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 **Öko-Institut e.V.**
Institut für angewandte Ökologie
Institute for Applied Ecology

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Sustainable reading from the Öko-Institut



Mission Sustainability

Looking back, moving ahead

With vigour
30 years of the Öko-Institut
an anniversary

With commitment
Green Goal for
South Africa

With creativity
A portrait of three
scientists

Stepping off the

The Öko-Institut's unusual route from outsider to established research and consultancy institution

It is 10 a.m. on Tuesday in Berlin, Brussels, Darmstadt and Freiburg. The year is 2007. Scenes from a telephone conference: "Any news from Professor Töpfer?" – "No." "Who will have another word with him?" – "I'll do that", says director Dr Joachim Lohse. Preparations for the Öko-Institut's anniversary conference are in full swing. The Institute has seen the passing of three decades, and it is not only the telephone system that has changed. In the agitated aftermath of the Chernobyl disaster the Darmstadt offices's phone system still consisted of just one telephone, which rang constantly as worried people sought the advice of the Institute's staff.

That issue again – nuclear power. That's where it all began. "When we dream alone it is only a dream, but when many dream together it is the beginning of a new reality", said the artist and architect Friedensreich Hundertwasser. As they became involved with local campaigns against the planned Wyhl nuclear power plant, many people dreamed of a different future. The idea emerged of an independent institute that could provide scientific backing for the goals and values of the environmental movement. And so the Öko-Institut was born. But it was not greeted with universal approval in those early years. In the ZDF-Magazin programme on German television Gerhard Löwenthal described it in 1982 as "an institute for the criminal generation of mass psychosis through pseudo-scientific statements".

Since those days the Öko-Institut has seen many shifts and changes. And it has changed itself; once an outsider, it is now a recognized authority and an established research and consultancy institution which takes its place at the heart of European society. For example: the nuclear expert and deputy director of the Öko-Institut, Michael Sailer, is now a member of Germany's Reactor Safety Commission. Deputy director Dr Rainer Griesshammer sits on the German Advisory Council on Global Change (WBGU). It was Öko-Institut experts who drew up the environmental action plan for the 2006 FIFA Football World Cup in Germany.

HISTORIC MILESTONES

1977

Founding of the Öko-Institut

27 committed members of the public get together to oppose the Wyhl nuclear power plant; they found the Öko-Institut.

The Öko-Institut's role is now that of critical partner in all issues of sustainability. Its staff encourage their fellow citizens to be more aware of the consequences of their everyday actions. At the same time they advise governments, businesses and the European Union on a wide range of matters from chemicals policy to climate and resource protection.

Where does the future of the Öko-Institut lie in a globalized world? In more internationalization? In more cooperation with business and industry? These are just some of the hot topics at the time of the thirtieth anniversary. But one thing will not change: behaviour must be driven by the right values if the dream of a sustainable society is to become reality. This remains the Öko-Institut's vision. Pathways emerge as we travel them!

sh/cr



Intense debate at an internal meeting of the Öko-Institut.

info: www.oeko.de/072/smallmiracles

trodden path

HISTORIC MILESTONES

1980

Second location

A study in the field of reactor safety gives rise to the setting up of the Darmstadt office.

Demonstrating against the planned nuclear power plant in Wyhl (photo on left).



1977

2007

Dear readers,

"We can only hope if we act ourselves." Those words were contained in the Öko-Institut's founding declaration of 1977. Since then important progress for environmental protection in Germany has been made. Much of this progress has been initiated by the Öko-Institut and has been assisted and supported by it. Yet the challenges remain. For the successes of the last 30 years are being overlaid by the consequences of globalization. Globalization is having a greater impact on our lives in the 21st century than any other strand of development, and the need for it to take sustainable form has never been as great as it is today.

This means that in the year of its 30th anniversary the Öko-Institut needs to rethink its role as a research and policy consultancy institution. What social challenges do we need to address now and in the future? What should our priorities be? We shall focus on these and other key issues as we formulate an agenda for the future. Read more in our "Big Issue" under the headings of Knowledge, Values and Wishes.

Our annual conference, which we held in Freiburg on Friday, 22 June, was also dominated by our 30th anniversary. There we took stock and joined with high-profile speakers from the fields of politics, business and science in casting a critical look at the sustainability issues of today and tomorrow.

We invite you most warmly to continue the debate with us. Above all, though, we ask you to accompany us on the next thirty years' journey towards a sustainable future. We look forward to the pleasure of your company!



Dr Joachim Lohse,
Director of the Öko-Institut

Dr Joachim Lohse, Director of the Öko-Institut
j.lohse@oeko.de



HISTORIC MILESTONES

1980 **Towards sustainable energy**
Öko-Institut scientists demonstrate for the first time that growth and affluence can be achieved without using oil and uranium.

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KNOWLEDGE: 30 eventful years have passed since the founding of the Öko-Institut. In that time much has been done for the environment, but at least as much still remains to be done. What are the challenges of today and tomorrow? And what part might the Öko-Institut play? Director Dr Joachim Lohse describes his standpoint.



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20 INVESTIGATING: The 2010 Football World Cup in South Africa is to have its own environmental plan. The Öko-Institut is giving a helping hand.



© Öko-Institut

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HISTORIC MILESTONES

1981

Breast milk study

Öko-Institut scientists show that breast milk contains a cocktail of environmental poisons.

What VIPs

Executive Director of the United Nations Environment Programme (UNEP):

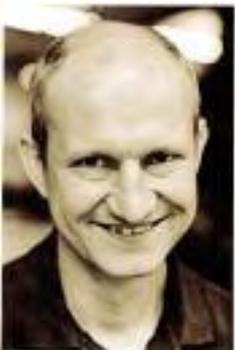
"Climate change and growing consumption and over exploitation of sometimes scarce and often finite resources: these are just two examples of the major challenges facing us in the context of sustainability. But the list could go on, of course, which is why an independent research institution such as the Öko-Institut has such an important role to play. We urgently need highly committed academics and scientists who are able to contribute creative ideas for the solution of these and other pressing problems. For the last 30 years, the Institute has played a key role in European sustainability research and consultancy. I am absolutely convinced that its influence will increase further in future, for one thing is clear: Even if, as a global community, we can rise to deal with the central challenges of today, we know already that we face many challenges in the world of tomorrow."



ademics and scientists who are able to contribute creative ideas for the solution of these and other pressing problems. For the last 30 years, the Institute has played a key role in European sustainability research and consultancy. I am absolutely convinced that its influence will increase further in future, for one thing is clear: Even if, as a global community, we can rise to deal with the central challenges of today, we know already that we face many challenges in the world of tomorrow."

Reiner Metzger, deputy editor-in-chief of the taz newspaper:

"After the founding of taz, the Öko-Institut was a cornerstone of its reporting. At last there were experts who were trusted by members of the wide-ranging green movement. In the environment's great battle year of 1986 the Öko-Institut was quoted in the newspaper almost daily – people were concerned about Chernobyl, pesticides in the Rhine and the incineration of hazardous waste. Of course the high level of prominence given to environmental issues could not be sustained over decades. But now the environment is at the top of the list again – and we still like to ask the Öko-Institut. Who else?"



Tanja Gönner, Environment Minister for the state of Baden-Württemberg:

"Climate change is the central challenge of environmental policy. This highlights the paradigm shift that is taking place in environmental policy: it is often not enough to pursue one environmental goal single-mindedly. Conflicts of interest with other environmentally relevant points of view become increasingly visible and make it necessary to deliberate carefully and find compromise solutions. Renewable energies are indeed a key to the reduction of greenhouse gas emissions. In practice, though, different interests collide:

- increased use of biomass can result in extensive monoculture of energy plants and a loss of biodiversity
- the expansion of hydropower impacts on the ecology of lakes and rivers
- wind power conflicts with nature conservation and the preservation of the landscape

- to name just a few examples. This opens up many interesting and exciting areas of research. Further work in these areas can be most useful in helping to develop an environmental policy based on sustainability."



1984

Chemicals at home

Öko-Institut authors publish a survey of household chemicals, highlighting the risks that they pose to humans and the environment. The book gains a place on the bestseller list of the magazine "Der Spiegel".

HISTORIC MILESTONES

wish us

Anja Köhne, second spokesperson of the Öko-Institut and member of the board of Germanwatch:



"Today the Öko-Institut is supported by a broad research family: founder members who have worked at the Öko-Institut for 30 years, the generation who have entered the world of work since the fall of the Berlin wall, people inspired by the spirit of Rio who are younger than the Institute itself. There are

number crunchers and political entrepreneurs, business consultants and grassroots activists. They are always dependable, always on the ball, often innovative, ever more international. And there is inspiration and enjoyment in every encounter, whether political or personal. Keep on going, I wish you courage and success: the next 30 years of German, European and global work on environmental and equity policy promises to involve much thought, much hard work and a great deal of radical change."

HISTORIC MILESTONES

1986

Chernobyl

The Öko-Institut is an important point of contact for members of the public after the nuclear disaster at Chernobyl. It sets up "energy turnaround" committees, setting in motion the development of an anti-nuclear network.

Ernst Schwanhold, head of the BASF Competence Center Environment, Safety and Energy:

"When it was founded in the 1970s the Öko-Institut was ahead of its time: ecological issues were slow to capture the attention of the general public. In the



past 30 years the Institute has repeatedly led the way in the specialist discussion of a large number of issues: often uncomfortably, occasionally with debatable aims – but always as an enrichment.

My wish is that the Institute will continue to contribute its expertise to society's discourse. A particularly important aspect of this debate is the difficult balance between ecological requirements and economic necessity. I am delighted that we are working successfully with the Öko-Institut on the development of sustainability instruments such as eco-efficiency analysis. We value the Institute's know-how, continue to maintain our critical distance and wish the committed staff every success for the future."

Rebecca Harms, member of the European Parliament:



"It was no mere coincidence that we people of the Wendland got together in February 1977 to form the "Lüchow-Dannenberg against Gorleben" campaign group and that the Öko-Institut was founded only shortly afterwards. 1977 was the year in which we travelled to Brokdorf, Grohnde, Kalkar and Malville, the year of the great

protests against nuclear madness. Nuclear waste casks, rock salt and molasse clay, the pros and cons of jamming strategies to prevent nuclear waste leav-

ing the power stations, nuclear consensus or nuclear nonsense, the plan for a single permanent disposal site for nuclear waste or dumping in Schacht Konrad, autonomy or government control, nuclear power and climate, fuel from plants, carbon capture, the efficiency revolution: what topics those were and what a debate with and about and by and against and for the Öko-Institut! I would not want to have missed those thirty years with their highs and lows with all you green campaigners. And if they are still alive they will still be talking and writing in 2020..... I take my hat off to you!"

Mission

HISTORIC MILESTONES

1991

Third location

Another Öko-Institut office is set up in Berlin.



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HISTORIC MILESTONES

1994

A matter of dispute

An Öko-Institut study investigates whether the Krümmel nuclear power plant is the cause of cases of leukaemia.

Sustainability

Towards the Öko-Institut's agenda for the future

HISTORIC MILESTONES

1997

Sustainable Hoechst

Öko-Institut scientists work with the Hoechst AG on the creation of a management tool for a sustainability-oriented company strategy. This represents the first step in the development of a critical partnership with industry.

*We can only hope
if we act ourselves!*

Those words were contained in the Öko-Institut's founding declaration of 1977. Thirty eventful years have passed since then and important progress for environmental protection in Germany has been made. Much of this progress has been initiated by the Öko-Institut and has been assisted and supported by it. But at least as much still remains to be done. What are the challenges of today and tomorrow? And what part might the Öko-Institut play? An article by director Dr Joachim Lohse.

Twenty-five years ago the Öko-Institut showed that turning energy systems towards sustainability (an approach that became known in Germany as the Energiewende) and achieving ambitious climate change mitigation targets were viable. At the end of the 1980s its scientists, with their scenarios for a turnaround in chemicals policy known as the Chemiewende, provided the blueprint for the new REACH chemicals legislation that has now come into force. Building on pioneering work on preventing

Much achieved

waste and recycling it in a closed-loop materials management system, the Institute – using the concept of industrial metabolism – has laid the foundations for the current debate on resources. In many areas – for example in the intensive debate on pollutant emissions from waste incineration plants – it has given major impetus to environmental and efficiency technologies, which are now regarded as Germany’s market of the future.

The nuclear phase-out in Germany is now a done deal and German manufacturers of equipment for the generation of renewable energies are going from strength to strength on the stock market. Environmental protection has become a task of government that is embedded in ministries and environmental agencies. With- in the EU sustainability is – at least in theory – as important as competitiveness. Many large companies that have in the past been regarded as the cause of problems are now partners in the search for solutions;

they are beginning to view environmental, sustainability and climate protection issues not as a risk but as a potential opportunity. On the other hand, the impact of much of the progress made in environmental protection has been diminished by changed patterns of production and consumption. For example, the energy consumed to heat a square metre of floor space fell by 10 percent in Germany between 1995 and 2004 as a result of the increased thermal performance of houses and apartments. But the energy thus saved was more than offset by the larger size of the average home. At the global level even less trace remains of the initial progress made in Germany, for environmental performance is being overlaid by the consequences of globalization. Globalization is having a greater impact on our lives in the 21st century than any other strand of development, and the need for it to take sustainable form has never been as great as it is today.

The problems that arise from globalization are clear to see. They relate to climate change and the consumption of limited resources, the loss of species diversity and the introduction of environmental poisons into the air, the soil, water, food chains and products. Global tasks include combating disease and poverty, abolishing inhumane and unhealthy living and working conditions and creating access to education and to fair global trade.

We shall not get to grips with these problems unless we radical-

>> *I should like to send your Institute my warmest congratulations on its 30th anniversary. In founding the Öko-Institut you have played a part in creating in Germany an issue-led transdisciplinary research environment – something that we need more urgently than ever before in order to meet the challenges of sustainable social development. I therefore wish the Institute continuing success for the future.*«



Dr Annette Schavan,
Federal Minister for Education
and Research

ly change the ways that we think and act in every aspect of our social life. The increasing complexity of global trends requires us to adopt new solutions.

This means that in the year of its 30th anniversary the Öko-Institut needs to rethink its role as a research and policy consultancy institution and commit itself to a new agenda for the future, which we shall be drawing up in the coming months. For there is no alternative to the principle of sustainable development – a principle that informs and guides our work.

A new agenda for the future

With the liberalization of world trade the flows of goods and services have increased explosively. At the same time, globalization in its present form means that na-

Much to be done



HISTORIC MILESTONES

1997

A look in the larder

The study "Globalisierung in der Speisekammer" ("Globalization in the larder"), funded through contributions from members, examines global food production.

HISTORIC MILESTONES

1999

New research field

The Federal Ministry for Education and Research declares social-ecological research to be a new priority area for promotion. The ökoforum research network plays a leading role in this development.



tions can no longer influence globally operating corporations to the extent that was previously possible.

Instead the rules of play are laid down by the World Trade Organization, for whom sustainability is not as yet a major issue.

Governance for change

In our view there is therefore an urgent need for reform and democratization. If issues of sustainability and the environment are to be integrated into all important international institutions and areas of international policy, it is essential that the power of economically oriented institutions such as the WTO and the World Bank is counteracted by the strengthening of institutions, such as the United Nations Environment Programme, which can lend weight to these issues.

In future we should like where possible to make our expertise available for the furthering of this

Competition for sustainability

In recent times the debate on the competitiveness of the European economy in connection with the Lisbon Strategy has threatened the emergence of an ambitious and effective environmental policy in Europe. The argument is that environmental and social standards would have a negative impact on the competitiveness of the European Economic Area. But that is not true! The challenges of sustainable development are also an entrepreneurial opportunity. We are convinced that a well thought-out, ambitious environmental and sustainability policy can in the long term strengthen competitiveness. We shall therefore be working on concrete and suitably ambitious sustainability standards for important sectors of the economy. At the same time we shall increase the support provided to leading companies in their development of sustainability strategies and innovations, particularly in the area of products and services.

Research and education

Sustainable development involves long-term change in society and its systems. It requires technical and social innovation, changes in awareness and behaviour and new structural conditions. Government-funded research plays a key role; such research is after all intended to improve people's quality of life, solve their most important problems and generally contribute to the welfare of mankind and of nature. It is crucial that practitioners' knowledge is taken into account when research issues and methodologies are being developed. This is a key aspect of the German government's new "social-ecological" research programme, which the Öko-Institut played a major role in formulating. In future years this research approach will be an important pillar of our international cooperation and will exert a stronger influence than in the past on joint scientific ventures.

A curse or a blessing? Whether the issue is nuclear energy, nan-



HISTORIC MILESTONES

1999

Green TV

The "Grüner Fernseher" ("Green TV") study paves the way for many further electronics projects.

otechnologies or green genetic engineering, people's relationship to new technologies is ambivalent and it is increasingly the case that new technologies must be viewed and evaluated discriminatingly if we are to benefit from the opportunities they offer without neglecting their risks. In our view a greater proportion of the money and effort spent on the relevant research needs to be invested at the start, in the development phase, in order to avoid expensive dead ends and later acceptance problems. At the same time there is a need for governance mechanisms that promote the use

Technological innovation

of new technologies where such use is desirable on ecological and social grounds. In future, therefore, we shall intensify our work on the development of methods and instruments that can be used to analyse and evaluate new technologies and focus, too, on developing monitoring and regulatory processes. To this end existing experience and skills within the Institute's departments will be strengthened and better consolidated.

In the medium term large sectors of the world's population will set their sights on a consumption

Sustainable consumption: Less is more

pattern of "catching up". In the industrialized countries too, though, lifestyles and consumption habits are not sustainable. The development of sustainable products and the sustainable use of such products are therefore of key importance. At present, products designed for the mass market are not required to be ecologically efficient, nor are they tested for their social acceptability; efficiency technologies have not been adequately implemented.

In the long term another crucial issue will be the question of which new concepts of "more through less" can be realized in practice. We shall be assessing different product lines for their performance in this respect. Another of our key tasks will be to help progressive companies as well as associations and environmental and consumer organizations to network their activities better. This will involve better marketing of sustainable products in the retail sector and optimization of product quality along the value chain.

A great deal of creativity will be required in order to attain these goals. But we shall apply ourselves rigorously to the task. For we believe in the vision of a sustainable future in a globalized world. And we invite all our partners to join us in discussing the Institute's agenda for the future.

Dr Joachim Lohse

HISTORIC MILESTONES

2000

Green investment

The Öko-Institut investigates and compares the environmental funds that are licensed to operate in Germany.



I should like to thank the Öko-Institut for its committed and sound advice – which never loses sight of the need to be able to turn suggestions into practical action at policy level. The Institute has provided important support to the Federal Environment Agency.



Prof Dr Andreas Troge,
President of the Federal Environment Agency (UBA)

My wish for the Öko-Institut is that it will continue its original philosophy with the same commitment and success that have brought it this far!«

HISTORIC MILESTONES

2001

Sustainable tourism

The Öko-Institut suggests way in which the rapidly growing tourism sector can be developed sustainably. The study forms the basis of a report by the German government.

Dr Joachim Lohse has been Director of the Öko-Institut since 2003. He has previously deputy director and Prokurist (holder of general commercial power of attorney) of Ökopol, the Institute for Environmental Strategies in Hamburg, which he co-founded in 1989. He has a doctorate in chemistry and his specialisms include material flow management, pollution prevention and control in industrial facilities, environmental policy and communication.

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New website marks 30th anniversary

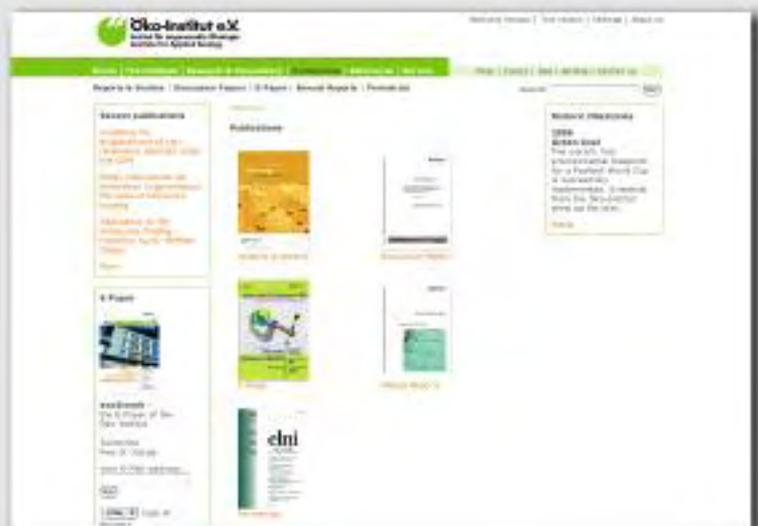
Just a few days before its annual conference and 30-year anniversary celebrations, the Öko-Institut has released its new website. The new version features a **fresh design, easy navigation and plenty of new content.**

The new website: What has changed?

The new design incorporates large, four-colour photographs and a fresh green colour. In addition, the user will be struck by the new content structure. The homepage at **www.oeko.de** provides clear and easy-to-use links to the rest of the site. Service and information are priorities for the new website and there is a free download option.

Under **Research and Consultancy** users can find out more about the Öko-Institut's work and contact the Institute's researchers and scientists direct. The current homepage provides information about new studies, research contracts that have been won and events that are taking place. Quicklinks lead to information on the most frequently raised topics and news of past and current projects.

The independent Öko-Institut has always sought to publicize the results of its work. The publications database provides users with easy access to the Öko-Institut's studies, many of which can be downloaded free of charge.



The challenges for climate policy

Towards a global reconfiguration of energy systems

In Germany around one billion tonnes of greenhouse gases are produced each year. Electricity generation, the heating of buildings and the use of energy in industry account for more than two-thirds of this, while one-fifth of the total comes from cars, lorries and aeroplanes. In many other countries the situation is similar. Large quantities of greenhouse gases are released into the atmosphere, which heats up as a result. What steps must be taken internationally to counter this?

According to the UN's recent report on climate change, the average temperature of the Earth has risen by around 0.7°C over the last 100 years. If this trend is not halted, there is likely to be an increase in droughts, floods and tropical storms, and in international security problems and economic crises. To reduce the risk of uncontrollable world climate problems, experts are calling for the global average temperature rise to be limited to 2°C from pre-industrial levels.

For this to be achieved, global emissions of greenhouse gases must by 2050 be reduced by 50 percent from the 1990 baseline. For industrialized countries this corresponds to a reduction of between 60 and 80 percent. A mere ten countries at present account for around two-thirds of

2002

Emissions trading

The Öko-Institut participates in an advisory capacity in the introduction of emissions trading, commenting on the allocation of emissions rights not only from a national point of view but also from the European perspective.

HISTORIC MILESTONES



© Wolfgang Jürgens / Bielefeld

HISTORIC MILESTONES

2003

Donation-funded project

The Öko-Institut's study "Private Altersvorsorge – auf dem Weg zur Nachhaltigkeit?" ("Private provision for old age – on the path to sustainability?") aims to provide a systematic guide to the information jungle. The report is financed through members' donations.



30 years – in the lives of individuals that is when things often start to get quieter and more settled and more realistic. That's all right. But in the lives of organizations that shouldn't happen. My wish for the Öko-Institut is that despite being close to the ground it will not lose its sense of vision; that for all the praise it receives it will still have the courage to say things that are unpopular; that economic success will not stand in the way of non-material goals; that however diverse its partners may become there will always be a special relationship with the environmental movement. All best wishes for 30+!«



Dr Angelika Zahrnt, Chair of BUND (Friends of the Earth Germany)

worldwide carbon emissions. In only a few years, however, emergent countries such as China, India and Brazil will join the ranks of the biggest greenhouse gas emitters. The per capita emissions of these countries, though, remain relatively low. For example, an Indian is responsible for the release of only around one tonne of carbon into the atmosphere each year, while a German accounts for around ten tonnes and a United States citizen for around twenty tonnes. While industrialized nations have been emitting large quantities of greenhouse gases for many decades, the developing countries have only in recent years begun to catch up. Developing countries therefore point out the historical responsibility of the industrialized countries and their own right to development.

gas emissions by around five percent in the period from 2008 to 2012, against the baseline of 1990 levels. Nevertheless, worldwide emissions of greenhouse gases continue to rise. "Central to a post-2012 agreement are therefore clear quantitative targets, the implementation of which must be regularly reviewed. The G8 summit in Heiligendamm has paved the way for a global agreement under the umbrella of the UN and including the USA. This must now be rigorously followed through at the next climate conference in Bali and concretized with quantitative reduction agreements", states Anke Herold.

The EU and Germany lead the way

Even before any negotiations have taken place, the EU has repeatedly declared that the global temperature rise should be limited to a maximum of two degrees. It has therefore undertaken to reduce its emissions by 20 percent by 2020. If other countries make the same commit-

ment, the EU's target will rise to 30 percent. Within the EU Germany is out in front, with a promise to cut emissions by 40 percent. Emissions trading is an important part of the scheme. "Compared with other instruments such as taxes or levies, this system has the best prospect of achieving international consensus on how greenhouse gases can be reduced worldwide", says Dr Felix Christian Matthes, coordinator of the Energy & Climate Protection Division in Berlin. "In designing the instrument, care must be taken to ensure that emitting of greenhouse gases comes with a price tag attached – in other words, those who pollute the atmosphere know that they will have to pay. This principle must override any allocation conflicts that arise within the system."

Various ways in which emergent and developing countries could be involved in climate protection are currently being discussed.

Ambitious climate protection goals

"A forward-looking climate policy must juggle with the conflict between the developing countries' legitimate interest in a rising standard of living, the continuingly high emissions level in the industrialized countries and the need for a far-reaching reduction in greenhouse gases worldwide", says Anke Herold, expert in international climate policy at the Öko-Institut. "That requires a binding agreement on ambitious climate protection goals and a clear political will." A first step was the Kyoto Protocol, which came into force in 2005 and has been ratified by more than 170 countries worldwide. In it the industrialized countries undertake to reduce greenhouse



Renewable energies are a cornerstone of the global reconfiguration of energy systems.

"This must be done systematically and with discrimination", says Anke Herold. For example, there could be a multi-level system, in which industrialized countries commit themselves to an absolute reduction in greenhouse gases, while transition countries are simply required to stabilize their emissions. Relative targets would apply to emergent countries; that is, the production of a particular quantity of goods must not involve emissions in excess of a stipulated quantity. Under this system the poorest countries in the world would not be required to make any commitment.

Getting emergent and developing countries on board

Another approach is based on per capita emissions. Countries with very low emissions would initially be permitted to increase their emissions, while developed countries with high per capita emissions would have to reduce their emissions significantly. Eventually everyone in the world would be permitted the same quantity of emissions. Total emissions would have to represent a drastic reduction in current levels. "Overall it is important to be able to measure and check whether commitments are being adhered to; this is not possible for all the proposals discussed", says Anke

Herold. "In particular, there is no feasible way of monitoring commitments to the implementation of so-called 'sustainable policies and measures' at international level."

Ambitious climate protection targets cannot be met in a hurry; some of them require significant financial investment made with the long-term perspective in mind. "Policies must create an ambitious framework to be adhered to in the long term, so that business and society can adapt to it", declares Dr Felix Christian Matthes. "This must include binding regulations and monitoring of compliance. It must be based on the 'polluter pays' principle – that is, technologies and consumers which emit large quantities of greenhouse gases must incur higher costs than those who cut back their emissions." More than 60 percent of global greenhouse gas emissions come from the energy sector and worldwide demand for energy is continuing to rise sharply. The principle causes are the increasing consumption of the industrialized nations, the strong economic growth of the emergent countries, and population growth. How can the associated increase in greenhouse gas emissions be countered?

Political will is essential

"To meet the challenges of climate change, we need a different energy system from the current one", says Christof Timpe, coordinator of the Öko-Institut's Energy & Climate Protection Division. "The principal key to this is greater energy efficiency worldwide, both at the end consumer and in the generation of electricity and heat. The next most important step is the comprehensive expansion of renewable energies. In using biomass, wind and hydropower we must, however, meet sustainability criteria."

Over against this, fossil fuels must be used in only very limited quantities if Germany is to continue to pioneer climate protection. The important issue is what type of power plants are built. Coal-fired power plants emit two to three times as much carbon as the most efficient gas-fired ones. If heat for homes and industry is generated at the

HISTORIC MILESTONES

2004

Genetic engineering

The Öko-Institut produces a detailed assessment and evaluation of Germany's new Genetic Engineering Act and calls for amendments.



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be organized in quite a different manner to today. The forthcoming round of investment in power plants in Germany must measure up to this picture of the future", says Christof Timpe.

Even if we begin immediately, the restructuring of energy systems worldwide will take decades. In the short term, the greatest potential for reducing greenhouse gas emissions lies in energy savings made by consumers. In Germany there is also considerable potential for savings in the energy consumption of residential buildings, in the electricity consumption of households, businesses and industry, and in the transport sector. High energy prices mean that a large part of this potential is even now achievable. A cornerstone of German climate protection strategy must therefore be the mobilization of this potential.

Consumers can contribute to the reductions that need to be made by being aware of the energy costs of heating and air-conditioning, by buying energy-saving electrical appliances and by making increased use of public transport. Quite apart from other benefits, people will save themselves money if they take energy efficiency into account whenever they make a new purchase, whether they choose an electrical appliance of efficiency class A++ or a particularly economical car. It is already possible, too, for everyone to use environmentally friendly sources of

» All over the world companies such as Henkel are increasingly judged by the contribution they make to sustainable development. Sustainable development is a global challenge and one that requires us to work together with all the different interest groups. Companies need regional solutions for specific needs. Think tanks such as the Öko-Institut play an important part in coming up with such solutions. We hope that the Öko-Institut will continue to contribute constructive ideas – for a future worth living.«



Dr Wolfgang Gawrisch,
Chief Technology Officer
(CTO) Research/Technology
and Chairman of the
Sustainability Council,
Henkel

2004

Emissions trading in aviation

The study shows that an emissions trading system in aviation is possible and worthwhile. It is important, however, to take all of the industry's global warming potential into account if the situation is to be appropriately managed.

same time as electricity, additional emissions are avoided. From a longer term perspective it is being debated whether carbon can be captured and stored underground.

In addition, the energy infrastructure plays an important part. "The energy structure innovations that can already be realized could represent a quantum leap in climate protection. These include an emphasis on generating power and heat close to the consumer, and the decentral coordination of the generation and consumption of energy. In particular, by 2030 the provision of electricity must

More efficiency plus renewable energies

Personal profile

Ralph O. Harthan is an energy and environmental engineer; since 2003 he has been a researcher in the Energy & Climate Protection Division in Berlin. His research focuses on issues of national and international climate policy.

2005

The Solar Ship building

With its move to the Sonnenschiff (Solar Ship) building the Öko-Institut demonstrates how the shift to sustainable energy can be achieved.

energy. By using "green" electricity every household can contribute to the reduction of carbon emissions and the expansion of renewable energies.

Climate change has already become reality. What we need now is a dedicated climate policy under the umbrella of the UN. The G8 summit in Heiligendamm helped us move towards this. With a bold political framework and the commitment of every individual the reversal of current trends can succeed. We already hold the plans in our hands.

Ralph O. Harthan

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Two scientists, two perspectives, one institute

One of them is an old hand. The 53-year-old **nuclear technology expert Michael Sailer** has been associated with the Öko-Institut almost from the start; he established the Nuclear Engineering & Facility Safety research division, of which he has been the coordinator since 1983. Since 1999 he has also been deputy director of the Institute. The other researcher was born in 1977, the year in which the Öko-Institut was founded; he represents the younger generation of dedicated scientists. The **geo-ecologist Dominik Seebach** has been a researcher in the Energy & Climate Protection Division since 2005. How do the two scientists view the last 30 years of environmental research? Katja Kukatz put three questions to them.



Michael Sailer has worked in the Öko-Institut's Darmstadt office for 27 years. He specializes in reactor safety and nuclear waste management. Sailer sits on a number of commissions and committees, including since 1999 the Reactor Safety Commission (RSK) of the German Environment Ministry and since 2005 the Euratom Scientific and Technical Committee.



Dominik Seebach worked initially at the Institute for Energy and Environmental Research (IFEU) in Heidelberg and the Joint Research Centre of the European Commission in Ispra, Italy. He moved to the Öko-Institut in 2005. He is based in Freiburg, where he specializes in issues of sustainable electricity generation and use, and issues of electricity disclosure.

30 years of the Öko-Institut, what does that amount to?

Michael Sailer: Much of what we have said and called for has been taken up. It is surely in part due to the Öko-Institut that environmental protection now has constitutional status, the environment has its own ministry and businesses are addressing environmental issues. Throughout those years our strength has lain in the fact that we have repeatedly and promptly drawn attention to the consequences of society's actions and flagged up the relevant environmental issues. Of course not all our efforts have resulted in success, but one cannot expect that to be the case. We continue to fulfil our role as a challenger of society, perhaps even more forcibly than we have done in the past.

Dominik Seebach: Seeing how the Institute has developed in the course of 30 years and the impact it has had makes me very much want to work here. It shows me that environmental research has a future that I can contribute to and thus achieve something. The Öko-Institut has moved important issues forward; in my view part of the reason for its success is that people can work here with an open mind, without having to see things through a dogmatic lens.

What is the position of the Institute today?

Michael Sailer: We have acquired a name for ourselves and have become an established part of society. We are now respected by all political parties and business, too, takes us seriously. Our voice carries ever greater weight internationally. We have achieved this while always maintaining our independence. That is a great success.

Dominik Seebach: For me the Öko-Institut is like an individual ecosystem which affects and is affected by society in many ways. We bring together an unusually large number of skills and have at our fingertips a broad range of knowledge that the public can access. With factual arguments we make the different stakeholders in society more aware of environmental and sustainability issues. Our approach is based on creativity rather than the imposition of blockades. This reflects our values, which we have formulated in the mission statement that we have drawn up together. I regard this role as very important.

And what will we be celebrating on the 50th birthday?

Michael Sailer: That we are still an important voice within society. It would be good if by then we could have fully developed opportunities for us to play a direct part in helping to plan for sustainable development on a global scale. Perhaps by then we shall be celebrating a worldwide reconfiguration of energy systems! That is perhaps a little visionary, but we must have vision!

Dominik Seebach: The greatest success would of course be if through our work at the Öko-Institut we had made ourselves superfluous ... but I am not quite that optimistic. Above all my wish is that we can help the present emergent and developing countries to have their piece of the affluence cake without this leading to global environmental catastrophe. We could certainly do a great deal by helping Germany and Europe to play a pioneering role in matters of sustainability. This includes, for example, the development of technologies that can be offered to countries concerned as a better alternative to increases in the use of fossil and nuclear fuels. It also includes the need for Germany and Europe to lead the way by setting a good example, and for us to stop living at other people's expense.

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Concrete

Dr Ulrike Eberle doesn't draw up plans to be put away in a drawer

Whether the issue is dying forests, anti-nuclear demonstrations or the sinking of the Rainbow Warrior – the environment has been a major concern of Ulrike Eberle since she was a schoolgirl. When she began to get involved with Greenpeace, she finally asked herself the question: "How are the environmental goals formulated



that I support?" She found the answer at the Öko-Institut, working as an intern in the Sustainable Products & Material Flows Division. That was 13 years ago. Now 38, the biologist and chemist with a doctorate in nutritional science is deputy coordinator and a specialist in sustainable consumption, with a particular focus on nutrition issues. She would not have got this far without the Institute's offer in 1999 of a teleworking job in Hamburg, which enabled her to combine family and professional commitments. "Otherwise I would have left", she says, but she is pleased that she stayed. "The issues that the Öko-Institut deals with are varied and always relevant. Our interdisciplinary approach enables us to develop innovative solutions. I appreciate that." Her wish for the future: to be involved more than in the past with implementation processes, in order to see that "step by step we are getting there". *kk*

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Creative

Franziska Wolff has no time for easy answers

"The political screws must now be tightened", says Franziska Wolff with reference to the current interest in ecological issues. But she has no patience with easy answers, because "the complexity of many problems requires individual and creative solutions". Now 34, she began to be interested in environmental



issues while studying politics at university, because of their "great relevance for the future". This was when she discovered the Öko-Institut, for which she has worked since 2001. She is employed in the Environmental Law & Governance Division, working on – among other things – the management of natural resources (biodiversity, agriculture, fishing) and on the potential conflicts between the environment and industry. Almost "incidentally" Franziska Wolff obtained a doctorate in agrobiodiversity, because "the cultural use of nature and people's impact on the natural resources needed for life" are matters close to her heart. At the Öko-Institut she is delighted to be able to develop, implement and model critical ideas. In this way she hopes to contribute to the awareness "that less but better consumption is not a loss but simply an improvement in the quality of life". *sh*

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Concentrated

Beate Kallenbach-Herbert forges solutions that work

"I started out quite conventionally as a mechanical engineer at Manesmann", says Beate Kallenbach-Herbert. "But working there I missed the links with the environment and politics and I wanted to be closer to the decisions." So in 1998 she moved to the Öko-Institut. It was a deliberate choice to join an organization that combined



ecology, technology and politics within an appropriate framework. At 40 she is now a specialist in issues of nuclear energy, deputy coordinator of the Nuclear Engineering & Facility Safety Division; since 2003 she has been a member of the Committee on Fuel Supply and Waste Management of the German environment ministry's Reactor Safety Commission. "I should like to help find the safest possible solutions for the disposal of radioactive waste – solutions that are acceptable to people affected by the issue", she says. As a researcher she focuses on plans that are implementation-oriented, and she does that without any "mechanical engineer's blinkers". Her wish is therefore "that we should get even better at networking the outstanding skills that we have at the Institute across all divisions, in order to look at the issues that we deal with from new and enlarged points of view and investigative perspectives." *kk*

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30 years of the Öko-Institut – that is 30 years of pioneering work in applied environmental research and consultancy. The Institute's work has paved the way for sustainable change – in environmental research, politics, and among many individuals. On a personal note: my career ideas at the end of the 1980s were strongly influenced by the model of the committed scientists who worked for the Öko-Institut. And so I look forward to the continuation of their success story – happy birthday!«



Thomas Korbun,
Scientific Director
at the Institute for
Ecological Economic
Research



30 years of consistently taking social responsibility seriously, 30 years of working with vigour at the interface of science and politics, 30 years of highlighting practical pathways for a sustainable society – from a political initiative to a prestigious institution. Happy birthday! My wish is that the Öko-Institut will continue to be a reliable partner in social-ecological research, a source of good ideas with sustainable impact.«



Dr Thomas Jahn,
head of the Institute
for Social-Ecological
Research (ISOE)

Green Goal for South Africa

The 2006 Football World Cup in Germany was a complete success – and not only from a sporting perspective. In terms of the Green Goal environmental action plan drawn up by the Öko-Institut the event was also a winner. "The scheme will therefore be continued at the next Football World Cup in South Africa in 2010", announces Christian Hochfeld,



Planned: An environmental action plan for the Football World Cup in South Africa.

deputy director of the Öko-Institut. Even at this early stage the South African government has already expressed interest in continuing to develop Green Goal.

The South African environment minister has therefore invited a German delegation of representatives of the Öko-Institut to go to South Africa to help work on the plan. "The Öko-Institut will be happy to support the South African government and the organizers of the Football World Cup in their own Green Goal", says Hochfeld. Another "winner" is on the horizon: At the 2011 Rugby World Cup in New Zealand the Öko-Institut will also advise the government on the drawing up of a comprehensive sustainability plan. *skn*

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EU Environmental Data Centre

What happens if the European Commission wants to optimize the ecological impact of particular products and therefore needs data on their environmental impacts and the potential for reducing those impacts? Up to now the body has commissioned and evaluated special studies or turned to other EU institutions for the information. There has been no cen-



The EU wants to make it easier to access environmental data.

tral contact point at which this information is available. "But that is about to change", says Stéphanie Zangl from the Öko-Institut.

On behalf of Eurostat, the Statistical Office of the European Communities, she is investigating what form such a contact point could take. The plan is to set up ten data centres. Eurostat has been nominated for the setting up of these centres in the fields of natural resources, waste and products. "If the setting up of the data centres is a success, the EU Commission will have a better data basis on which to develop its environmental goals; it will thus be able to address priority areas more precisely", says Zangl. *skn/kk*

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Exceptions for nuclear power plants?

The nuclear phase-out in Germany is now a done deal. The amended German Atomic Energy Act therefore lays down how much electricity can still be generated by each nuclear power plant. These electricity quantities can be transferred from old to new reactors. That makes sense, since it enables older nuclear power plants to be shut down sooner.

of electricity quantities from the Mülheim-Kärlich nuclear power plant has been applied for. The Atomic Energy Act names the power plants to which the electricity quantities from the Mülheim-Kärlich nuclear power plant can be transferred. The Biblis A reactor is not among them. This part of the RWE application has already been rejected by the Federal Environ-



© Werner Hilpert - eco3a

The transfer of residual electricity quantities can extend the operational life of individual nuclear power plants.

The problem is that in exceptional cases the reverse can occur: electricity quantities can be transferred from new to old reactors, provided that the German Environment Ministry consents and has the approval of the Chancellor's office and the Ministry of Economic Affairs. The transfer options enable economically favourable residual operating times to be agreed for the individual nuclear power plants. However, this must not be at the expense of safety.

RWE Power AG now wants to extend the operational life of Biblis A, the oldest reactor in Germany, through the transfer of residual electricity quantities. They claim that the continuing operation of Biblis A is desirable from an economic point of view and would be in the public interest. The transfer

ment Ministry. The transfer of electricity quantities from the Emsland nuclear power plant, the second youngest nuclear power plant in Germany, has also been applied for. "This part of the application gives rise to the sensitive question of how this precedent-setting case is to be decided and which relevant safety aspects will be regarded as crucial", says nuclear energy expert Stephan Kurth of the Öko-Institut.

The Federal Environment Ministry has now commissioned a comparative safety study of the two nuclear power plants Biblis A and Emsland; the Öko-Institut is involved in this, having been subcontracted by GRS, the central German advisory body for reactor safety. *sk*

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2005

Launch of EcoTopTen

HISTORIC MILESTONES

Through its EcoTopTen consumer information campaign the Öko-Institut provides regular product recommendations.



Thirty years ago opposition to the Wyhl nuclear power station provided the impetus for the founding of the Öko-Institut. It was an expression of a well-founded distrust of the nuclear lobby and it paved the way for a new field of study that was critical of the nuclear approach.

Freiburg is fortunate to have the Öko-Institut. It acts as an expert adviser to local politicians and contributes important new ideas. In the current debate on climate protection the Freiburg action plan bears the hallmarks of the Öko-Institut's influence.

I offer my thanks for this collaboration and wish the Institute every success in its continuing work!«



Dr Dieter Salomon,
Mayor of the city of
Freiburg

2006

Green Goal

HISTORIC MILESTONES

The world's first environmental blueprint for a Football World Cup is successfully implemented. Scientists from the Öko-Institut drew up the plan.

What would life be like if ...

... the Öko-Institut had never been founded



Dr Rainer Griesshammer, 53, deputy director, has worked for 27 years at the Institute in the Sustainable Products & Material Flows Division. He has a doctorate in chemistry and specializes in issues of sustainable consumption and product innovations. Since 2002 Griesshammer has been a member of the Advisory Council on Consumer and Nutrition Policy which reports to the Ministry of Consumer Protection, Food and Agriculture (BMVEL), and since 2003 a deputy member of the committee of the consumer organization Stiftung Warentest. In 2004 the German cabinet appointed him to the Advisory Council on Global Change (WBGU).

In 1980 the Öko-Institut was already proclaiming its vision of the **global reconfiguration of energy systems** (Energiewende) – a vision which is still defining the course of energy policy – and at the same time the Institute worked doggedly at implementing the vision, for example with local-authority energy action plans, Energiewende committees, energy contracting arrangements, energy policy scenarios for many of the German states and the GEMIS inventorization software, which, by the way, is free, which was typical of the Öko-Institut's approach, because it has pursued not only practical projects but also the **development of methodology**, such as life-cycle assessment or, four years before the Rio Earth Summit, Product Sustainability Assessment (PROSA) and its precursor, Produktlinienanalyse with their integrated evaluation of ecological, economic and social aspects, and it was well placed to do this because the Öko-Institut is the only large environmental institute that has enormous expertise not only in the classical environmental issues and in professional policy consultancy but also in **environmental law, engineering and risk assessment** – or are you aware of any other institute that conducts risk studies on nuclear power plants, chemical facilities, chemicals, genetic engineering, mobile phones, and nanotechnology while also being represented on national commissions such as the German Commissions on Reactor Safety (RSK) and Process Safety – while at the same time it has always been available to provide advice to local residents, for example in connection with planning applications, to companies e.g. in connection with the development of a "Green TV", and to the European Commission, for instance in connection with the RoHS Directive, and so it has gradually grown from being an adviser of environmental associations to being an **adviser of environmental players in the whole of society**, taking on board many new issues such as the synoptic survey of "green investments", the study of environmental protection in cyberspace and the Green Goal environmental action plan for the 2006 Football World Cup – which was so successful that it is going to be used for the next Football World Cup in South Africa – which can only happen if, like the Öko-Institut, one has a long history of **working at international level** and, as well as being involved in many EU projects, one also advises foreign governments on biodiversity or helps CIS states to develop environmental management capacity or goes to China to analyse the not exactly

ideal methods of computer production there, all of which demonstrates that the Öko-Institut has been conducting trans-disciplinary research for 30 years – that is, for about the same length of time that it has taken university academics to define what that is – and it also demonstrates that throughout that time the Öko-Institut has kept its feet on the ground and has maintained the **balance between politics, cooperation with companies and advice to groups and individuals**, for example in such forms

as the EcoTopTen product initiative or the "Solar Ship" building, which is a symbol of the reconfiguration of energy systems, which the Öko-Institut was proclaiming as far back as 1980 and that brings me back to the initial question of what life would be like if the Öko-Institut had never been founded and I can answer that very briefly – one would have then had to found it!

2007

30th anniversary of the Öko-Institut

The Öko-Institut now employs more than 100 staff at its three sites, working in five research divisions. The Institute is a non-profit-making association with some 3,000 members.

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The new annual report is out!

The Öko-Institut's new annual report has now been published; it provides an overview of the research projects we worked on in 2006 and our current fields of activity and research. The report also includes information about the acquisition of the fifth floor, the "sun piece", of the "Solar Ship" building in Freiburg. Two new sections are the chapters "30 years of the Öko-Institut" and "Land of Ideas 2007". Here you can read about the anniversary conference and celebration and the Öko-Institut's receipt of the "Landmark 2007" award in Freiburg. Members of the Institute's staff look forward to the future with articles on issues such as the global reconfiguration of energy systems and environmental law. The report can be ordered free of charge from redaktion@oeko.de. *skn*

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A date for your diary

RARE Conference

Under the management of the Öko-Institut, scientists from the project "Rhetoric and Realities: Analysing Corporate Social Responsibility in Europe" (RARE) have been investigating the relevance of corporate social and environmental responsibility to sustainable development. The results of the project will be presented and discussed at a conference taking place on Wednesday, 27 June 2007, 10 a.m. – 6 p.m., at the Fondation Universitaire, Rue d'Egmont 11, 1000 Brussels. There is no charge for attendance. To register contact Heike Unruh, telephone +49-6151-8191-31. Further information about the ARE project is available at www.rare-eu.net. *skn*

"Landmark 2007"

The Öko-Institut has won a prize in the national competition "365 Landmarks in the Land of Ideas", which was organized by the German government and partners from business and industry.

- At a special evening event we shall be presenting a selection of our creative research ideas. There will then be an opportunity to talk with Öko-Institut staff and discuss current issues. Guided tours of the ecological building will also be available.
- Frank Holstein of Deutsche Bank AG will officially present the prize and explain why we were selected by the jury.



Presentation evening

"Landmark 2007"

Friday, 19 October 2007, from 7 p.m.

Öko-Institut e.V.

Sonnenschiff, Merzhauser Strasse 173

79100 Freiburg, Germany

Admission free

The programme, including registration details and other information, will be available shortly at www.oeko.de. *cr*

Reading resource

Diversity worth preserving



"Who misses the aurochs?", the critical reader might well ask. Species come and go, but what effect does their extinction or survival have on their ecosystem? In his introductory survey Bruno Streit explains how biological diversity works.

The author is professor of ecology, evolution and diversity at the university of Frankfurt am Main and he describes the current state of research in easy, catchy language. He switches deftly between scientific explanations and illustrative examples of the most important ecosystems, while never losing sight of the issue of relevance to human af-

fairs. By showing how cultures and technologies are ultimately dependent on biological diversity he convincingly demonstrates why biodiversity is worth protecting. One reason is that because of climate change plants and animals need to be good at adapting; genetic impoverishment weakens this ability. He therefore describes the most important agreements and measures relating to a sustainable biodiversity strategy and outlines the opportunities, problems and tasks that face us. A readable introduction for beginners and experts. *sh*

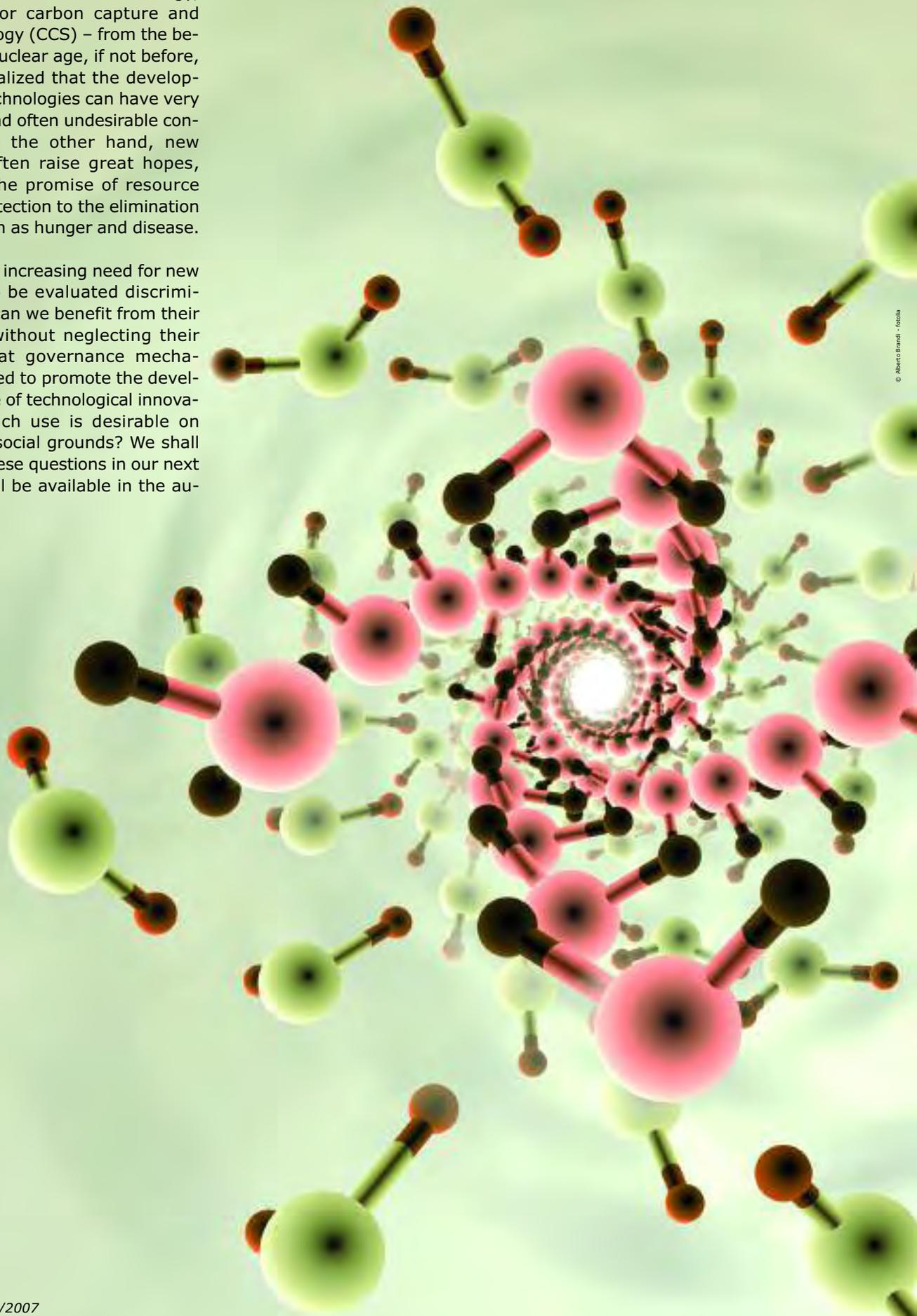
Bruno Streit: *Was ist Biodiversität? (What is biodiversity?)*, February 2007, C.H. Beck Verlag, 125 pages, 7.90 Euro. ISBN 978-3406536175

examples of the most important ecosystems, while never losing sight of the issue of relevance to human af-

New technologies: Use opportunities, reduce risks

Whether the issue is nanotechnology, biotechnology or carbon capture and storage technology (CCS) – from the beginning of the nuclear age, if not before, people have realized that the development of new technologies can have very wide-ranging and often undesirable consequences. On the other hand, new technologies often raise great hopes, ranging from the promise of resource and climate protection to the elimination of scourges such as hunger and disease.

Why is there an increasing need for new technologies to be evaluated discriminatingly? How can we benefit from their opportunities without neglecting their risks? And what governance mechanisms are needed to promote the development and use of technological innovations where such use is desirable on ecological and social grounds? We shall be looking at these questions in our next issue, which will be available in the autumn.



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