brief

A BRIEFING FOR MINISTERS

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The COP 9 web site, **unfccc.int/cop9**, provides ready access to conference information and documents, and includes live and on-demand Internet webcasts of official meetings and key events.

A BRIEFING FOR MINISTERS

At the time of COP 9

This briefing seeks to provide ministers with an overview of the current state-of-play on selected climate change issues.

As implementation of the United Nations Framework Convention on Climate Change (UNFCCC) advances, and Parties prepare for entry into force of the Kyoto Protocol, a remarkable range of actions has been set in motion and real progress is being achieved. Private sector corporations, local authorities, international institutions, non-governmental organizations and others are working in partnership with Parties on a host of initiatives.

- The **United Nations Framework Convention on Climate Change (UNFCCC)**, agreed in 1992, has now been ratified by 188 countries, demonstrating a near universal recognition of its ultimate objective by the nations of the world.

- The **Kyoto Protocol**, with its specific targets and timetables, has to date been ratified by 119 countries but has not yet entered into force. It contains a first commitment period of 2008–2012 and, to achieve further reductions, envisions subsequent commitment periods. The Protocol provides a critical first step towards early action, as well as a market signal and a technological incentive.

- The **Marrakesh Accords** comprise a number of agreed implementation modalities–the "rulebook" for the Protocol. These have been instrumental in promoting the "ratifiability" of the Kyoto Protocol for many Parties. Many decisions agreed in Marrakesh, Bonn and New Delhi are now ready for adoption by the first meeting of the Protocol's governing body, the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (COP/MOP).

GREENHOUSE GAS EMISSIONS:
Trends, policy actions, projections

- **Greenhouse gas emissions in developed countries declined by about seven per cent since 1990, primarily due to a forty percent decline in emissions from countries in economic transition.** Developed countries jointly met the Climate Change Convention's near-term aim of bringing overall emissions down to or below 1990 levels by 2000.

- **Greenhouse gas emissions in the highly industrialized countries increased by about 7.5% during that period (see Figure 1).** The European Community's total emissions decreased by 2.0% from 1990 to 2001, with individual member States varying between a decrease of 55.6% and an increase of 36.4 %. Emissions increased in most other highly industrialized countries, such as Australia (21%), Canada (18.5%), Japan (9.5%), New Zealand (17.2 %) and the United States (13%).

- **During the 1990s, emissions from Annex I Parties as a whole increased in almost major economic sectors – including energy, transport, industry and agriculture.** The exception was waste management, where emissions declined.

- **Governments are adopting a more comprehensive set of policies and measures than they did several years ago for mitigating their emissions**. Examples include emissions trading, carbon taxes and green certificate trading. More and more measures specifically target climate change. The greatest number of policies and measures are being applied to the energy sector.

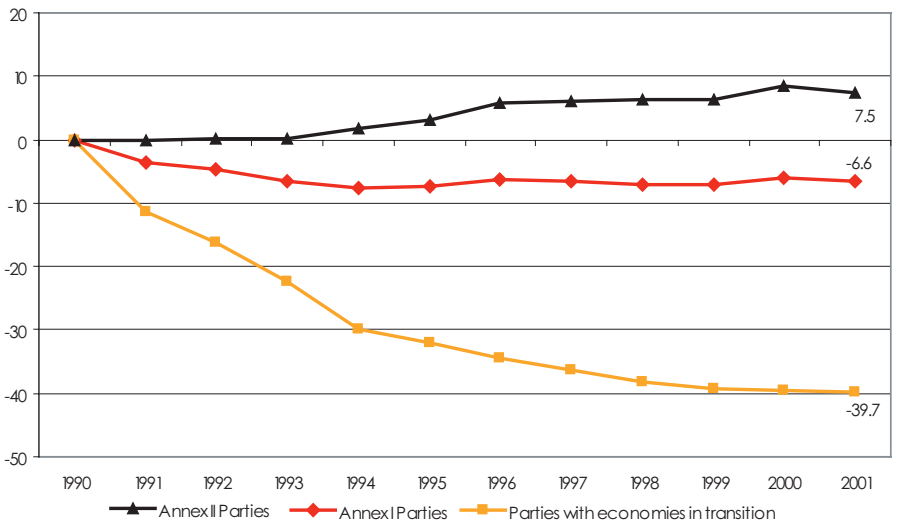


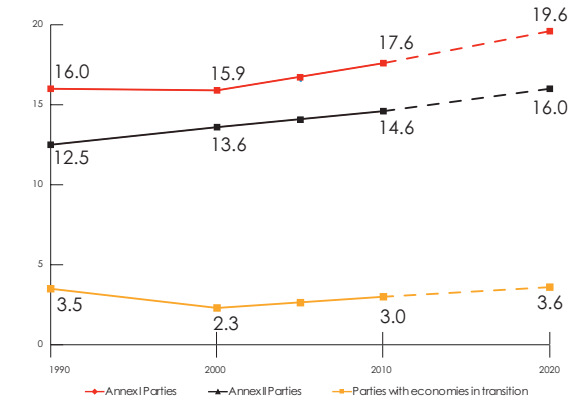
Figure 1. Trends in aggregate greenhouse gas emissions, 1990–2001

- **While national governments continue to play a major role in setting the overall climate response strategy, local and regional governments are becoming more involved.** There is also a greater emphasis on consulting and collaborating with key stakeholders and civil society.

- **With a very few exceptions, governments in their national communications underlined the importance of the Kyoto Protocol in shaping their domestic climate policies.**

- **Greenhouse gas emissions from the developed countries may increase by 10% over the 1990 levels by 2010, based on information about currently planned measures in national communications (see Figure 2).** The combined emissions of Europe, Japan, the United States and other highly industrialized countries could grow by 8% from 2000 to 2010 (to about 17% over the 1990 levels). Emissions from countries with economies in transition are also starting to increase as their economies recover.

Information from developing countries continues to be submitted. As of November 2003, 106 non-Annex I Parties have submitted their initial national communications. Several have also produced addenda documenting their efforts in climate change and some have detailed national efforts to mitigate climate change in action plans. Revised guidelines for national communications decided at COP 8 are expected to result in more detailed information being provided by non-Annex I Parties. As of June 2003, the Global Environment Facility (GEF) provided support to 133 non-Annex I countries for preparing their initial national communications and additional financing for capacity assessment totalled US$ 31.38 million. The GEF is currently working on new operational procedures for the expedited funding of national communications.



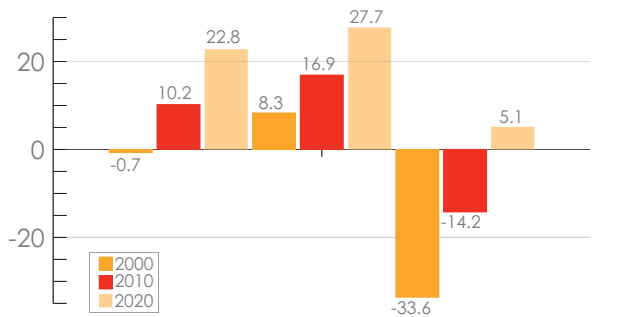


Figure 2. Projections of greenhouse gas emissions for the "with measures" scenario

Note: the projection for 2000 differs a little from the inventory data because of the slightly different data used by some Parties in their projection models.

THE KYOTO PROTOCOL MECHANISMS

The clean development mechanism takes shape

- **The clean development mechanism (CDM)** is an innovative financial mechanism that promotes sustainable development in developing countries by channelling private-sector investment into emissions reduction projects, while offering industrialized governments credits against their Kyoto Protocol targets.

- **In only two years, the CDM has become a reality.** The Executive Board, supported by technical panels, has completed the systems for its registration of projects and the verification of emission reductions. Entities are now completing the accreditation process and submitting projects for registration. Since the launch of the accreditation process, 17 applications have been received, and 20 Parties have already identified their designated national authorities that will endorse projects.

- **The first CDM projects are expected early next year, with the first credits to be generated soon afterwards.** The Executive Board has to date approved six methodologies. A project that properly applies an approved methodology and meets the other CDM requirements could then proceed with validation and registration. Promising areas for such projects identified so far include landfill gas capture and flaring, incineration of hydrofluorocarbon waste streams, fuel switching, and biopower from rice husks.

- **The development of baselines and monitoring methodologies for CDM projects is well underway**, with 35 proposals for methodologies currently on the table.

- **Private sector companies are exploring the opportunities that the climate change–development link offers.** Over the past year, initiatives and partnerships have formed in several regions to devise financial engineering packages for projects addressing climate change and sustainable development.

- **Action is also under way to build capacity in developing countries and support the establishment of emission reduction projects that are consistent with national sustainable development goals, in particular in the energy sector.** United Nations agencies and national governments are working together to develop national capacities to analyse the technical and financial merits of projects and negotiating possible finance agreements with Annex I Parties.

The CDM: power for the people, Tuesday, 9 December 2003, 18:00–20:00

During COP 9, a high-level side event will explore the role of the CDM in mobilizing resources for supplying clean and affordable power in developing countries. Investment strategies, market perspectives, project portfolios and implementation modalities will be discussed by senior industry executives from the power and related sectors, ministers and senior government officials, and representatives of the CDM Executive Board.

EMISSIONS TRADING
The market develops

- **Emissions trading initiatives are gathering momentum.** Implementation now lies just over a year away for the European emissions trading scheme, as well as for the estimated four to five thousand installations expected to cover almost half of the region's CO2 emissions in 2010. With the involvement of at least 25 countries, European emissions trading will be a key driver for trading programmes all over the world. Canada, Japan, New Zealand, Norway and Switzerland are also considering trading instruments. In the United States, the original home of emissions trading, many initiatives are being taken, ranging from state-level initiatives to industry-led initiatives such as the Chicago Climate Exchange.

- **Emissions trading frameworks under the Protocol are developing rapidly.** Many governments are setting up their registries for holding and transferring credits as early as 2005. Work is under way in the secretariat to establish the transaction log for monitoring the overall integrity of trading, by the end of next year, and to specify the standards for electronically exchanging data which are required to enact transactions.

- **Emissions trading under Article 17 of the Kyoto Protocol provides an overarching framework for linking these initiatives in Kyoto Parties.** Under the Protocol, the new government-led emissions trading schemes will help consolidate markets and contribute to their maturity and efficiency.

- **The quality and reliability of national greenhouse gas inventories have improved substantially.** The inventories constitute an important element to support emission trading. The estimation and reporting of corporate greenhouse gas emissions, also key for emission trading schemes at the national level, have also developed substantially thanks to the Greenhouse Gas Protocol, jointly launched by the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI), and other initiatives.

- **Prices are likely to rise over time, as markets mature and the need to comply with emissions targets draws nearer.** At present, indications for prices for project credits show a range of up to US$ 7 per tonne. Prices of forward EU allowances on the precursor market to the EU emissions trading scheme have been firming of late, with quoted prices approximately doubling over the second half of 2003 to around € 12 per tonne.

CLIMATE SCIENCE

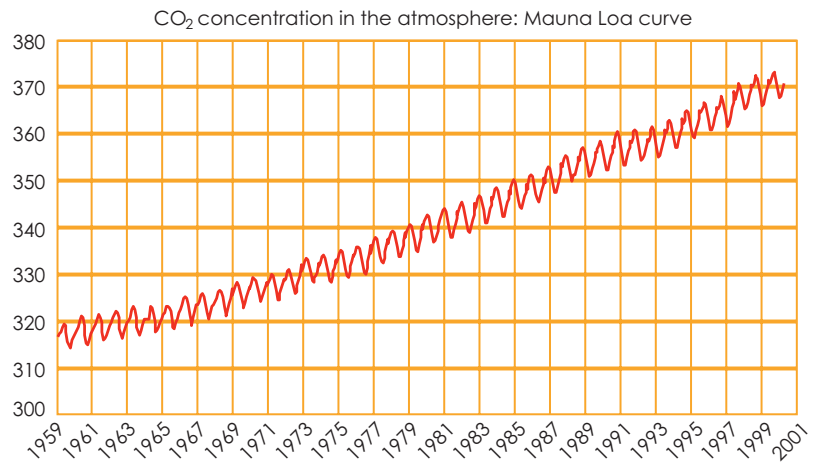
- **The Intergovernmental Panel on Climate Change (IPCC) Third Assessment Report (TAR) stated "new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities."** Although uncertainties in the process of projecting future trends create wide margins for error in the estimates, the IPCC predicted a rise of 1.4 to 5.8 °C in global mean surface temperature over the next 100 years. The impact of warming, even at the lower end of this range, is likely to be dramatic. The impacts on humans will be unavoidable and – in places – extreme.

- **The IPCC TAR also states that "the global average surface temperature has increased over the 20th century by about 0.6 °C".** This value is approximately 0.15 °C larger than that estimated by the Second Assessment Report for the period up to 1994.

- **According to records maintained by members of the World Meteorological Organization (WMO), the warmest year since the global instrumental record began in the 1860s was 1998, with 2002 being the second warmest.** Eleven of the 13 warmest years on record have occurred since 1990. The year 2003 could possibly rank alongside the three warmest years on record.

- **New attention and resources are needed to improve the climate observing systems.** UNFCCC Parties have agreed on actions to address the quality of data from climate observing systems, particularly in developing countries. Twenty-five Annex I Parties submitted their national reports on the Global Climate Observing System (GCOS) and regional action plans are being prepared. In their national communications, non-Annex I Parties have also reported on their contribution to global and regional oceanographic and terrestrial climate change monitoring and systematic observation networks.

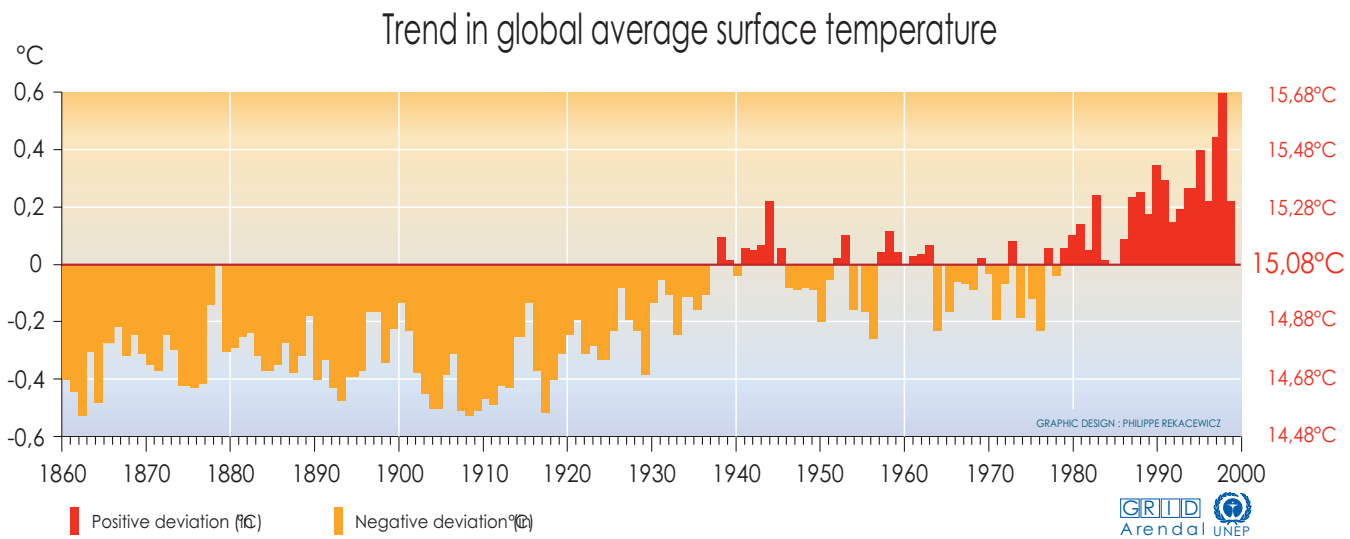
GHG concentrations are rising



SVANTE ARHENNIUS 100TH ANNIVERSARY EVENT

More than 100 years ago, Swedish scientist Svante Arrhenius asked the question "Is the mean temperature of the ground in any way influenced by the presence of the heat-absorbing gases in the atmosphere?" He later became the first person to investigate the effect that doubling atmospheric carbon dioxide would have on global climate. In 1895, Arrhenius presented a paper to the Stockholm Physical Society arguing that variations in trace constituents – namely carbon dioxide – of the atmosphere could greatly influence the heat "budget" of the Earth. By 1904, he became concerned with rapid increases in anthropogenic carbon emissions and recognized that "the slight percentage of carbonic acid in the atmosphere may, by the advances of industry, be changed to a noticeable degree in the course of a few centuries." He received the Nobel Prize for Chemistry on 10 December 1903. To mark the 100th anniversary, the contribution of Svante Arrhenius to climate science will be honored at COP 9.

Global temperatures are increasing



SourceSchool of environmental sciences, climatic research unit, University of East Anglia, Norwich, United Kingdom, 1999.

ADAPTATION AND VULNERABILITY

- **The IPCC TAR has concluded that the frequency and magnitude of many extreme climate events increase with a small temperature rise and will become greater at higher temperatures.** The apparent increase in the frequency and magnitude of extreme weather events over the past half century is consistent with this conclusion and points to a strengthening consensus. If model projections are correct, this trend will continue, or worsen.

- **The IPCC TAR also states that "There are preliminary indications that human systems have been affected by recent increases in floods and droughts."** Global economic losses from "natural" catastrophes increased from about US$ 4 billion per year in the 1950s to US$ 40 billion per year in the 1990s. The impact, in terms of loss of life and relative effects on the economy, is greatest in developing countries. Those with the least resources have the least capacity to adapt and are the most vulnerable.

- **Developing countries have stressed their vulnerability to climate change and need for further capacity-building.** In their national communications, developing countries stressed that they lacked the capacity to conduct the type of vulnerability and adaptation assessments that would generate reliable results for incorporation into national development planning processes. Constraints reported were a lack of in-depth studies in various sectors and a lack of institutional capacity, including sufficiently trained personnel and financial resources.

- **Developing countries are reporting on climate change impacts and climate variability in their national communications.** Many indicated that they are already experiencing stresses from climate variability and extreme events, such as droughts and floods.

  - In 1997, hundreds of people died from malaria in the Kenyan highlands where the population had not previously been exposed.
  - Since the 1990s, the glacier area in the Rwenzori Mountains of Uganda has decreased by 75%.
  - In Venezuela, the rainfall in December 1999, the heaviest in the past 100 years, caused massive landslides and flooding that killed about 30,000 people.
  - Dengue fever in Mexico has spread above its former elevation limit of 3,300 ft (1,006 m) and has appeared at 5,600 ft (1,707 m).
  - In Ecuador, sea-surface temperatures rose above 81.5°F (27.5°C) several times, causing coral bleaching events.
  - In Honduras, nearly 6,000 people were killed and 1.9 million were affected by Hurricane Mitch.
  - As a result of sea level rise, Western Samoa has experienced shore recession of about 1.5 ft (0.46 m) per year for at least the past 90 years.

- **At COP 9, the United Nations Development Programme (UNDP) will present its Adaptation Policy Framework.** The framework will help countries strengthen their capacity for preparing national plans and prioritizing adaptations to climate change. A key innovation is that it will work from current climate variability and extremes, and assess recent climate experiences.

- **Climate change poses a serious risk to the global economy, with the potential to push banks and insurers into insolvency, according to a 2002 report by the Finance Initiative of the United Nations Environment Programme (UNEP).** Worldwide economic losses due to natural disasters appear to be doubling every 10 years and, if current trends persist, annual losses will come close to US$ 150 billion in the next decade.

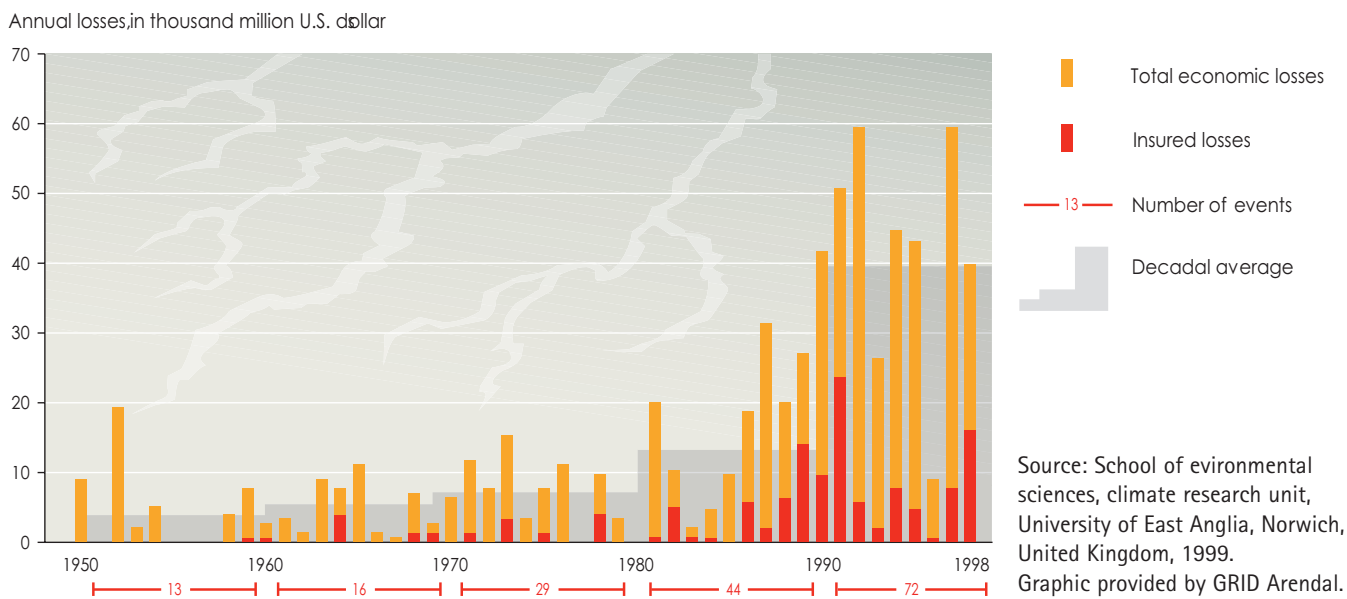
- **Information on methods to assess impacts, vulnerability an adaptation is rapidly developing.** A UNFCCC web-based compendium, including comprehensive frameworks and tool kits, is currently being updated.

- **A major process is under way to respond to the specific needs of least developed countries (LDCs).** Using resources managed by the GEF, LDCs are preparing their national adaptation programmes of action (NAPAs), supported by the implementing agencies of the GEF – UNDP, UNEP, and the World Bank – and advised by the LDC Expert Group. The NAPAs bring together existing analyses on the impacts of climate change and integrate adaptation considerations into sustainable development priorities and strategies.

- **Steps are being taken on the Marrakesh Funds.** The Marrakesh Accords call for the establishment of three new funds. For the LDC Fund, initial guidance has been agreed and, as of June 2003, the total contribution to the LDC Fund has been US$ 9 million, while US$ 16 million has been pledged. Discussions on guidance to the Special Climate Change Fund (SCCF) are under way. The Adaptation Fund will only be established after entry into force of the Kyoto Protocol.

- **GEF gives more attention to vulnerability and adaptation.** The GEF is considering a strategic priority for adaptation in the climate change focal area, which could promote cooperation with other focal areas such as biodiversity, land degradation and international waters. The GEF proposes to create a window of US$ 50 million to be allocated within the climate change area to advance learning on how best to respond to adaptation.

Global costs of extreme weather events (inflation-adjusted)



Source: School of evironmental sciences, climate research unit, University of East Anglia, Norwich, United Kingdom, 1999.
Graphic provided by GRID Arendal.

SPECIAL FEATURE
The transport sector

- **Transport is one of the largest emitters in developed countries.** In 2001, fuel combustion in domestic transport accounted for 20% of total greenhouse emissions in developed countries* (excluding land-use change and forestry). This share ranged from 15% (Australia) to 30% (Switzerland). Some countries with economies in transition showed a much lower share of domestic transport emissions, ranging from 8% (Romania) to 12% (Hungary). In some highly industrialized countries, emissions from international transport added considerably to those from domestic transport (see figure 3).

- **Transport is the fastest growing sector in developed countries.** Between 1990 and 2001, the transport sector emissions of developed countries increased by 20 %. This increase was prominent in most of the highly industrialized countries underlined by the GDP growth as the main driver. The highest increase rates in the sector were linked to domestic aviation and road transport. Most of the countries with economies in transition reported a decrease in transport emissions, ranging from –45% (Bulgaria) to –1% (Slovakia).

- **Transport emissions will grow in the near future.** Projections of future transport emissions show further steady increases over time. For example, the United States projected a rise of 46% in transport sector CO2 emissions until 2020, compared to 2000. The European Community projected a more moderate increase of 25% of transport sector CO2 emissions until 2010, compared to 1990. Developed countries that reported projections for the transport sector projected an increase of 46% in domestic transport emissions until 2010 compared to the 1990 levels (see Figure 4).

- **Some developing countries have identified the transport sector as a field of environmental action to reduce emissions.** Proposed measures as reported in their initial national communications are broadly aimed at strengthening vehicle emissions standards, improving highway design, traffic flow optimization, developing alternative transport modes such as railways, and taking steps to regulate the import of used vehicles.

Getting there: tackling transport emissions, Wednesday, 10 December, 1:15–2:45

This multi-stakeholder event will include ministers and high-level representatives of civil society to help define the challenges faced and identify innovative solution options, including state-of-the-art technologies and creative policy mixes, to meet the growing transport-related emissions.

*Shares do not include data from the Russian Federation, since its third national communication presents only a total number for fuel combustion without further breakdown by subsectors.

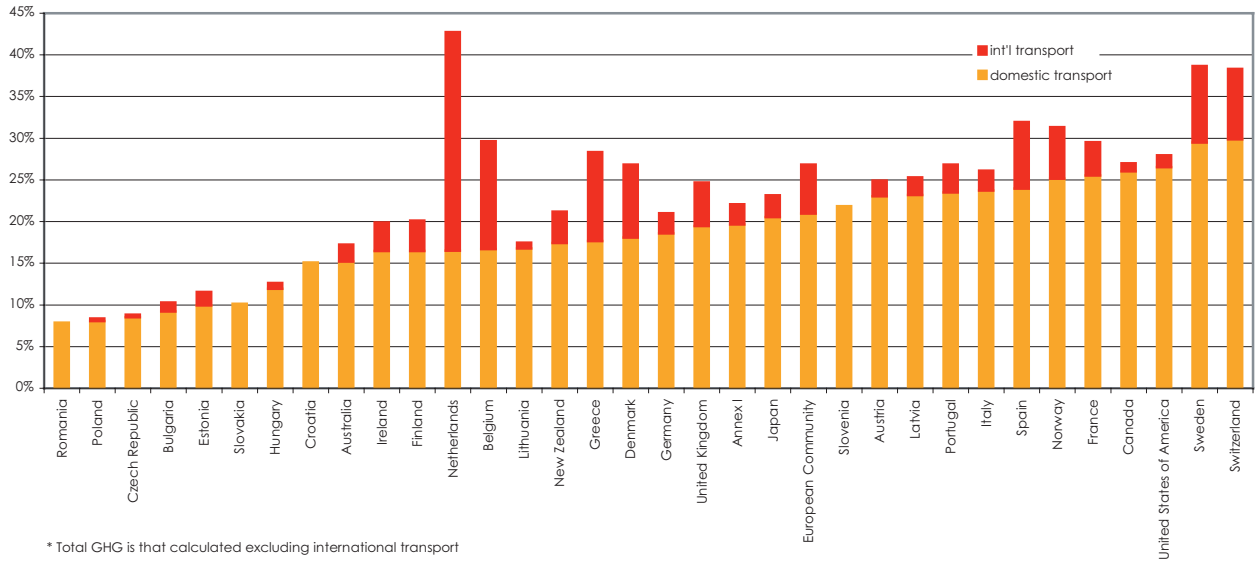


Figure 3. Transport as % of total GHG* 2001 or latest avaliable year

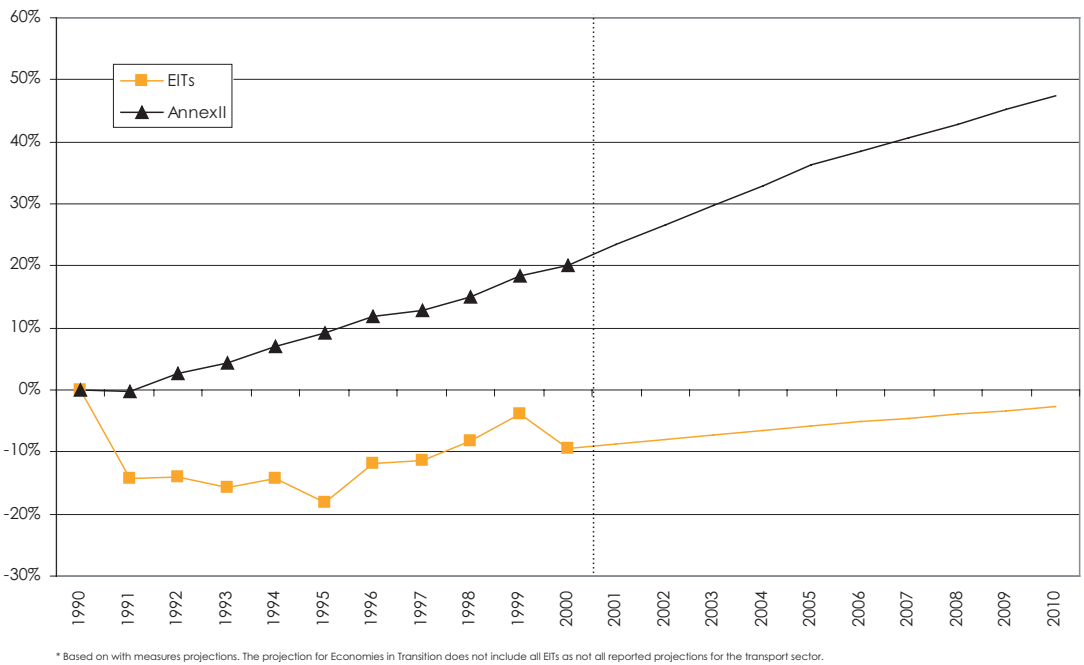


Figure 4. Transport GHG Emissions and Projections*

TECHNOLOGICAL SOLUTIONS

- **Technology improvements have the potential to reduce greenhouse gas emissions by 2010 and 2020 to levels below those in the year 2000, according to the IPCC TAR.** Estimates of potential global greenhouse gas emissions reductions in 2010 and 2020 indicate that half the emissions reductions until 2020 are estimated to be available at negative direct costs (calculated at 5–12% discount rates). Tapping the potential of known technologies will mean overcoming many barriers – market, economic, political, cultural, social, behavioral and/or institutional.

- **According to the IPCC TAR, technical progress relevant to greenhouse gas emission reduction has been faster than anticipated.** This includes elimination of industrial by-products, development of hybrid engine cars, and progress in fuel cell technology, wind turbines and underground carbon storage.

- **Many developing countries are already taking major steps to reduce the growth of their GHG emissions.** Many of the measures in energy efficiency, fuel switching and renewable energy sources show considerable mitigation potential, provided that obstacles – financial, technological and institutional – can be overcome. Development, economic concerns and environmental issues are the main drivers, indicating many opportunities to reduce emissions with activities that address sustainable development concerns and support the goals of the Convention.

- **Up-to-date technological information is being made available.** International institutions, including the UNEP Sustainable Alternative Network (SANet), the Climate Technology Initiative (CTI) and the UNFCCC secretariat, are actively working together to provide the latest technology information through projects such as TT:CLEAR, a technology information clearing house.

- **The Government of India, the host of COP 8, together with the Confederation of Indian Industry (CII) and the Ministry Environment and Forests (MoEF), held the "Climate Technology Bazaar" in New Delhi in November 2003.** This event provided an opportunity for businesses from developed economies to showcase technologies and services for companies in India. The Bazaar focused on technologies that encourage manufacturing and industrial operations that minimize greenhouse gas emissions and thereby reduce their environmental "footprint".

Enabling environments: from negotiation to implementation, Monday, 8 December, 10:00–13:00

At this senior-level event, held in consultation with the Expert Group on Technology Transfer, representatives from governments, business and financial institutions, international organizations and non-governmental organizations will discuss key issues and share experiences on enabling environments for technology transfer.

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The conference web site, **unfccc.int/cop9**, is complemented by several web sites. The Italian host country web site for participants, **minambiente.it/cop9**, offers full information on the city of Milan, tips on how to get around and what to see, and the latest news on climate events going on in Italy; **regione.lombardia.it** tracks climate activities undertaken by the province of Lombardy; and **cop9.it** provides coverage of activities by Italian non-governmental organizations during the conference period.

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