



## Climate Change: Can it be stopped?

After more than a hundred years of pumping energy exhaust into the atmosphere, human activity has caused a profound change in the planet's climate, the effects of which we are only now learning about.

Already, the average temperature of the earth's surface has risen by 0.6°C since the late 1800s according to the Intergovernmental Panel on Climate Change (IPCC) and this warm-up has been accompanied by a thinning and retreat of Arctic sea ice, melting snow in the Alps and on Kilimanjaro, intensifying storms, changing weather patterns and a rise in the incidence of dengue fever and malaria in developing countries.

The issue of climate change is on the comprehensive agenda of the UN Commission on Sustainable Development at its session this year that will take place in New York from 1-12 May. The Commission is working to develop a common global approach to a number of inextricably linked issues that include energy for sustainable development, industrial development, atmosphere and air pollution and climate change. Framing the debate on climate change is a growing realization that climate change is not predominantly

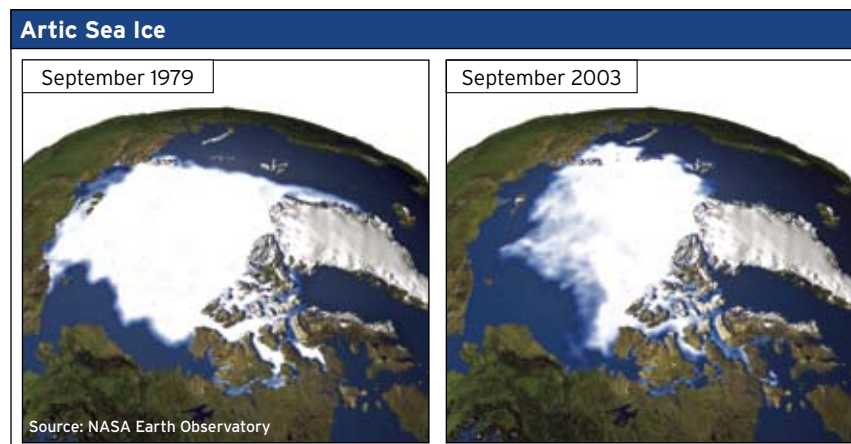
an environmental issue, but is also beginning to impact directly on people's livelihoods and welfare. Climate change must be understood – and addressed – in the context of sustainable development.

"Action on climate change is particularly urgent," United Nations Secretary-General Kofi Annan said in February as he received the Zayed International Prize for the Environment in Dubai, United Arab Emirates. "Scientists largely agree that without major policy changes in the next few years, we face a future filled with danger."

"Let us be clear what is at stake. The carbon-based economy is like an uncontrolled experiment with the global climate, with serious risks for ecosystems, business and human health. We must cut emissions. But we must also help the poorest of the poor and the vulnerable adapt to the climate change that is already under way."

While the very subject of climate change had been very controversial, with many contending that the science surrounding climate change was uncertain, there is now almost full agreement in the scientific community that the observed warming is in part due to human activity.

Although climate change cannot be linked to specific weather events, many scientists say that climate change is playing a role in droughts and floods that are occurring around the world. For example, two recent studies conclude that there has been an increase in hurricane intensity,



partially the consequence of climate change. Such developments have major implications – the insurer Munich Re reports that weather-related damages over the past 25 years have totaled about \$1.5 trillion. The most recent assessment report of the IPCC, issued in 2001, states that arid and semi-arid land areas in Africa, the Middle East and Southern Europe are likely to become even more water stressed. Rising temperatures and reduced water availability are likely to negatively impact agricultural production in several areas, particularly Africa. The incidence of vector-borne diseases, such as malaria, would increase in tropical countries, while coastal erosion and rising sea levels would threaten millions of people living in low-lying areas. Finally, climate change is predicted to lead to major changes in the structure and functioning of critical ecological systems, particularly coral reefs and forests.

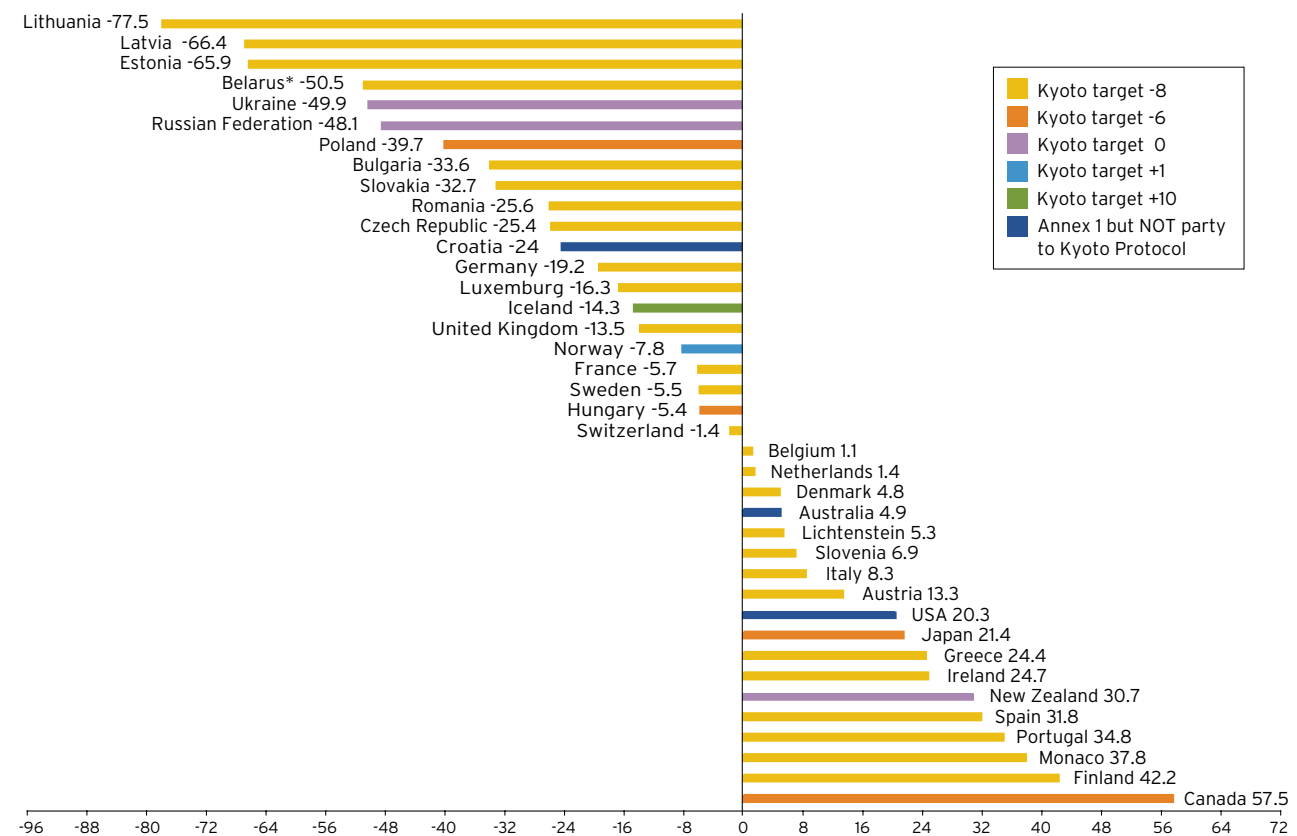
## The Kyoto Protocol

An important first step to reduce the GHG emissions has been the adoption of the Kyoto Protocol to the United Nations Framework Convention on Climate Change. The Protocol set quantified targets for the most industrialized countries, committing them to reduce their 1990-level greenhouse gas emissions by five percent during the period from 2008-2012. The Protocol, ratified by 162 countries – including 35 of the developed countries that must reach definite targets – entered into force on 16 February 2005.

“Now that the Kyoto Protocol has entered into force, the world has a dynamic tool for stabilizing and reducing emissions and supporting climate-friendly projects in developing countries,” the Secretary-General said.

On the first anniversary of the Protocol, Richard Kinley, the acting head of the United Nations Framework Convention on Climate Change, said that as a whole,

Change in GHG with LULUCF (%), 1990-2003



\*Belarus' Kyoto target is -5%

Note: The colours in the legend represent a country's Kyoto Protocol target, while the numbers beside each country indicate the reported % change in greenhouse gas emissions with LULUCF from 1990 to 2003. Hence for example, Lithuania, which has a Kyoto target of -8%, has as of 2003 more than met the target at -77.5% LULUCF: land use, land use change and forests; EIT: economies in transition.

Source: UNDESA-DSD based on UNFCCC, 2005.

the industrialized countries were on their way to emission levels at least 3.5 percent below 1990 levels, during the first commitment period.

Australia and the United States, which have both seen their greenhouse gas emissions rise between 1990 and 2003, by 4.9 and 20.3 percent respectively, have not ratified the Kyoto Protocol. But both remain engaged in negotiations on long-term global cooperation.

### Carbon as a commodity

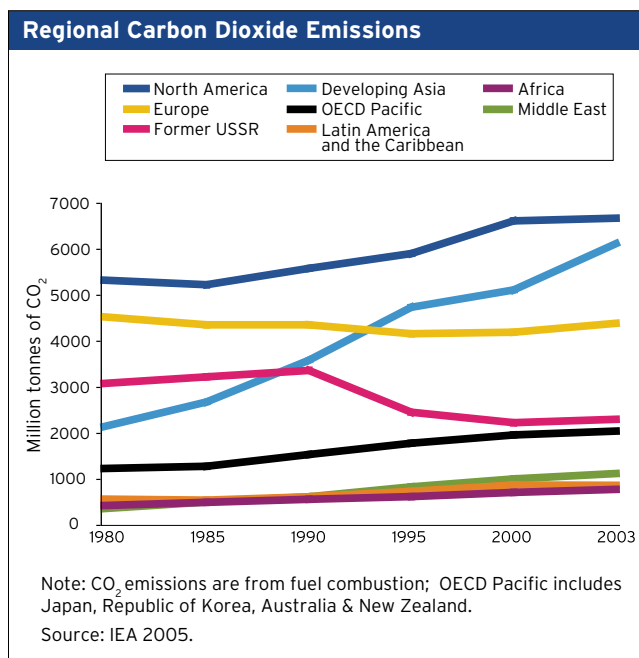
One of the major innovations of the Kyoto Protocol has been to establish a market for trading carbon credits – greenhouse gas emitters can offset their emissions by funding environmentally sound projects in developing countries. In the year since Kyoto took effect, the Clean Development Mechanism has gained momentum. There are now 149 registered projects underway, including small hydro power stations, land-fill gas capture and electricity production from wind farms and biomass. Another 500 projects are in the pipeline.

“The currently known project potential of the clean development mechanism is estimated to generate over 800 million tons of emission reductions by the end of 2012, the first commitment period of the Kyoto Protocol. This is almost as much as the annual greenhouse gas emissions of Canada,” said Christine Zumkeller, Coordinator of the Project-based Mechanisms Programme.

“This development has to be seen as a central and potentially radical contributor to sustainable development,” Kinley said. “The innovative market-based mechanisms of the Kyoto Protocol allow developed countries to fulfill their emission commitments abroad by investing in sustainable development in developing countries.”

In addition to the Clean Development Mechanism, the Global Environment Facility has approved 120 full-scale climate change mitigation projects since 1991 which are expected to avoid the emissions of 1.2 billion tons of carbon dioxide.

Not all industrialized countries, however, have adopted the Kyoto Protocol. The United States, which leads the world in greenhouse gas emissions, has refused to join, contending that the Protocol would negatively impact its economy, and furthermore, because some



of the largest and growing developing countries are exempt from any targets.

United States President Bush said, “Kyoto is, in many ways, unrealistic. Many countries cannot meet their Kyoto targets. The targets themselves were arbitrary and not based upon science. For America, complying with those mandates would have a negative economic impact, with layoffs of workers and price increases for consumers. And when you evaluate all these flaws, most reasonable people will understand that it’s not sound public policy.”

Still, the US, which emits 20 percent of the world’s greenhouse gases, says it is committed to reducing its emissions by 18 percent by 2012, largely through new technologies and voluntary reductions. “Emerging technologies such as hydrogen-powered vehicles, electricity from renewable energy sources and clean coal technology,” President Bush said in a meeting with European leaders in 2005, “will encourage economic growth that is environmentally responsible.”

### Big Hopes for Clean Technologies

Many countries have taken innovative policy steps to reduce greenhouse gas emissions. In the United Kingdom, companies that meet emissions target receive an 80 percent discount on a Climate Change Levy, an energy tax. Canada has set firm reduction targets for its largest emitters, and in the US 30 states have developed greenhouse gas action plans. The

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## ENERGY PARTNERSHIPS FOR PROGRESS

### GLOBAL VILLAGE ENERGY PARTNERSHIP (GVEP)

GVEP brings together developing and industrialized country governments, public and private organizations, multilateral institutions, consumers and others in an effort to ensure access to modern energy services by the poor. GVEP is currently concentrating on 26 countries in Africa, Latin America, and Asia.

Some of its accomplishments to date:

- » GVEP has worked actively with the Brazilian Government on the Luz Para Todos Programme, a major productive-use based rural electrification programme seeking to provide energy services to 12 million people by 2008.
- » GVEP has provided support to Senegal to reorient its rural electrification programme towards productive uses and Senegal has secured some \$4.5 million for implementation.
- » National energy for poverty reduction action plans have been completed in Cameroon and Guatemala.

### RENEWABLE ENERGY AND ENERGY EFFICIENCY PARTNERSHIP (REEEP)

REEP structures policy initiatives for clean energy markets and facilitates financing for sustainable energy projects. The partnership has supported about 58 projects with a total investment of over \$5 million from REEEP leveraging \$32 million through co-financing from the projects. Recent progress included:

- » REEEP is working to improve Renewable Energy and Energy Efficient Systems (REES) targets in Mexico, China and India
- » Expansion of networks for financiers has focused on Southern Africa and SE Asia. Regulator networks have been established in Southern Africa and also in Central Europe

European Union has established a greenhouse gas emissions trading scheme, New Zealand has a carbon tax, and China has legislated that 10 percent of its total power in 2020 should come from renewable energy sources.

But the biggest hope for reducing greenhouse gas emissions lies in deploying new and cleaner technologies. Moving the promising technologies that exist from the laboratory into the market requires the right mix of policies and incentives. Interest in renewable energies and energy efficiency has grown, spurred in large part by the rise in oil prices. But there is also a surge in efforts to make plentiful fossil fuels, such as coal, cleaner. The need is indeed pressing – countries with energy-hungry economies and large coal supplies, such as India and China, are slated to build hundreds of coal-fired power plants in the coming decade. Many of these clean technologies can help reduce greenhouse gas emissions and air pollution that, according to the World Health Organization, reduces life spans by about two years.

Many businesses have also joined efforts to reduce greenhouse gas emissions. BP Group Chief Executive Lord Browne said his company already met their goal of reducing emissions by 10 per cent below the 1990 base-line. "We met the target – ahead of schedule – and we found that rather than costing us money, the process added value – over \$600 million of value – because most of the reductions were achieved by improving efficiency, changing business practices and eliminating routine flaring."

And Dupont Chairman and CEO, Chad Holliday, said his company took a number of actions to reduce emissions "because they are the right things to do," but added that in the process, the company achieved more than \$2 billion in avoided costs due to energy conservation activities – "and that was before the significant energy price increases of the last few years."

The Commission on Sustainable Development is the United Nations high-level forum responsible for ensuring follow up to the World Summit on Sustainable Development, and monitoring progress towards achieving internationally-agreed development goals.

For more information on CSD-14, including the full press kit and schedule of the session visit: [www.un.org/esa/sustdev/csd/csd14/csd14.htm](http://www.un.org/esa/sustdev/csd/csd14/csd14.htm)

All graphs are from "Trends in Sustainable Development," published by the UN Department for Economic and Social Affairs. The full report can be found at <http://www.un.org/esa/sustdev/publications/trends2006/index.htm>.

CSD-14 will be webcast live at [www.un.org/webcast](http://www.un.org/webcast)

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For media queries regarding the CSD, please contact:

Dan Shepard  
UN Department of Public Information  
Development Section  
Tel: +1 212 963 9495  
Fax: +1 212 963 1186  
Email: [mediainfo@un.org](mailto:mediainfo@un.org)