevant investment volume totalled around €336bn (according to the European Social Investment Forum EUROSIF), in April 2005 it amounted to approximately €500bn (SBI figures).

More information on the development of the European SRI market may be found at the following websites:

www.scoris.de

www.eurosif.org

www.nachhaltiges-investment.org

The mutual fund "MEAG Nachhaltigkeit" established by MUNICH ERGO AssetManagement GmbH (MEAG) developed dynamically in 2005. Its volume rose to €34m, representing growth of nearly 80% compared with the end of 2004. Providing a return of 28.2%, it clearly outperformed the average achieved by SRI equity funds admitted in the German-speaking area. The fund bases its choice of companies on the Dow Jones Sustainability World Index ex All (DJSI). 10–20% of the fund's volume is invested in so-called innovators. These are smaller companies that are not in the DJSI but make a contribution to sustainable development with innovative products, such as facilities for generating renewable energies or treating water. The inclusion of innovative companies in the portfolio mix contributed significantly to the fund's good performance.

More information on this may be found at MEAG's website: www.meag.com

Munich Re's shares have also been listed in the DJSI since 2001. The Swiss financial services provider SAM, which established the Dow Jones Sustainability Index (DJSI) in cooperation with Dow Jones & Company, continues to rate Munich Re as one of the most sustainable companies in the financial sector in 2005. Our shares are also included in the FTSE4Good and other important sustainability indexes, such as E.Capital's Ethical Index.

More information on this may be found at the following websites:

www.sustainability-indexes.com

www.ftse.com/ftse4good

In the light of growing investor interest in our commitment to the environment and sustainability, Munich Re has further intensified communication with sustainability-oriented investors. An example is the integration of additional information on sustainability performance in the Investor Relations section of Munich Re's website.

In 2005, Munich Re published an SRI report for the first time. This brochure is specifically targeted at sustainability analysts and aims to inform them concisely about aspects they regard as especially important. Supplementing our annual report, our environmental report, and our human resources report, it will appear at least once a year in future and is available for downloading from Munich Re's website: www.munichre.com

Paralleling this interest in SRI, investment by sustainability-oriented investors in Munich Re shares has also risen. Around 2% of Munich Re stock is held by investors who invest their capital on the basis of sustainability-related criteria.

Munich Re has increased its efforts to promote the development of the SRI market. Since the beginning of 2005, for instance, MEAG has sponsored the internet platform www.nachhaltiges-investment.org, which provides comprehensive information on SRI funds from the German-speaking area and on global sustainability indices. Munich Re is also actively supporting the realisation of a distance-study course on SRI for bank consultants, whose lack of the relevant knowledge we regard as a significant obstacle to the further spread of the socially responsible investment philosophy. The first course participants graduated as Specialist Consultants for Socially Responsible Investment at the beginning of 2006. Last but not least, at the invitation of the United Nations, Munich Re helped develop the Principles for Responsible Investment (PRI). You can find out more about the PRI in the article "Responsible investments" in the magazine section.

Further information may be obtained at the following websites:

www.nachhaltiges-investment.org

www.eco-anlageberater.de

How sustainability analysts rate Munich Re

International sustainability analysts from rating agencies, banks and asset management companies regularly evaluate Munich Re's environmental and sustainability performance. These external evaluations are an important yardstick and at the same time act as a compass for our further work in the field of sustainability. Here is a selection of current evaluations of Munich Re:

– Carbon Disclosure Project (CDP)

Munich Re in Climate Leader Index

London: Munich Re has supported the (CDP) since the project was set up in 2002. As a result of the third questionnaire round (CDP3), Munich Re was included in the Climate Leadership Index 2005.

– DJSI

Munich Re in the DJSI since 2001

Zurich: Munich Re has been in the Dow Jones Sustainability Index without a break since 2001. The index includes approximately 300 of the 2,500 largest Dow Jones Global Index companies.

– E.Capital Partners

Member of the Ethical Index

Milan: Munich Re also features in the Ethical Index Global of E. Capital Partners, the Italian asset manager. The index has been available since the beginning of 2000.

– Ethibel

Member of the ESI – Ethibel Sustainability Index

Brussels: Munich Re appears in the Ethibel Investment Register and Ethibel Sustainability Index of the Belgian Ethibel agency. Standard & Poors, the American index provider, handles the financial side of the index.

– FTSE4GOOD

FTSE4GOOD affirms inclusion of Munich Re

London: For the fourth successive time since the index's inception in 2001, Munich achieved a place in the FTSE4GOOD Index.

– Innovest

Triple A for environmental management

New York: Munich Re obtained an AAA rating in Innovest's environment rankings, coming third out of the 21 insurance sector companies reviewed.

– KBC

Best environmental management in European comparison

Brussels: In a comparison of 24 European financial services providers, Munich Re was top scorer in environmental management. Altogether, Munich Re achieved 11th place in the ratings performed by Belgian asset management company KBC.

– KLD

Munich Re in Global Climate 100 Index

Boston: In KLD's estimation, Munich Re is one of the world's top 100 companies as regards strength of commitment to climate protection. Munich Re is one of four companies from the international financial sector that have been selected for the index.

– oekom research AG

Top 10 ranking in Corporate Responsibility Rating

Munich: The Munich oekom agency's Corporate Responsibility Rating ranked Munich Re sixth out of the 61 insurance companies assessed.

– scoris/SiRi Company

Top placing in sector rating

Hanover: Munich Re achieved a top 10 placing in the SiRi Company's current sector rating. With a corporate sustainability score of 64.2, it is well above the sector average (52.5).

– Storebrand

Munich Re best in class

Oslo: Munich Re achieved the best in class rating in Storebrand's latest sector study.

– Vigeo

Inclusion in the ASPI

Paris: The ASPI (Advanced Sustainability Performance Index) is operated by the French agency Vigeo in conjunction with Stoxx Ltd. Munich Re has featured consistently in the index since its launch in July 2001.

Implementation of measures specified in our environmental programme

The measures from the environmental programme are the responsibility of Munich Re's two Finance units, whose designations changed at the beginning of 2006.

- The Reinsurance Investments Division is responsible for reinsurance investment planning, liquidity planning, and investment strategy within the framework of strategic asset allocation. The latter area includes the mandating and ongoing monitoring of MEAG, the Munich Re Group's central asset manager. The mandates issued to MEAG by the individual reinsurance companies define the parameters MEAG has to observe in its investment decisions.
- The Group Investments Division has a sovereign function with regard to the Munich Re Group's investments and its responsibilities include managing the Munich Re Group's long-term shareholdings and the seats held on supervisory boards and equivalent bodies.

MEAG MUNICH ERGO AssetManagement GmbH manages the active portfolio of securities for all investors of the Munich Re Group and also their investment property. More information on this may be found at www.meag.com.

In 2002, we decided that 80% of our investments in shares and corporate bonds should meet sustainability requirements in the long term. The criteria of leading sustainability indexes have been our yardstick in this context. After careful scrutiny of various alternatives, we have meanwhile decided on a set of rules for government bonds. One of the parameters which had to be observed in this context was that, for reasons related to our underwriting, capital must be allocated in the currencies in which Munich Re has a relatively large volume of insurance risks. Within this framework, Munich Re includes factors relating to sustainable development in its investment decisions.

In this context, Munich Re has extended the quota regulation for investments in shares and corporate bonds to include investments in government bonds. The target for investments in shares, corporate bonds, and government bonds is a sustainability ratio of 80%. As at 31 December 2005, the quota stood at over 82%.

Munich Re also considers sustainability aspects in its long-term investments. In 2001, we drew up and adopted a set of sustainability criteria for the acquisition of participations. At the end of 2004, we also decided to integrate sustainability criteria in our regular screening of shareholdings. The results of the screening are incorporated in the reports to the Munich Re Board member who represents Munich Re at the respective company.

Implementation of measures specified in our environmental programme

The following table shows the status reached by the various projects in our current environmental programme at the end of 2005. For clarity's sake, we have restricted ourselves to those projects that were scheduled to be completed in 2005. For projects and measures already completed by the end of 2004, please see earlier issues of "Perspectives".

Objective: Develop knowledge and transfer expertise inside and outside the company

Measure	Deadline	Status	Comments
Check the proportion of investments in companies that are included in one of the most important sustainability indexes, with the aim of keeping this proportion at around 80% in the long term.	Annually	Completed	See text.
Develop sustainability criteria for German state bonds; plan and perform screening of German states using suitable sustainability criteria.	6/04	Completed	See text.
Analyse Munich Re's investment risks in terms of climate change. Analyse the influential factors and repeat this risk analysis and the respective documentation on a regular basis.	Every two years	In progress	
Improve the data situation with a view to attaining a better assessment of the effects that developments linked with climate change will have on the management of investments.	6/04	Completed	
Analyse the most important European sustainability funds in terms of their relevance for Munich Re.	Every two years	In progress	
Plan and perform a screening of investment property with the aid of suitable sustainability criteria, including in particular energy efficiency.	12/05	Completed	
Draft investment plans for measures that are necessary to reduce the CO ₂ emissions of real estate used by third parties.	12/05	Completed	
Update sustainability criteria for the acquisition of shareholdings.	6/05	Completed	

05 Operational ecology

At our Munich site, we currently have 17 office buildings of our own and three leased properties. 18 are at our main location near the English Garden, and two at our Münchner Tor premises, which we moved into in 2004. Around 3,500 people are employed at our Munich site – Munich Re staff and employees of local service providers. The buildings, some of which are linked by underground passages, accommodate not only offices and conference rooms but also infrastructure installations like kitchens, dining rooms, and cafés, computer centres, building automation systems, our international training centre, the staff centre, and underground car parks.

The following areas are of particular relevance in environmental terms:

- Hydraulically-operated conveying equipment, e.g. passenger/goods lifts (use of hydraulic oil, a potential water pollutant)
- Emergency generators (use of diesel fuel, a further potential water pollutant)
- Refrigerating plants (operation of facilities using ammonia refrigerant)
- Rainwater utilisation plant (reduction of water consumption)
- Garage (handling of hazardous substance: disposal of cleaning water)
- Nursery and gardening facility (handling of hazardous substances and machinery)
- Use of groundwater to cool structural components (there are restrictions on the amount of water to be used and the temperature)

On the following pages, we report on our environmentally relevant figures and developments at our Munich site in 2005.

Input and output balance sheet 2005

FIXED ASSETS as at 31.12.2005	
60,189 m ²	Land ¹
168,364 m ²	Building area (net)
90,972 m ²	Of which heated
1,183 pcs.	Building facilities and fixtures ²
1,927 pcs.	Technical facilities and vehicles ¹
73,126 pcs.	Office equipment ¹
CURRENT ASSETS January–December 2005	
In	
30,985,000 sheets	Copying paper
17,067,500 sheets	Of which recycled paper
36,242 pcs.	Sheet pads
11,795 pcs.	Of which recycled paper
464,421 pcs.	Envelopes, padded envelopes
256,201 pcs.	Of which recycled paper
153,691.24 kg	Printed advertising material/publications
12,001.86 kg	Of which recycled paper
72,043 units	Advertising gifts
6,079 pcs.	Electronic data media
436,454 kg	Food, beverages, tobacco ¹
Out	
668,777	Food portions
WATER January–December 2005	
In	
81,800 m ³	Drinking water
1,550 m ³	Rain water
Not recorded	Groundwater and surface water
Out	
67,180 m ³	Waste water
16,000 m ³	Evaporation
ENERGY January–December 2005	
In	
22,792,041 kWh	Electricity
24,000 kWh	Emergency diesel (not for heating)
307,000 kWh	Gas
14,575,250 kWh	District heating
Out	
34,258 kWh	Electricity supplied by photovoltaic cells

¹ In connection with the revision of our environmental inventory, certain items are no longer recorded and others are determined using an improved basis. This means not all items show balance sheet continuity compared with previous years (cf. our remarks in Section 5 of “Perspectives” 2004).

² The growth compared with the previous year is mainly attributable to the subdivision of facilities into different groups.

In the following, we provide some examples of environmental protection in operations at the Munich site.

Procurement

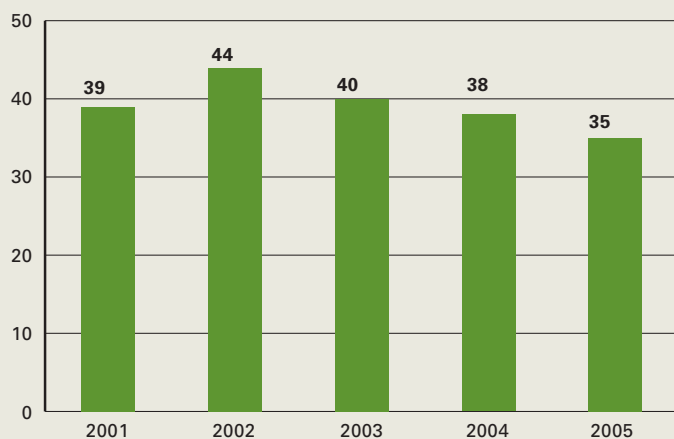
In the procurement of materials and services we consider not only economic and technical aspects but also environmental concerns, focusing on the protection of resources, manufacturing processes, and recyclability and environmentally sound disposal. All these aspects may be in accord with economic considerations.

– Paper

Paper is our most important working material. The amount of printing and copying paper used by each staff member at Munich Re has again fallen slightly, to 35 sheets per day (2004: approx. 38 sheets per person per day). For some years now, we have been using bright white TCF paper (total chlorine-free paper, for which the cellulose is bleached without using chlorine) for external correspondence and high-quality recycled paper for internal documents. Recycled paper accounts for 55% of printing and copying paper.

A major part of our business is providing our clients and the general public with information in the form of high-quality publications. For the production of these publications and those for in-house use only, 154 tonnes of paper was printed in 2005 (previous year: 166 tonnes). All in-house publications appear solely on recycled paper. They account for 12 tonnes of our paper consumption (2004: 8.3 tonnes). In 2004, "Perspectives" became the first of our external publications to be printed on recycled paper.

Copying paper (sheets per person per day)



– Hazardous substances

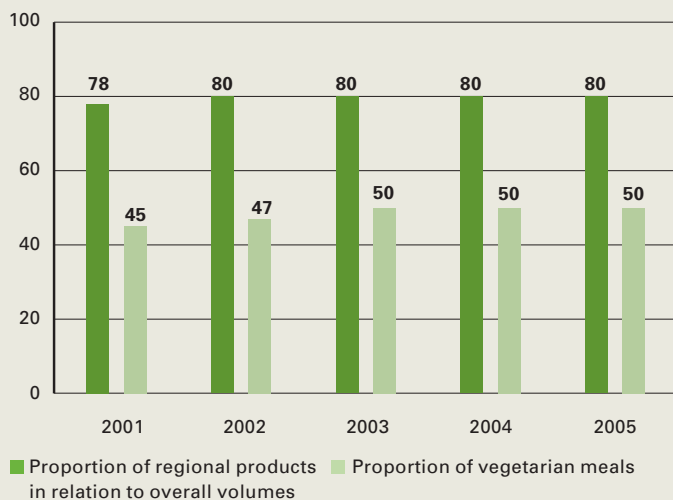
A focal point of our work last year was the implementation of the new German statutory order on hazardous substances. We have revised our rules to bring them into line with the new protection-class system that has been introduced. On the basis of our hazard assessment, we have put some substances like antifreeze and certain cleaning agents on our "out" list. The new statutory order also brings alleviations for us in dealing with hazardous substances because, as an administrative firm, we mainly use substances assigned to lower protection classes.

– Staff catering

We favour regional, preferably certified organic products in our staff catering. In borderline cases, we give precedence to "regional" over "certified organic" in order to keep transportation distances short. The percentage of organic products on the menu at lunch averages about 15%. We are currently preparing our canteens for an "ecological certification", in order to advertise our use of these products. We are keen to increase the proportion of organic products, but the two biggest hurdles we encounter are the higher prices and above all the availability of larger quantities in units suitable for large canteens. Regional items account for an average of 80% in terms of the quantity of products used. This figure has remained constant for many years. According to our criteria, "regional products" must be produced within a 200-km radius of Munich. At least one vegetarian meal is always on offer at the staff dining rooms. Then there are salad bars with a variety of choices. Lunch at Munich Re is free for the staff – and has been for over a hundred years.

Organic products are also available for between-meal snacks – from pretzels and biscuits to drinking yoghurt and tea. We also offer fair-trade products, although some of these have had to be withdrawn due to lack of demand.

Staff catering (%)



Last year, we again supported the “regional plate scheme” with financial donations. The aim of this scheme is to provide the needy with food of impeccable quality that can no longer be used in the economic process. We concentrate on helping “regional plates” that receive less attention.

Waste disposal

Our environmental management system ensures that even at the purchasing stage, we consider how waste can be avoided. Waste that occurs at the workplace is separated into paper, compostable waste, and residual waste on the spot. Since 2005, we have issued our staff with a leaflet informing them why and how we separate waste and how to avoid it altogether where possible.

For some years now, we have been working successfully with recycle-it GmbH, a firm which specialises in the reconditioning and reselling of IT hardware on the basis of ecological principles. Operable hardware we no longer require can thus still be put to good use. This prolongs the useful life of equipment – a further contribution to protecting resources and avoiding waste.

Last year, after falling in previous periods, the volume of waste we produced increased again, mainly because the new office buildings we started using in the course of 2004 were recognised for a whole year for the first time. Each staff member produced on average 0.9 kg of waste a day in 2005 (previous year: 0.8 kg).

An error crept into our waste inventory for 2004 (see “Perspectives” 2004). In the table below, we show the amended figures for 2004.

Waste

	2005	2004
Waste from business operations (Munich Re waste inventory)	762.9 t	700.8 t
Other waste for recycling	749.7 t	700.1 t
Waste not requiring monitoring (recycling)	489.3 t	527.2 t
Glass	21.5 t ⁴	14.0 t ¹
Metal	3.4 t	3.2 t
Plastics	21.5 t	21.0 t
Biowaste (compostable waste)	46.7 t ⁴	31.0 t ¹
Paper for recycling	271.0 t	332.0 t
Food scraps	100.0 t	101.0 t
Electronic scrap (mixed)	1.8 t	1.8 t
Contents of grease traps	23.4 t	23.2 t
Waste requiring monitoring (recycling)	259.5 t	171.0 t
Mixed municipal waste	259.5 t ⁴	171.0 t ¹
Waste requiring special monitoring (recycling)	0.9 t	1.9 t
Electronic scrap (IT equipment)	<0.1 t	1.0 t ²
Mixtures of solvents	0.8 t	0.9 t
Waste for disposal	13.2 t	0.7 t
Waste requiring monitoring (disposal)	0.0 t	0.0 t
Waste requiring special monitoring (disposal)	13.2 t	0.7 t
Contents of sludge trap in car wash	12.7 t ⁵	0.7 t
Used oil	0.5 t	0.0 t ³
Fluorescent tubes	1,135 pcs.	4,337 pcs.
Energy-saving bulbs	1,257 pcs.	3,365 pcs.
Waste from building projects	221.5 t	155.3 t
Mineral construction materials	181.9 t ⁶	107.4 t
Metal construction materials	19.3 t	7.9 t
Insulating and sealing materials	1.3 t	0.4 t
Wooden materials	1.1 t	3.9 t
Plastics	7.1 t	10.7 t
Charge materials and fuels	0.3 t	0.0 t
Mixed forms	10.5 t	25.0 t

Explanatory notes:

¹ Figure shown in the waste inventory in the 2004 environmental report was too low owing to a calculation error.

² Major renewal of IT equipment in 2004.

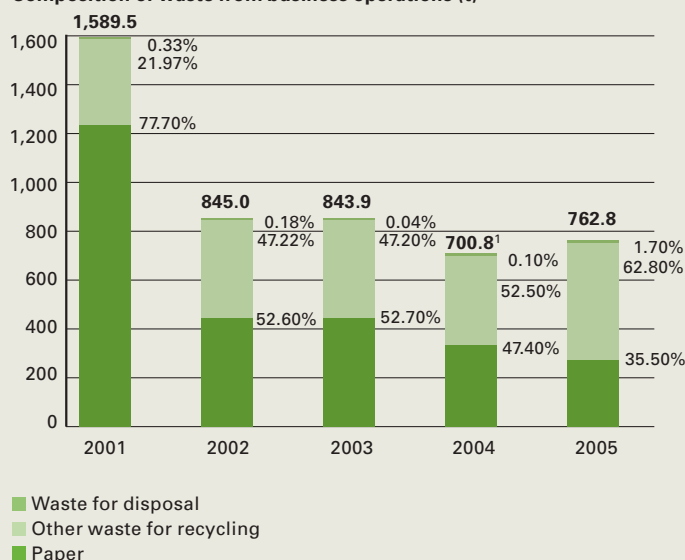
³ Not emptied in 2004.

⁴ The increase is mainly due to first full use of the new office buildings in 2005. Waste is determined, as usual, in terms of the volume of containers collected. The number of containers collected has risen since the new office buildings went into operation and it has not been possible to reduce the number collected from the other buildings.

⁵ Renewal of car wash facilities in 2005.

⁶ Increase due to refurbishing of canteen kitchen and renewal of the concrete foundations of the emergency power generator.

Composition of waste from business operations (t)



¹ Some of the figures shown in the waste inventory in the 2004 environmental report were too low owing to a calculation error. Here we show the amended figures.

Use and upkeep of our property

Munich Re's office buildings vary greatly in terms of their fabric, ranging from listed historical buildings to modern high-rise structures. The scope for exerting an influence on energy consumption differs accordingly. A fundamental component of invitations to tender for building projects are our "Sustainability guidelines for property". For building automation systems, the guiding principle is "As much as necessary, as little as possible."

We are endeavouring to optimise the energy efficiency of our existing buildings further. In collaboration with various specialist institutes, we are currently working on ways of reducing consumption. Our target is a reduction of 10%.

A significant factor in influencing energy consumption – besides optimising the technology – is user behaviour. That is why last year we started issuing our staff with a new leaflet informing them about ways of saving energy.

At 6,527 kWh per person per year, power consumption in 2005 was slightly higher than in 2004 (6,456 kWh per person per year). But the rate of increase (1.1%) is markedly lower than in the previous years (20.6% in 2004 and 12.3% in 2003). Since 2004, the ratio of owner-occupied property items to leased items has risen further. Parallel to this, the consumption figures have been recorded more precisely, having previously been based on estimates in many cases.

The fact that the level of absolute and relative energy consumption has not fallen, despite the increasingly high degree of optimisation, reflects the growth in computer capacities and the greater automation in building operation, which our efforts to save energy can only just about offset.

The higher figure for heating in 2005 compared with 2004 (164 kWh as opposed to 149 kWh per heated square metre) is mainly due to the longer period of cold weather. The major increase from 2003 to 2004 is attributable to the taking into operation of our two new owner-occupied office buildings at Münchner Tor and the more precise recording related to this.

Our water consumption remained nearly constant compared with the previous year, amounting to 95 l per person per working day (2004: 94 l per person per working day).

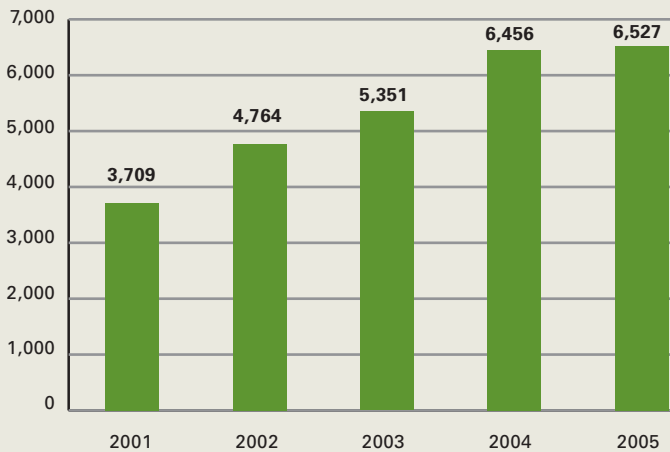
In the garage for our car fleet, a new car wash was put into operation. It uses less water, power, and chemicals than its predecessor and causes less wear to vehicles' paintwork.

Mobility

Besides the operation of our office buildings, the business trips undertaken by our staff are of environmental relevance. As a global enterprise that attaches great importance to cultivating relations with clients, we can only reduce such trips – especially flights by our staff – to a limited extent. Videoconferences only offer an alternative in some cases.

In 2005, each of our staff travelled an average of 10,659 km by train, car, and plane (2004: 11,179 km), with air travel (35,574,877 km) accounting for by far the largest percentage of kilometres (95.6%). Rail (622,775 km or 1.7%) and car (1,022,445 km or 2.7%) play a comparatively small part here.

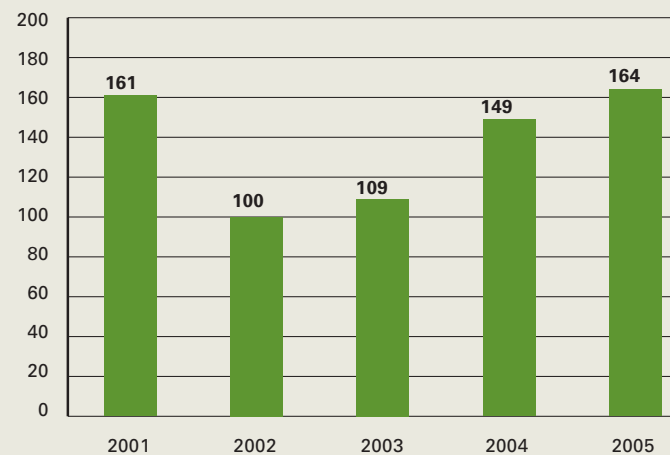
We were again able to improve the accuracy of the figures recorded. On the basis of individual flight lists, we were able to divide flights precisely into short-haul (up to 500 km) and long-haul (over 500 km) for the first time in 2005. Another first was the recording of the kilometres travelled by hired Learjet on special flights. For rail travel, too, we now use exact records of kilometres taken from accounts for business trips.

Power consumption (kWh per person per year)

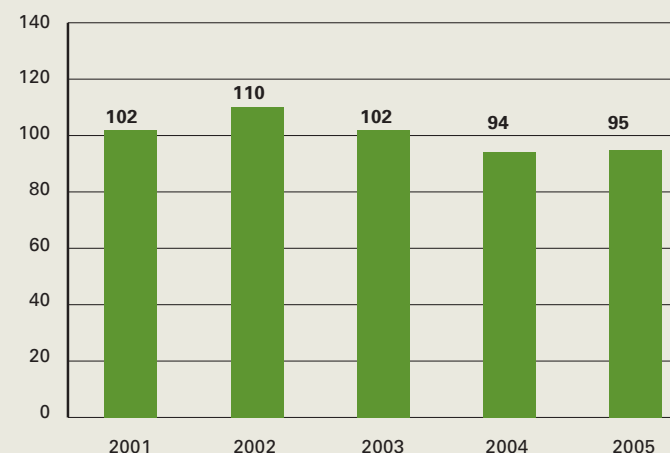
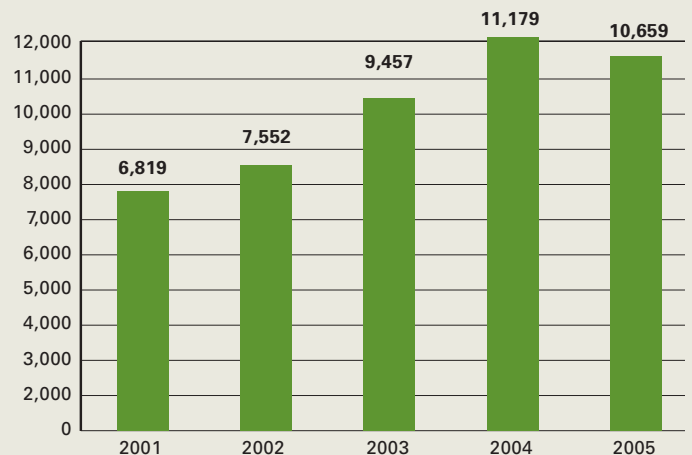
Even if the figures do not represent a significant trend reversal yet, it is nevertheless gratifying that the kilometres travelled have decreased slightly both in absolute terms and per person, despite the expansion of the basis for recording the data (Learjet). Less satisfactory is the slight increase in the share of air travel in relation to other means of transport (from 91.1% in 2004 to 95.6% in 2005).

For transfers to and from airports within Germany, our employees are encouraged to use public transport. The basic principle applying worldwide is that taxis or hired vehicles should only be used if adequate public transport is not available.

Even if the possibilities for reducing the number of business trips is limited, mobility remains one of our most important environmental issues.

District heating and gas requirements (kWh/m² per year)

Back in 2004, we examined the degree to which ecology-oriented incentive systems could be created for the choice of company cars, to which all senior executive staff are entitled. Recommendations have been drafted on the basis of which our car fleet management advises staff on ecological aspects in the selection of their cars.

Water consumption (litres per person per day)**Business trips (km per person per year)**

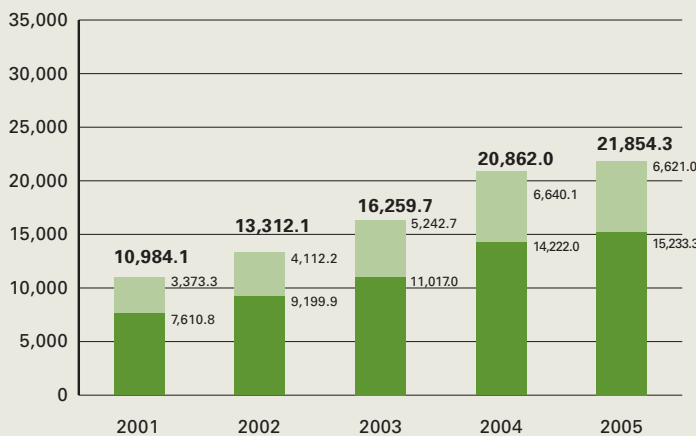
CO₂ emissions

The company's carbon dioxide emissions are closely connected with energy consumption and business trips. We calculate them using conversion factors, especially those of the German Federal Environmental Agency and the Association for Environmental Management in Banks, Savings Banks, and Insurance Companies (VfU).

On the basis of the power and heat generated, Munich Re indirectly caused the emission of 15,233 tonnes of CO₂ in 2005, compared with 14,222 tonnes in 2004. We were able to avoid the emission of 17 tonnes of CO₂ by means of our solar installation.

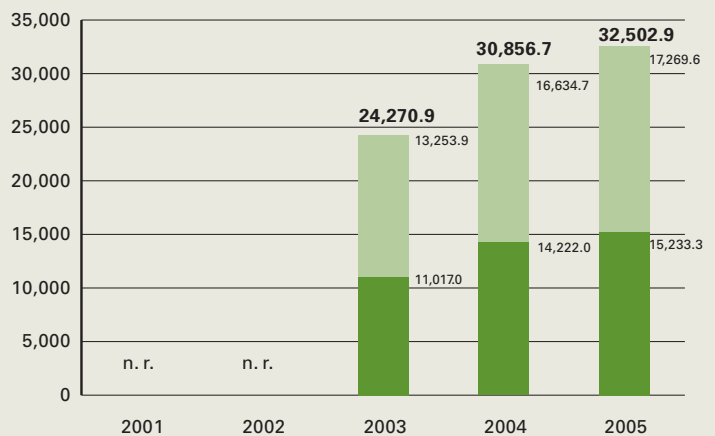
The lion's share of CO₂ emissions from business trips comes from air travel. Here we make a distinction between short-haul flights, which give rise to more CO₂, and long-haul flights. In 2003, we began applying the Radiative Forcing Index (RFI) with a factor of 2.7 in our calculations as a means of expressing the particular impact of air travel on the greenhouse effect. Thus our CO₂ emissions from business trips total around 6,621 tonnes (with RFI: 17,270). This breaks down into 855 tonnes from short-haul flights (with RFI: 2,309 tonnes), 5,409 tonnes from long-haul flights (with RFI: 14,604 tonnes), 30 tonnes from rail travel, and 372 tonnes from journeys by car.

CO₂ emissions, total (t)



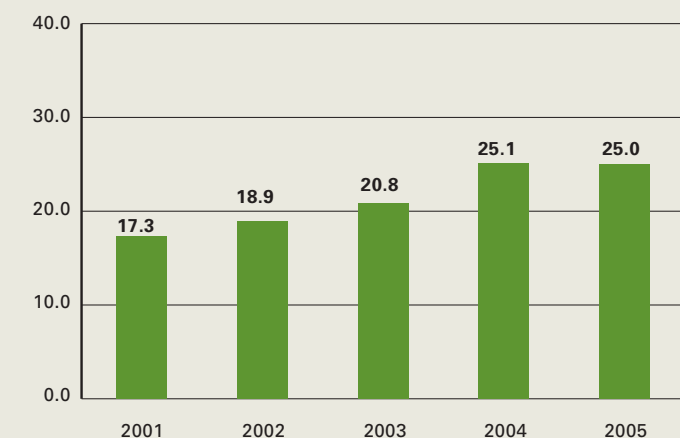
■ Energy (electricity, district heating, gas) ■ Business travel

CO₂ emissions taking into account the RFI, total (t)*

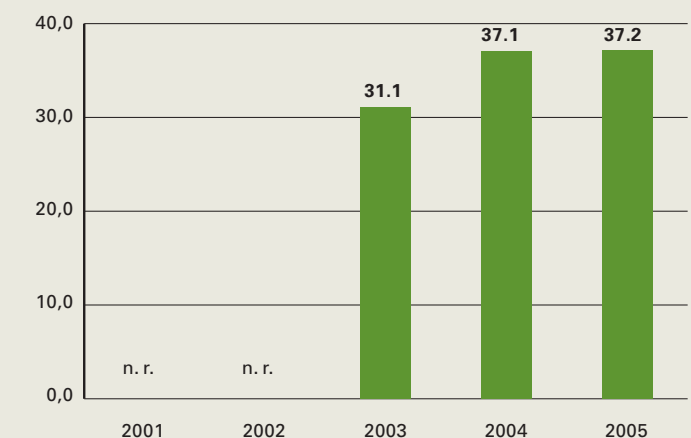


■ Energy (electricity, district heating, gas) ■ Business travel

CO₂ emissions (kg per person per day)



CO₂ emissions taking into account the RFI (kg per person per day)*



*The RFI factor of 2.7 was applied to air travel for the first time in 2003 (cf. section on transport in "Perspectives" 2003).

Implementation of measures specified in our environmental programme

The following table shows the status reached by the various projects in our current environmental programme at the end of 2005. For clarity's sake, we have restricted ourselves to those projects that were scheduled to be completed in 2005. For projects and measures already completed by the end of 2004, please see earlier issues of "Perspectives".

Objective: Raise the proportion of materials procured in line with ecological criteria

Measure	Deadline	Status	Comments
Continuously maintain and further develop the lists of criteria for staff catering.	Ongoing	Completed	Make a permanent effort to increase the proportion of certified organic food products. Cf. section on staff catering.
Set up a management system for outside firms which incorporates the observance of ecological criteria, principles, and regulations (approval of materials used, e.g. paint and hazardous substances; conduct regarding the use of hazardous substances; instructions regarding waste disposal).	12/04	Completed	The management system for outside firms is in place. In annual talks with service providers and in the context of invitations to tender, a checklist of questions is used with regard to environmental criteria and certifications and the response verified. Requirements on hazardous substances and waste disposal are incorporated in the bid documents and in skeleton agreements. House rules regulate proper conduct on the company's premises.

Objective: Consider environmental aspects in connection with company cars and the use of vehicles

Measure	Deadline	Status	Comments
Include manufacturers' data on combined consumption when entering vehicle-related data in order to generate figures on car pool consumption.	6/04	Completed	
Examine the degree to which ecology-oriented incentive systems can be created in connection with selecting a company car.	12/04	Completed	An examination showed that this is not feasible. Recommendations for vehicle selection have been included in the guidelines for the car fleet and company cars.
Examine whether environmentally sound energy systems (e.g. natural gas propulsion, eco-diesel, electric vehicles) can be used for regular logistical journeys commissioned by Munich Re.	6/04	Completed	The shuttle bus between our main location (Königinstrasse) and Münchner Tor has been powered by vegetable oil since May 2006.

Objective: Consider environmental aspects in the context of business travel

Measure	Deadline	Status	Comments
Examine the establishment of decision-making aids for staff planning business trips (on the intranet), particularly comparing the times required using various means of transport (aspects: e.g. time, costs, ecological criteria).	6/04	In progress	Information on our intranet website is currently being revised.
Conclude agreements with airlines to provide suitable environmental figures (e.g. seat consumption per 100 km, broken down according to short-, medium-, and long-haul flights) where available. Order available environment reports, with updates to be sent automatically.	12/05	Completed	Environmental reports are being requested from airlines with which we have contracts. Draw attention to this in contract negotiations.
Conclude agreements with hotel chains to provide suitable environmental figures. Order available environment reports, with updates to be sent automatically.	12/05	Completed	Environmental reports are being requested from hotels with which we have contracts. Draw attention to this in contract negotiations.

Objective: Save energy

Measure	Deadline	Status	Comments
Examine offers for the supply of electricity from renewable sources.	Annually	Completed	
Perform cost/benefit analyses for the reconditioning of old heating systems; changed to: Optimise energy consumption by looking at thermal insulation measures.	12/05	In progress	Cf. section on the use and upkeep of our property.
Existing buildings: Analyse the current situation with regard to key building parameters and develop appropriate energy-saving concepts.	12/06	In progress	Data analysis and definition of improvement measures currently being carried out for several buildings. Cf. section on the use and upkeep of our property.

To end this section, here is the usual table of our key environmental figures.

Munich Reinsurance Company's key environmental figures 2003–2005 at a glance

	2005	2004	2003
Staff at the Munich site	3,492	3,331	3,122
Working days ¹	250	250	250
Power consumption kWh per person per year	6,527	6,456	5,351
Heating kWh/m ² per year	164	149	109
Water consumption litres per person per day	95	94	102
Copying paper sheets per person per day	35	38	40
<i>Of which recycled paper %</i>	<i>55</i>	<i>58</i>	<i>59</i>
Business trips km per person	10,659	11,179	9,457
CO ₂ emissions excluding RFI kg per person per day	25.0	25.1	20.8
CO ₂ emissions including RFI kg per person per day ²	37.2	37.1	31.1
Waste from business operations kg per person per day	0.9	0.8	1.1
Staff catering <i>Share of regional products in relation to overall volumes %</i>	<i>80</i>	<i>80</i>	<i>80</i>
<i>Share of vegetarian meals %</i>	<i>50</i>	<i>50</i>	<i>50</i>

¹ Based on the inventory guidelines of the Association for Environmental Management in Banks, Savings Banks, and Insurance Companies (VfU).

² The RFI factor of 2.7 was applied to air travel for the first time in 2003 (cf. the section on transport in "Perspectives" 2003).

06 Environmental management

On 20 December 2005, we marked the fifth anniversary of the successful certification of our environmental management system at our Munich site (environmental audit). Back in 2000, Munich Re had committed itself to furthering environmental protection and sustainable development by signing up to initiatives at both an international level (UNEP insurance initiative) and locally (Environmental Pact of Bavaria I); it reinforced this commitment by subscribing to the Environmental Pact of Bavaria III in September 2005.

Our aim continues to be to implement Munich Re's environmental guidelines in our operative reinsurance business and the various supporting processes. This activity must take account of the variety, complexity, and dynamism of the individual lines of business in the markets around the globe. It also means incorporating sustainable aspects into all asset classes of our investments. Our commitment is intended to help protect our natural environment and, specifically, to further improve the quality of the risks we assume and to reduce the risk for our investments.

At the end of December 2005, an independent accredited verifier again inspected our environmental management system and gave it a very positive assessment: it continues to meet the requirements of ISO14001:2004 and the EMAS regulation.

Stefan Heyd, member of the Board of Management responsible for environmental issues, retired on 31 December 2005. At the beginning of December 2005, the full Board of Management appointed Dr. Torsten Jeworrek to succeed him as the Board representative for environmental protection and sustainable development.

We thank Mr. Heyd very much indeed for the impulses he has provided, for his active involvement, and for his dedicated support in advancing our environmental management.

Mr. Heyd will continue to advise the Munich Re Group on the development and concrete realisation of our sustainability strategy.

Objective: Enhance Munich Re's environmental management system

Measure	Deadline	Status	Comments
Maintain and further develop our environmental management system.	Ongoing	Completed	See examples in Sections 4 and 5.
Perform monitoring audits to test the compliance of Munich Re's environmental management with EMAS and DIN EN ISO 14001.	Annual	Completed	The independent accredited environmental verifier did not identify any deviations during the audit. He again attested a high level of implementation.
Adapt our environmental review to relevant units and parameters (VfU Indicators).	12/04	Completed	

Responsibility for environmental protection at Munich Re is divided up as follows:

The full Board of Management

- decides on Munich Re's strategic position in the field of environmental protection and sustainable development;
- passes the environmental guidelines;
- names the Board member responsible for environmental issues.

The Board member responsible for environmental issues

- is the person to contact at Board level regarding environmental protection and sustainable development;
- is responsible for environmental protection goals being in line with the company's overall strategy.

The Environmental Officer

- coordinates Munich Re's presence in the topic area of environmental protection and sustainable development with all target groups;
- represents Munich Re on international committees and vis-à-vis the general public on all facets of environmental protection and sustainable development;
- reports to the Board of Management regularly on our environmental protection performance and the application and effectiveness of the environmental management system.

The divisional units and central divisions

- set environmental goals and decide on the measures that are appropriate for their respective area of responsibility and are responsible for their implementation;
- are responsible for the observance of statutory and administrative environmental protection regulations and laws.

The Environmental Management Unit

- shapes and implements Munich Re's environmental management system and develops it further;
- supports the Board of Management and the divisional units and central divisions with a view to attaining the goals relating to environmental protection and sustainable development;
- encourages an open dialogue with the staff and external target groups on aspects of environmental protection and sustainable development;
- coordinates and monitors the attainment of goals relating to environmental protection and sustainable development.

If you have any questions or suggestions, please contact us:

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07 Communication, training courses, motivation

Munich Re has traditionally attached great importance to dialogue, be it with clients and investors, politicians and representatives of civil society, or national and international organisations. And in 2005, we continued to actively share our knowledge and pass on our experience.

External communication measures and training courses

Events

Munich Re sponsored various exhibitions in 2005 with a view to making our know-how in handling risks and natural hazards available to a broader public.

Risk exhibition

CHANCE : RISIKO – This was the title of an exhibition staged by Munich Re at the Haus der Kunst in Munich, which confronted visitors with numerous aspects of their risk-taking lives and presented risk and opportunity as two sides of the same coin. It revealed the vulnerability of complex networked systems and showed how we deal with knowledge and the lack of it. The general theme of the exhibition was that if you want to take opportunities, you have to live with risk. The exhibition was one of Munich Reinsurance Company's activities marking the 125th anniversary of its foundation.

Involvement in BUGA 2005

As part of its partnership with BUGA 2005, Munich Re incorporated its many years of experience in the field of climate change in the design and realisation of the Weather Change Cell Garden. What are the causes and effects of climate change? How is the insurance industry reacting? Visitors could find answers to these and other questions in the House of Knowledge, which was also designed by Munich Re.

Water in Myth and Nature

The aim of Water in Myth and Nature, an exhibition held at the Hypo Foundation for Culture's gallery in Munich and supported by Munich Re, was to approach the topic of water from an artistic angle. Around 70 masterpieces by such artists as Arnold Böcklin, Lukas Cranach, and Caspar David Friedrich presented the subject from various perspectives. The exhibition at the gallery was accompanied by a series of talks which the Munich Re Foundation helped organise.

Press and PR work

In view of the natural catastrophes that occurred in 2005, Munich Re's expertise with regard to climate change and natural hazards was particularly in demand. Our Geo Risks Research specialists reached an audience of millions through numerous reports in the press, interviews with the media, and television features. And as in previous years, they also answered many inquiries from TV, radio, and print media journalists.

Publications

Further copies of the CD-ROM "World of Natural Hazards" were produced in collaboration with the magazines "Chip" and "CD Austria" and distributed to readers with issues of these publications, taking the overall number of copies to 110,000.

One of Geo Risks Research's main publications is the brochure "Topics Geo", which comes out every March and provides an overview of the past year's natural catastrophes. Subjects of the current issue include a review of the 2005 hurricane season, the earthquake in Kashmir, and an evaluation of the results of the UN climate conference in Montreal. The brochure appears in five languages with a total of 24,000 copies.

Munich Re and American Re also brought out a joint publication dealing with the record losses from hurricanes in 2004 and 2005. Entitled "Hurricanes – More intense, more frequent, more expensive", it analyses the events of 2004 and 2005 against the backdrop of climate cycles and global warming, and discusses the consequences for the insurance industry.

"Winds of Change" is a climate game developed by Munich Re in cooperation with the European Climate Forum. The object is to apply the principles of sustainable development and save the earth from the imminent threat of dying from heat exposure. In the course of the game, the players learn about the causes, processes, and effects of climate change in an entertaining way. What makes it so special is that if they are to win at all, they can only win together. If they are unable to stop climate change, they all lose.

Client seminars

A total of more than 300 representatives from Munich Re's client companies took part in the events of our "Knowledge in dialogue" programme, which include sharing our knowledge about environmental protection, environmental risks, and prevention strategies.

Sponsoring the next generation of scientists

As in previous years, we continued to attach importance to sponsoring pupils, undergraduates, and doctoral students. In all, 12 interns were able to gain practical experience in our specialist unit Geo Risks Research/Environmental Management. In addition, we supervised and sponsored four dissertations and four theses. Lastly, three pupils took advantage of a "taster programme" to gain an insight into the unit's work.

Conference highlights

Munich Re representatives attended a large number of conferences in 2005, frequently taking part as speakers. There follows an account of some of the year's conference highlights.

COP 11 climate conference

Munich Re stated its positions at two side events and in various papers given at the climate conference in Montreal. Prof. Peter Höppe, head of Munich Re's Geo Risks Research unit, who spoke at various sessions, had the opportunity to present Munich Re's latest findings on climate change. At one of the events, the Munich Climate Insurance Initiative (MCII) unveiled its ideas on insurance solutions in response to the effects of climate change. Further information on MCII is provided in Section 4.1.

Another side event was devoted to "The Future of Climate Policy", a new study by the Climate Change Working Group of UNEP Finance Initiative (UNEP FI) with input from Munich Re. Altogether, the study makes four political demands, including a long-term objective for future climate policy and a clear target for the expansion of renewable energies. Meeting these demands is, in the financial sector's view, the prerequisite for enabling banks and insurance companies to take an active part in the implementation of the Kyoto mechanisms – emissions trading, the clean development mechanism (CDM), and joint implementation (JI). The study has been published in the CEO Briefings series and is available for downloading at www.unepfi.org.

UNEP FI, Global Roundtable

The 2005 conference organised by UNEP FI took place at UN headquarters in New York. Under the motto "A world of risk – a world of opportunities", experts from banking and insurance debated such topics as the influence of sustainability criteria on investment returns, standards in sustainability reporting, the development of carbon markets, and the perspectives of microfinance. Munich Re participated in various workshops.

Climate Change & Investment Conference

Held in London, this conference focused on how sustainability criteria, and the risks and opportunities associated with climate change, can be integrated into asset management. Munich Re presented its approach, which met with great interest. Further information on the consideration of such criteria in Munich Re's investments may be found in Section 4.2.

Internal communication measures and training courses

Informing and motivating staff is one of the ongoing tasks of environmental management. Given that the number of employees at our Munich site has risen by more than 40% since 2000, briefing new staff is of great significance.

In order to sensitise them to environmental protection and to inform them of the current status of our activities in this respect, the environment is a regular feature of the induction course. In 2005, we compiled a "welcome package" which included leaflets on waste separation and energy saving, as well as a selection of ecology-friendly office supplies. The aim of the campaign is to make new staff aware of environmentally compatible alternatives in their everyday office work.

We also regularly update existing staff about topics related to the environment and sustainability, using the following information channels, among others:

- our staff magazine go ahead_>>,
- Munich Re's intranet,
- presentations on environmental topics in the Munich Re Forum, e.g. on renewable energies, and
- Munich Re colloquia.

Training concept for prospective insurance specialists

The subject of environmental protection and sustainable development will be a new component in our training of insurance specialists. The concept for this is scheduled to be applied for the first time in September 2006, the beginning of the new training year. Right from the start of their careers with Munich Re, trainees are to be familiarised with various aspects from the field of sustainability and consider them in both theory and practice over a period of one year as part of their curriculum. The objective is to create a long-term awareness of the topic among trainees and to enable them to use this knowledge and insight in underwriting.

The concept comprises three modules, which deal with current sustainability issues using different didactic methods and explain Munich Re's environmental activities. In a realistic business game involving environmental liability, trainees experience how risks are to be assessed and underwritten from the perspective of sustainability. Also envisaged are visits to facilities for generating renewable energy in and around Munich, including the chance to experience the related insurance aspects.

Trainees will thus be enabled to evaluate the relevance of sustainability for a reinsurer in general and to realise Munich Re's specific sustainability strategy in their work.

Implementation of measures specified in our environmental programme

The following table shows the status reached by the various projects in our current environmental programme at the end of 2005. For clarity's sake, we have restricted ourselves to those projects that were scheduled to be com-

pleted in 2005. For projects and measures already completed by the end of 2004, please see earlier issues of "Perspectives".

Measure	Deadline	Status	Comments
Incorporate the subject of environmental protection and sustainable development in the training of insurance specialists.	12/05	Completed	See text.
Publish communications regularly on environmental protection and sustainability with the following aims: <ul style="list-style-type: none"> – Internal marketing – Motivation of staff to adopt a personal attitude towards environmental protection and sustainability – Activities with striking visual information 	Occasion-based	In progress	
Further develop the environmental report and the reporting process in the direction of sustainability.	12/05	In progress	Active participation in the debate about standards for sustainability reporting; Munich Re's first sustainability report is scheduled to appear in 2007.

Memberships and dialogue

Staff of Geo Risks Research, the Environmental Management Unit, and our environmental liability insurance experts are active members of numerous national and international committees and working groups and bring their expertise to bear in them. Here are a few examples:

National organisations

- Working group of Munich financial institutions and Local Agenda 21
- German Committee for Disaster Reduction (DKKV)
- German Research Network Natural Disasters
- Permanent Conference for Disaster Reduction and Disaster Management
- German Society of Earthquake Engineering and Structural Dynamics
- German Geophysical Society (DGG)
- DECHEMA – Society for Chemical Engineering and Biotechnology: Technical Committee for Plant Safety
- SLF – Sustainability Leadership Forum
- Windtechnological Society (WTG)

International organisations

- American Association for Wind Engineering (AAWE)
- American Geophysical Union
- Australian Earthquake Engineering Society (AEES)
- European Climate Forum (ECF)
- Earthquake Engineering Research Institute
- Seismological Society of America
- GeoHazards International (GHI)
- Global Roundtable on Climate Change (GROCC)
- International Early Warning Conference: Steering Committee
- Munich Climate Insurance Initiative (MCII)
- The Climate Group
- UN International Strategy for Disaster Reduction (ISDR): Task Force
- UNEP Finance Initiative
- United Nations University, Bonn
- World Bank Disaster Management Facility

Munich Re joined the following initiatives and assumed the following new commitments in 2005:

Climate Group

The Climate Group is a collection of companies, governments (e.g. California and New York State), and cities (e.g. Berlin) that are taking a stand for climate protection. The organisation was founded in 2004 with the aim of promoting the exchange of views and knowledge between its members and of thus supporting initiatives designed to protect the climate.

With this new membership, Munich Re is stepping up its activities in support of climate protection. As members, we have undertaken to limit and, in the medium term, reduce our own CO₂ emissions. More information on the Climate Group may be obtained at www.theclimategroup.org.

Environmental Pact of Bavaria

The Environmental Pact of Bavaria III was signed during a gala event at the Residenz in Munich in 25 October 2005. It is an extension of the pact between Bavarian businesses and the Bavarian government originally signed in the year 1995. On the basis of voluntary commitment, individual responsibility, and the cooperation of private business, the aim is to enhance capacity for innovation and environmentally compatible economic growth in line with the guiding principle of sustainability. The Environmental Pact of Bavaria III is entitled “Environmentally compatible economic growth” and has been signed by about 5,200 firms – from small workshops to global players. Munich Re is once more participating in this regional initiative, with the commitment to maintain and constantly optimise its environmental management system and to continually improve its environmental protection efforts. Further information and the text of the Environmental Pact may be found at <http://www.stmugv.bayern.de/de/wirtschaft/index.htm>.

Global Roundtable on Climate Change

Munich Re is taking part in the Global Roundtable on Climate Change established by Jeffrey D. Sachs, Director of the Earth Institute. Representatives of more than 150 companies and of governmental and non-governmental organisations use the Roundtable as a platform for discussing scientific, technological, and economic aspects of climate change and its implications. The initiative’s aim is to develop joint recommendations on climate protection.

Munich Re publications on the subjects of environment, environmental impairment, climate, and natural catastrophes:

	Order no.
Topics Geo – Annual review: Natural catastrophes 2005	302-04772
Hurricanes – More intense, more frequent, more expensive	302-04891
Schadenspiegel 3/2005: Special feature issue: Risk factor of water	302-04693
Knowledge series: Claims management following natural catastrophes	302-04646
Megacities – Megarisks	302-04271
Experience climate change: Welcome to Munich Re's House of Knowledge (only in German)	302-04460
Casualty Risk Consulting – Information for insurers: No. 21 – Genetically modified plants (only in German)	302-04743
Technology for underwriters: No. 34 – Use of substitute fuels in conventional power plants and industrial furnaces (only in German)	302-04495
SRI Report 01 – Sustainability in the Munich Re Group available at www.munichre.com	
Weather catastrophes and climate change – Is there still hope for us? The book can be ordered for a nominal fee of €29.90 through retailers or directly from PG Verlag: bestellung@pg-verlag.de	
“Winds of Change” climate game The game costs €29 and can be ordered under the number ISBN 3-937624-82-1 through retailers or directly from PG Verlag: bestellung@pg-verlag.de .	

Validation

The environmental policy, environmental objectives, environmental programme, environmental management system, and environmental audit implemented by

**Münchener Rückversicherungs-Gesellschaft
80802 München**

comply with the requirements of Regulation (EC) 761/2001.

The data and information in this environmental statement are reliable. They provide a fair and true picture of the environmental relevance of all activities at the site.

For the sake of consistent and timely communication of environmental information, the publication of future environmental statements will no longer be linked to the monitoring programme. The next consolidated environment statement will therefore be released as at June 2009, with updates being published in June 2007 and June 2008.

Braunschweig, 10 May 2006



Dr. Ralf Utermöhlen
(Accredited environmental verifier, D-V-0080)
AGIMUS GmbH Umweltgutachterorganisation &
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