Brazil – G77

- **A statistical outlook:**

Brazil is the largest country in the South America with an area of 8,514,876.6 km2 and the fifth largest country in the world. The mere fact that Brazil covers 5,7% of the planet's land area, emphasises its importance when combating climate changes. The country had an average population growth of 1.64% per year from 1990 to 2000 and an estimated population of 169,799,170 people in 2000.

- **A historical outlook**

Until recently, Brazil's position on climate change was driven more by the accumulation of greenhouse gases in the atmosphere than by yearly emissions. It argued that yearly emissions data generally overestimate developing countries' contributions to climate change, and underestimate that of developed countries.
In Brazil's view, since the accumulation was principally the fault of the developed countries they must take the majority of necessary actions to reduce the stock of GHGs in the atmosphere. Brazil had maintained that it would not limit its greenhouse gas emissions until the middle of the 21st century and has sought further commitments from developed countries to reduce the overall level of GHG emissions.
This stance may have changed due to Brazil experiencing a series of natural disasters, starting with an Atlantic hurricane crossing the Brazilian coast for the first time in recorded weather records in 2004. Further, the Amazonian regions experienced a severe drought in 2005 that generally caused food shortages and other economic havoc. A series of scientific reports, including the fourth report of the Intergovernmental Panel on Climate Change (IPCC) in 2007 has also emphasised Brazil's vulnerability to climate change.

- **Previous stance regarding the Kyoto Protocol:**

Brazil is convinced that the international regime embodied by the United Nations Framework Convention on Climate Change and its Kyoto Protocol is the most appropriate legal instrument for directing - in accordance with the principle of common but differentiated responsibilities - global efforts towards the reversal of global warming through a reduction in the emission of greenhouse gases. Brazil ratified the Kyoto Protocol in August 2002.
Brazil plays a prominent role in the discussions on climate change. Brazil took the initiative of introducing the idea of the Clean Development Mechanism (CDM), which was incorporated in the Kyoto Protocol. As a developing country, and according to the principle of common but differentiated responsibilities, Brazil is not required to take specific action to meet the targets established by the Kyoto Protocol.
In the Kyoto Protocol negotiations in 1997, Brazil proposed that differentiated targets for reductions in greenhouse gas emissions should be established, corresponding to each individual country's historical contribution to the increase in global temperatures.

- **Current climate policy towards COP 15:**

Brazil is convinced that the international regime embodied by the United Nations Framework Convention on Climate Change and its Kyoto Protocol is the most appropriate legal instrument for directing - in accordance with the principle of common but differentiated responsibilities - global efforts towards the reversal of global warming through a reduction in the emission of greenhouse gases. Brazil ratified the Kyoto Protocol in August 2002.

In 2007 the Brazilian government began to reformulate its response to climate change. The result was the 'National Plan on Climate Change' finalised in December 2008. Its overall goal is to achieve sustainable economic and social development. Its main points include:

- Increasing energy efficiency leading to a decrease in electricity consumption by 10 per cent in 2030, compared to current levels
- Maintaining a high proportion of Brazil's electricity supply from renewable sources (Brazil sourced about 77 per cent of its electricity from renewable sources, mainly hydropower, in 2007). Overall, about 45 per cent of its energy comes from renewable sources
- Encouraging the increased use of biofuels in the transport sector (the proportion of biofuel use is already high) and work towards a sustainable international market for such fuels
- Sustained reduction in de-forestation rates, particularly in the Amazon region. The aim is to reduce the rate of de-forestation by 70 per cent by 2017 in gradual stages
- Increasing research and development to precisely identify environmental impacts and minimise the costs of adaptation, and
- Eliminating net loss of forest coverage by 2015 through re-forestation and establishment of forest plantations.

- **Policy regarding CO2 Emissions**

Brazil is not yet proposing targets for emissions cuts under the second phase of the Kyoto Protocol because developed nations should take the lead. But Brazil is ready to cut emissions, mainly through reducing deforestation. Some 75 percent of Brazil's carbon dioxide emissions come from deforestation and Brazil is ready through an extensive plan for reducing deforestation to cut emissions by some 4.8 billion tons by 2018 – or cut total emissions to about half of present emissions. Brazil wants historic emissions to be the basis for greenhouse gas pollution targets and is proposing that the second period of (Kyoto Protocol) commitments be based on the historic responsibilities of each country. China, India and South Africa will back the historic emissions proposal in the United Nations talks. Brazil opposes "carbon intensity" proposals that measure emissions per dollar of GDP because they favor bigger economies and risk allowing continued increases in global emissions as economies grow. Rich countries, which are the biggest emitters of greenhouse gases, must do their part. What we can't accept is people who already have their car, a third television, a third house telling Brazilians to remain poor

- **Policy regarding Finance and Technology**

Brazil is advocating for rich countries to pay for Brazil to conserve and preserve the precious rainforest for the good of all humanity. Brazil has plans for reducing deforestation 72% by 2017, as the burning and decomposition of trees produce carbon dioxide. However this is clearly an economic disadvantage for Brazil since they have a substantial export of different kinds of food and ethanol, which is dependent on deforestation. Brazil therefore argue that forest dwellers producing natural rubber and other non-timber forest products, should be well compensated for pursuing sustainable industries. The rich world should help these forest dwellers protect the forest. Deforestation produces more than a fifth of human-generated carbon dioxide by some estimates. Some 75 percent of Brazil's carbon dioxide emissions come from deforestation. At a World Intellectual Property Organisation conference, a Brazilian official said that steps should be taken to ease the transfer of green technology to developing countries. There is a continuous dispute between rich and poor nations regarding the best approach to take, on patented technology that can be used to tackle global warming. "The key message is that a fair agreement on technology transfer is crucial to seal the deal in Copenhagen," said Haraldo de Oliviera Machado Filho, a senior advisor in Brazil's government committee on climate change. He said intellectual property systems were often seen as "a significant barrier" in transferring technology from rich to poor nations. Many key technologies that can help countries adapt to global warming or mitigate its effects, such as by cutting emissions, were patented or would be patented in the future, he underlined. "With these technologies there should be an understanding that patents must not be an obstacle for developing countries,"

China – G77

- **A statistical outlook:**

With just over 1.3 billion people (1,330,044,605 as of mid-2008), China is the world's largest and most populous country. As the world's population is approximately 6.7 billion, China represents a full 20% of the world's population so one in every five people on the planet is a resident of China.

Since the 1970s, the implementation of the family-planning policy has made it possible for China to bring the momentum of an excessively fast population growth under control. The natural growth rate of population has declined from 25.83% in 1970 to 11.21% in 1994, which is noticeably lower than the world's average rate of 16% during the corresponding period. In 2000, China's natural growth rate of population showed a further decline to 7.58%.

- **A historical outlook**

Since 1992, the Chinese government has taken a series of actions and measures to push forward the process of China's sustainable development. In 1994, China's sustainable development strategy, China's *Agenda 21*, was formulated and released. In 2003, the Chinese government formulated the *Program of Action for Sustainable Development in - China in the Early 21st Century.* In compliance with the principles and spirit of sustainable development, China enacted numerous laws on protecting natural resources and the environment. Beginning from the late 1980s, the Chinese government started paying more attention to the transformation of the economic growth pattern and the adjustment of the economic structure. A key component of China's industrial policies is to reduce consumption of energy and other resources, improve the comprehensive utilization and efficient use of resources and energy, promote cleaner production and prevent and control industrial pollution.

- **Previous stance regarding the Kyoto Protocol:**

China has ratified the Kyoto Treaty. However, in accordance with the provisions of the Convention and the Kyoto Protocol, China, as a developing country, is under no obligation to quantified reduction or limitation of greenhouse gas emission. However, over the past 20 years and more, in the spirit of being responsible for the global environment and meeting the need of promoting sustainable development strategy, China has made positive contributions to relieving the increase of greenhouse gas emission and protecting global climate by adjusting its economic structure, improving its energy efficiency, developing and using hydropower and other renewable energy and strongly implementing afforestation policies and measures.

- **Current climate policy towards COP 15:**

To make significant achievements in controlling Green House Gasses emissions; to enhance the capability of continuous adaptation to climate change; to promote climate change related science, technology and R&D to a new level; to raise public awareness on climate change; and to further strengthen institutions and mechanisms on climate change.

China was the first major developing economy to issue an action plan. The plan emphasizes China's right to development, and the need to consider developing country emissions on a per capita basis. Furthermore it stresses the need for adaptation of human and natural systems without hindering economic development. There is also a great focus on national level policy/ legislative approaches to enhance China's overall adaptive capacity. The adaptation strategies proposed tend to be large in scope and scale - the vision of the plan is impressive, but lacks specific targets and action-steps for realizing these goals.

Official Chinese climate goals:

- Reduce energy consumption per unit GDP by 20%
- Accelerate institutional reform
- Foster bio energy and renewables, including wind, solar, geothermal and tidal
- Develop hydropower resources
- Promote nuclear power
- Ultra-supercritical coal, methane bed, and mine methane technology
- R&D for efficient coal mining, oil and gas exploration and use technologies
- Improve efficiency standards, programs and implementation
- New financing mechanisms and tax policies to promote energy savings
- Most efficient technologies for iron and steel; cement; oil and petrochemical; agricultural machinery industries

- **Policy regarding CO2 Emissions**

Want the industrialised countries to reduce CO2 emissions with 40% compared to 1990 – it is the industrialised countries that are responsible for the large contents of CO2 in the atmosphere through their industrialisation and it is thus the industrialised countries that have to make an effort to turn down their emissions. Developing countries should not be held responsible for the climate changes and should be allowed to emit more CO2 than they do now, in order to develop their industry. This does however not mean that the developing countries should be allowed to pollute forever, but they need to have time to develop their industries. China is a low-income developing country. Yet China is being pressured (by the US) to ensure that they will also cut emissions but they need to have a peak year for CO2 emissions before they cut emissions (yet they have not yet decided for a peak year – this is unspecified). China needs to boost the economy to ease poverty so they need to have increase in their emissions. So they cannot accept binding or compulsory targets.

In its *National Climate Change Program* , China set an objective to lower its energy consumption per unit of GDP by 20% or so of 2005 level by 2010 and in its *Mid- and Long-Term Plan for the Development of Renewable Energy* , China also sets an objective of increasing the proportion of renewable energy in the primary energy mix to 10% by 2010, and to 15% by 2020. Brazil wants historic emissions to be the basis for greenhouse gas pollution targets and is proposing that the second period of (Kyoto Protocol) commitments be based on the historic responsibilities of each country. China, India and South Africa will back the historic emissions proposal in the United Nations talks.

- **Policy regarding Finance and Technology**

The G77 and China have proposed an enhanced financial mechanism to ensure the effective implementation of the Climate Change Convention. The proposal, supported by more than 130 countries of the G77 and China, builds on the experience of other relevant funds such as the Multilateral Fund established under the Montreal Protocol, which deals with the phase-out of ozone depleting substances. The aim is to operationalize an effective financial mechanism under the Conference of Parties with the goal of ensuring the full, effective and sustained implementation of the Convention's obligations relating to financial resources. The proposal aims to bring about coherence in the global financial architecture for financing under the authority and governance of the Conference of Parties. The proposal identifies five principles to guide an enhanced financial mechanism under the Convention. It must: 1) be underpinned by the principle of equity and common but differentiated responsibilities; 2) operate under the authority and guidance of, and be fully accountable to, the Conference of Parties; 3) have an equitable and geographically-balanced representation of all Parties within a transparent and efficient system of governance; 4) enable direct access to funding by recipients countries; and 5) ensure recipient country involvement during all stages of identification, definition and implementation, rendering it truly demand driven.

The main source of funding will be the public sector through implementation by developing countries of their commitments under Article 4.3 of the Convention. Funding will be "new and additional" and over and above overseas development assistance. According to the proposal, any funding pledged outside of the Convention shall not be regarded as fulfilment by developed countries of commitments under Article 4.3 of the Convention, or commitments to provide measurable, reportable and verifiable finance, technology and capacity-building as required by the Bali Action Plan.

Resources shall be essentially grant-based (particularly for adaptation), without prejudice to concessional loan arrangements. The level of the new funding is proposed at 0.5% to 1% of the gross national product (GNP) of Annex I Parties. The mechanism would address quantified commitments by developed countries to adequate and predictable funding for mitigation and adaptation. According to the proposal, a Board will decide and periodically review funding allocated to adaptation or mitigation, taking into account historical imbalances and the urgency of funding for adaptation.

The proposal sets out a range of activities to be funded. It would fund the agreed full incremental costs for the implementation of developing countries' commitments under Article 4.1 of the Convention, including: 1) mitigation; 2) deployment and diffusion of low-carbon technologies; 3) research and development for technologies; 4) capacity-building; 5) preparations of national action plans and their implementation; 6) patents; and 7) adaptation in accordance with Articles 4.4 and 4.9. The mechanism will also fund the agreed full costs for the preparations of national communications.

The proposal states that in accordance with Article 4.3, developing countries would receive new and additional financial resources, including for the transfer of technology. Funding can be used for: 1) adaptation and its means of implementation; and 2) mitigation and its means of implementation. Meeting these two objectives may include technology development, deployment and transfer, capacity building and risk management, including insurance, and so on. The mechanism will also finance action programmes developed under the Convention, such as the national adaptation plans of action (NAPA) and technology needs assessments (TNA). The proposal sets out the design and structure of the enhanced financial mechanism's institutional arrangements. The mechanism will operate under the authority and guidance of the Conference of Parties, which will decide on policies, programme priorities and eligibility criteria for funding. The Conference of Parties will appoint a Board, which shall reflect an equitable and balanced representation of all Parties within a transparent and efficient system of governance. The Board, in turn, shall be assisted by a Secretariat of professional staff contracted by the Board.

The Conference of Parties and Board shall establish specialized funds and funding windows as well as a mechanism to link various funds. The funds would be administered by a Trustee or Trustees selected through a process of open bidding. Each of the separate funds may be advised by an expert group or committee, which could also be supported by a technical panel or panels addressing specific issues addressed by the fund. To ensure transparent and efficient governance, other possible components of the structure include a consultative/advisory group of all relevant stakeholders, and an independent assessment panel. Modalities for determining the role of existing funds and entity or entities for the operation of the financial mechanism will have to be worked out.

Vietnam – G77

- **A statistical outlook:**

Vietnam is located in the South East Asia. Its land area is 330,990 km2 and the sea territories under sovereignty and jurisdiction is more than 1 million km2. Viet Nam has a monsoon tropical climate with plentiful heat, high humidity, and is affected by many typhoons and tropical cyclones. The agricultural land is 7.37 million hectares; gross output of food crops in paddy equivalent is 26.2 million tons. Agriculture, forestry and fishery contribute 28.7% to the GDP. Forestland was about 19 million hectares (in 1994), in which only 9.3 million hectares had forest coverage of 28 -29 %.

The population of Vietnam in July 2008 was approximately 86,2 million, with a growth rate of about 1%. Viet Nam is an agricultural country with 70 – 80% of the population living in rural areas. Viet Nam industry is still not developed yet, the technologies in energy production and using are still obsolete and power consumption per one product unit is high. Commercial power supply level is low in comparison with other countries (only about 0.12TOE/person). However, the energy resources potentials are diversified and have not been explored enough. The economy has had high growth rate since 1990-1999; GDP has increased by 2 times after 10 years. Average annual GDP growth rate was 8.2% during 1991 – 1995, in which agricultural output more than 4%, industry nearly 13% and services more than 9%. Domestic accumulation attained 18-20%.

- **A historical outlook**

Viet Nam is one of the most vulnerable countries in the world to climate change. The government's impressive achievements in pulling millions of people out of poverty are seriously jeopardised by the likely increase in extreme weather events such as severe rainfall and drought, and by slow climate changes like sea level rises and warming temperatures. Poor men and women are particularly at risk. It is one of the few countries on track to meet most of its Millennium Development Goals by 2015. It reduced its poverty rate from about 58 per cent of the population in 1993 to 18 per cent in 2006. Viet Nam has an admirable history of coping with natural disasters and reducing their effects, but the economic and human costs can still be huge. In the decade between 1991 and 2000 for example, official estimates are that 8,000 people lost their lives as a result of storms, floods, and landslides. Economic losses amounted to nearly US$3 billion.

According to the World Bank's 2008 Global Monitoring Report, Viet Nam ranks eighth in the ten most vulnerable countries in East Asia to weather extremes. A staggering 70 per cent of the country's population live in areas subject to water-related natural disasters. The Government of Viet Nam signed the United Nations Framework Convention on Climate Change (UNFCCC) in 1992 and ratified it on 16 November 1994.

- **Previous stance regarding the Kyoto Protocol:**

Viet Nam has for several years recognised the threats and challenges presented by human-caused global warming. It ratified the United Nations Framework Convention on Climate Change (UNFCCC) in 1994 and the Kyoto Protocol in 2002. The Government of Viet Nam is fully committed to the implementation of the UNFCCC. As an area prone to natural disasters, with its low-lying coastal zone, fragile ecosystems, including mountainous ecosystems, and economy highly dependent on income generated from the production, processing, export and consumption of fossil fuels and associated energy products.

Viet Nam deserves special consideration under Article 4, paragraph 8 of the Convention, including necessary actions related to funding, insurance and the transfer of technology, to meet its specific needs and concerns arising from the adverse effects of climate change and/or the impacts of the implementation of response measures. To reduce the threat of global climate changes, concrete Green House Gasses emissions projects need to be implemented.

- **Current climate policy towards COP 15:**

It should be stressed that Viet Nam is able to build on a long history of strong institutional responses to natural disasters like floods and storms. The key institution is the Central Committee for Flood and Storm Control (CCFSC) which has been operating since 1955. Several ministries and other organisations such as the Viet Nam Red Cross, which works from national down to commune level, are key members of the CCFSC. National strategies are designed to reduce the risk of disasters, and include a whole series of measures such the establishment of disaster forecast centres across the country, the construction of flood corridors, and awareness raising activities.

However, these strategies focus on emergency responses to short-term climate extremes and reconstruction after them, rather than long-term adaptation to future climate change. They are also not integrated into wider policies for sustainable rural development and poverty reduction It should also be emphasised that the sorts of budgets that the national government and local authorities have at their disposal for adapting to climate change are clearly inadequate.

The district of Hai Lang in Quang Tri for example, which is an area very vulnerable to flooding, has a total budget of just 500 million dong a year (US$35,000) for all its disaster risk management – a budget that it needed even before climate change began to affect communities. According to officials at the Ministry of Agriculture and Rural Development (MARD), the total national budget required for disaster management and dyke building for the period 2010-2020 was 1,200 billion dong (US$ 750 million), even before climate change plans are included

- **Policy regarding CO2 Emissions**

The total GHG emissions in 1994 were 103.8 million tons of CO2 equivalent, and 1.4 tons CO2 equivalent per capita. About GHG components, CO2 contributed 40.6 million tons, i.e. 39.1%, 2.5 million tons of CH4 –50.6% and 34 thousand tons of N2O – 10.1%.

Emission in the future will increase mainly due to fossil fuel consumption. Emission from the energy sector in 2030 is projected to 396 million tons CO2, it is more than 10 time higher than 1993. The GHG emissions from agriculture are projected from 47 M tons CO2 equivalent in 1993 to 68 M tons CO2 equivalent, in 1930. In the forestry sector, the amount of CO2 is projected to decline from 29.9 million tons in 1993 to 4.2 million tons in 2000 and the net sequestration of 32.1 million tons in 2030.

A plan for reforestation and natural regeneration of 5 million additional hectares by 2010 was adopted by the Government. However, for the forestry sector the likely trends scenario is developed. Based on the current trend, it is assumed that the deforestation rate will continue to be on the average of 100,000 hectares per year. Likewise, the level of reforestation effort is not enough to offset the deforestation. The reforestation rate is about 70,000 hectares per year and the survival rate is assumed 100%.

- **Policy regarding Technology and Finance**

At present Vietnam is conducting industrialization and modernization of the country to overcome quickly the poor, underdeveloped situation and to be integrated into world and regional economy. Therefore, the Vietnamese Government has paid a great attention to technology application and transfer.

There is not yet a framework for the transfer of climate-friendly technologies. There is also a lack of necessary policy frameworks, and the human, institutional and technical capabilities necessary to take full advantage of more energy efficient production methods and to attract the investment.

The technology co-operation should be consistent with the development priorities of Vietnam as a developing country. It should build on local knowledge and expertise and capacity-building should be as important as the actual technology transfer. Successful technology transfer requires cooperation at many levels:

- Among host country government agencies, businesses, nongovernmental organizations (NGOs), and technical experts to define and implement technology transfer strategies and actions (country teams lead by senior government officials can lead this operation).
- Between developing countries and industrialized countries, technical experts should exchange technology, information and experiences in order to design technology cooperation actions.
- Cooperation is also needed between developing countries and international businesses and investors to attract private sector investment.
- Cooperation is essential between developing countries and international donors to secure necessary financial and technical assistance.

India G-77

- **A statistical outlook:**

The Indian population were approximately 1,166,079,217 in July 2009, with a growth rather around 1,5%. Total emissions from fossil fuel use have risen more than 300% over the past two decades. The primary source of fossil fuel emissions is from the burning of coal (largely for electricity generation) followed by petroleum (largely from transportation) and natural gas.

- **A historical outlook**

India signed the United Nations Framework Convention on Climate change (UNFCCC) on June 10, 1992 and ratified it on November 1, 1993. It ratified the Kyoto Protocol in on August 26, 2002 and hosted the eighth Conference of the Parties to the UNFCCC in October 2002 in Delhi.

- **Previous stance regarding the Kyoto Protocol:**

In common with other developing countries India considers that the solution to the world's climate change problems is primarily the responsibility of the developed industrialised world. It has resisted efforts for a limit to be placed on its own GHG emissions. Nevertheless, India is a participant in the Kyoto Protocol and is the second largest source of CDM emission credits after China. However, like China it has reportedly rejected the imposition on any binding limits on its GHG emissions.

- **Current climate policy towards COP 15:**

The Fourth Assessment Report from the IPCC suggests that monsoonal changes, Himalayan glacier retreat, and sea level rise around the low-lying coastal metropolises of Mumbai and Chennai all threaten India's growing population. Indeed, Hurricane Nargis' devastating impact in Myanmar in May 2008 was presented in the Indian press as illustrative of this threat. On 30 June 2008, the Indian Prime Ministers Council on Climate Change released India's National Action Plan on Climate Change. This document primarily offers a list of eight technological efforts, the pride of place being given to research and development of solar energy. But the report does not set any numerical goals for emission reductions or for energy intensity. This document also lists both new and existing policies. Many of these policies are already being implemented as part of the centralised economic plan drawn up by India's Planning Commission. The current plan, the 11th, covers the years from 2007–2012. Individual Indian ministries were to submit action plans in response to this document by December 2008. India is concerned to further develop its economy and continue its policies aimed towards poverty alleviation and appears determined to peruse these goals in addition to any policies aimed at reducing its GHG emissions.

Prime Minister Manmohan Singh was recently quoted saying: "I would like to mention that our position and the Chinese position are nearly identical, and we have been coordinating with that country. The greater the threat from global warming, the greater the responsibility of developed countries to take on ambitious emission reduction targets." The prime minister pointed out that was why 37 developing countries including India, China, Brazil, South Africa and Indonesia had tabled a submission at the multilateral negotiations (in Bonn), asking the developed countries to accept (greenhouse gas emission) reduction targets of at least 40 percent by 2020 with 1990 as the baseline. "Developing countries are committed to sustainable development. The full incremental cost of any mitigation by them must be fully compensated by transfers of financial and technological resources from developed countries. This is fully reflected in the Major Economic Forum Declaration," the prime minister declared.

- **Policy regarding Finance and Technology**

India supports sustainable development in India, but they need substantial transfer of technology and funding if they will have to be able to develop sustainably.
Given the urgency of combating climate change, Intellectual Property Rights (IPR) on green technologies should not be allowed to stand in the way. This view has been put forward under the present UN negotiations in Bonn by members of India's delegation, newKerala.com reports. According to this news site, India views the IPR situation for green technologies in line with drugs for HIV/AIDS treatment. For a number of years developing countries severely struck by the disease were disputing pharmaceutical companies over the cost of the products. Industry was reluctant to lower prices, arguing that it needed to be rewarded for IPR, as otherwise companies would loose motivation for innovation in new drugs. Finally a solution was found in the form of an international fund to compensate industry. Similarly, India wants "a global fund that could buy out IPRs of green technologies, and then distribute these technologies free, in a way that is similar to what is done for HIV/AIDS drugs." Speaking on the condition of anonymity, the delegates told newKerala.com that they have made a solution to the IPR issues a condition for allowing for inspection of emission reduction projects in their country. Several developed countries have called for projects in developing countries that are funded in part by international sources to be measurable, reportable and verifiable – in practise meaning subject to inspection. India wants to secure economic development and improvement for the poor. At the climate negotiations India wants industrialized countries to commit to significant emission reduction targets and at the same time support sustainable development in developing countries with technology and funding. India will not compromise on economic growth by committing to reduction goals. The developed countries pollute the most pr capita. The deal should be fair and allow developing nations to pursue economic growth to improve the lives of their people.

- **Policy regarding CO2 Emissions**

India is now the world's fourth largest emitter of GHG gases. Between 1990 and 2004, emissions increased by 97 per cent—one of the highest rates of increase in the world.
Coal is the source of more than 60 percent of India's power. Though India is climbing the list of global polluters, analysts expect coal to remain an important fuel for the Indian population of 1.1 billion people for the next 20 years. India will not commit itself to reductions of greenhouse gases, no matter how hard the developed countries might try to talk large economies like India and China into commitments as part of a new global climate deal. "If the question is whether India will take on binding emission reduction commitments, the answer is no. It is morally wrong for us to agree to reduce when 40 percent of Indians do not have access to electricity," said a member of the Indian delegation according to The Washington Post. "Of course, everybody wants to go solar, but costs are very, very high," the member of the Indian delegation added. India is in line with agreements made earlier by the UN conference of parties. According to previous decisions the developed countries alone must commit themselves to reductions in Green House Gasses. Developing countries can take voluntary actions enabled by technology transfer, capacity building and financial transfers from developed countries. As Brazil, India wants historic emissions to be the basis for greenhouse gas pollution targets and is proposing that the second period of (Kyoto Protocol) commitments be based on the historic responsibilities of each country. China, India, Brazil and South Africa will back the historic emissions proposal in the United Nations talks. India, for instance, noted that its historical contribution to climate change since the industrial revolution is a mere 27 tonnes of CO2 per-capita, whereas the United Kingdom and United States have each contributed around 1,100 tonnes per-capita.

Indonesia – G77

- **A statistical outlook:**

Indonesia is currently the fourth most populous nation in the world, after China, India and United States. Its population was estimated at 237 million people in July 2008 and the population is expected to grow to around 315 million by 2035, based on the current estimated annual growth rate of 1.25%. In 1994, per capita GDP was some US$ 930 at market exchange rate. Although growing rapidly at that time (7% a year or so), the East Asian crisis, the political instability, and the global economic recession have slowed down Indonesia's growth. Indonesia holds a special position in international climate policy. Due to its climate which is tropical, poor, crowded and archipelago, it is very vulnerable to climate change. But, Indonesia is also an OPEC member and holds large coal reserves (some 40 billion tonnes). Its industry is inefficient and deforestation continues largely unabated.

- **A historical outlook**

Indonesia is home to the richest biological diversity on the planet. It has the world's highest marine diversity and second largest area of rain forest after the Amazon Basin. But it is also one of the top greenhouse gas emitting countries in the world. While it is richly endowed with natural resources, environmental degradation is proceeding at rapid pace, with far-reaching global impacts. And while it is a major emitter, Indonesia is also highly vulnerable to the impacts of climate change. These factors led Indonesia to play a key role in the international climate change talks.

Households, transport and industry accounted for approximately 35 – 60 percent of carbon dioxide, methane and nitrous oxide emissions between 1990 and 1994. Deforestation and subsequent fires is by far the largest contributor to greenhouse gas emissions in Indonesia, accounting for 80% of national emissions. Last year, Indonesia's forest-related emissions amounted to 8% of global carbon emissions. By contrast, on a global scale, deforestation accounts for some 20% of the world's carbon emissions. Underlying these emissions are good forestry policies and legislation, but weak implementation and enforcement. Also, initiatives such as expansion of bio fuel production and revitalization of forest industries may exacerbate emissions if they are not carefully planned. Emissions from the energy sector are relatively small but rapidly growing.

- **Previous stance regarding the Kyoto Protocol:**

Indonesia signed the United Nations Framework Convention on Climate Change (UNFCCC) on the June 5, 1992. On August 1, 1994, the President of the Republic of Indonesia ratified the deal. Indonesia as one of the Non-Annex 1 countries is not yet compulsory to conduct greenhouse gas emission mitigation. The country is participating in climate change issues on a voluntary basis.

- **Current climate policy towards COP 15:**

Indonesia has recently been pushing for:

- Putting the role of oceans on the climate change map as well as signing the Coral Triangle Initiative
- The release of the world's first scheme Reducing Emissions from Deforestation and Degradation (REDD) rules on how tradable carbon credits will be generated, detailing where REDD projects can take place and who can do them. Although questions have been raised as to how the carbon credit revenue will be shared between the project developers and the government, these rules are nevertheless a milestone in making the REDD scheme a reality

However, the countries budget deficit in 2009, has been set at Rp139.5 trillion (US$13.47 billion), or 2.5 percent of the country's gross domestic product (GDP), which has made some NGO's voice concerns over whether or not Indonesia invest sufficient funds towards solving issues related to climate changes.

- **Policy regarding CO2 Emissions**

Indonesia has adapted the world's first set of national rules relating to the scheme Reducing Emissions from Deforestation and Degradation (REDD). The UN-backed scheme aims at creating incentives for preservation of forests. Deforestation is estimated to contribute by one fifth to man-made climate change.

Under the present international deal, the Kyoto Protocol, a foreign party can team up with a local entity to create a project that mitigates global warming under the Clean Development Mechanism (CDM). By financing a CDM project, the investing country obtains carbon credits. The idea is to create a similar mechanism for REDD under the next international deal to be negotiated in Copenhagen this December.

The Indonesian legislation specifies the types of forests that can be subject to REDD projects and lays down licensing requirements. "From a private sector perspective, these new REDD regulations are really encouraging, as they provide more certainty on process and procedure to implement a project," Dorjee Sun, CEO of Carbon Conservation, tells Reuters. The organization works with the Indonesian government to create the world's first independently validated REDD project in the Ulu Masan region.

While REDD is at the UN conference agenda this year, actual implementation of an international scheme is not expected before 2013, the earliest. Thus, it is still too early to calculate the exact value of REDD carbon credits.
"We may therefore be looking at donor money for the early REDD projects, with investor money to follow once the full picture is presented," Jakarta-based lawyer Luke Devine tells Reuters.

- **Policy regarding Finance and Technology**

Indonesia argues that there are three tracks of funding sources: (1) Mandatory contributions from Annex I Parties (the wealthiest countries) (this must be above and additional to Official Development Assistance and the level of contribution could be between 0.5-1% of GNP) which must be measurable, reportable and verifiable to ensure adequacy and predictability; (2) voluntary contributions by non-Annex I Parties; (3) the market, by extending the scope of the Clean Development Mechanism (CDM).

Mexico – G77 observer

- **A statistical outlook:**

Mexico has a population of 111 million people (July - 2009) with an annual population growth that has drastically decreased from a peak of 3.5% in 1965 to 0.99% in 2005.
According to Mexico's Third National Communication to the UNFCCC, Mexico emitted 643 million tons of carbon dioxide equivalent (Mt CO2e) in 2002, of which almost 400 Mt CO2e amounted from combustion of fossil fuels. Mexico ranks thirteenth in the world based on total Green House Gasses(GHG) emissions and is the second largest emitter in Latin America after Brazil. It accounts for 1.4% of global CO2 emissions from fossil fuels, excluding other GHGs and land-use change and forestry. Mexico's CO2 emissions have been growing steadily over the past 25 years.

- **A historical outlook**

On May 25, 2007, President Calderón announced the National Climate Change Strategy (Estrategia Nacional de Cambio Climático – ENACC), thereby committing the country to place climate change at the heart of the country's national development policy. The ENACC sets the long-term climate change agenda, together with medium to long-term goals for adaptation and mitigation. In the Strategy, the country commits itself to reducing GHG emissions on a voluntary basis.

- **Previous stance regarding the Kyoto Protocol:**

Although, as a non-Annex I country, Mexico is not mandated to limit or reduce its GHG emissions under the Kyoto Protocol, the country has firmly adopted the UNFCCC principle of "common but differentiated responsibilities" and pledged to reduce its GHG emissions voluntarily. At the 14th Session of the Conference of the Parties to the UNFCCC in December 2008 Mexico announced that it would reduce its GHG emissions by 50% below 2002 levels by 2050.

- **Policy regarding CO2 emissions**

Mexico aims to put a detailed offer to cut the growth of its own greenhouse gas emissions on the negotiating table at global climate change talks in Copenhagen. Adrian Fernandez, the president of the National Ecology Institute was quoted saying: "If Mexico can bring a plan for cuts through 2020 to the table with a detailed description of what will be mitigated it would set a positive precedent for the other big emerging economies,"
The plan will likely offer significant cuts in expected emissions growth from Mexico, which currently accounts for 1.5 percent of global emissions, by proposing projects like improving efficiency of power plants or reducing deforestation. Mexico will be able to implement some of the initiatives itself and for others it will look for outside financing.
Mexico shares the view that wealthy countries, led by the United States, will have to provide a substantial amount of money to help poorer governments. The country hopes to win international funds for some of its more expensive initiatives. Mexico has also been supportive of the United States, which argues it cannot make deep cuts by 2020 but is prepared to commit to slashing emissions by 2050.
Mexican President Felipe Calderon has pushed climate change up on the country's agenda. He announced in June that Mexico would voluntarily cut 50 million tons of verifiable annual emissions by the end of his term in 2012 by bolstering efficiency in the state run electricity and oil industries and improving rural land use.

- **Policy regarding Finance and Technology**

Mexico has submitted a proposal for new financial arrangement for the Convention and Kyoto Protocol. It argues that the current approach to financing is limited in scope and inadequate in terms of governance. The Clean Development Mechanism (CDM) is insufficient and inadequate to promote and incentivise developing countries to commit extra efforts to mitigate and enhance adaptation. Mexico therefore wishes to find a way to build a new mechanism for the Convention and Protocol. The actual funds available are insufficient to allow all Parties to face climate change. Mexico thus believes we need a new financial instrument supporting the objectives and principles of the Convention and Protocol.

The new instrument's objectives would be: to scale up funds for mitigation actions; to support efforts to adapt to the adverse effects of climate change and the impacts of response measures; to provide technical assistance and promote the transfer and diffusion of clean technologies; and to contribute to the financial underpinning of the new global climate change arrangement based on the Convention.

The Mexican proposal calls on countries contribute to the fund "in strict accordance with the principle of common but differentiated responsibilities and respective capabilities". But it also proposes that "all countries" would contribute and that contributions would be based on indicators such as greenhouse gas emissions, population and gross domestic product (GDP), implicitly supporting differentiation of non-Annex I countries. According to the proposal "developing countries that choose not to join the Fund would be excluded from its benefits, without any penalty".

Mexico suggested that in terms of the distribution of resources, all countries including developed and developing countries could benefit from the fund. Mexico confirmed that now is not the moment for the private sector to participate in this instrument; this could be an issue for future discussion. Mexico agreed with the G77 and China that major new public resources are required for adaptation and transfer of technology. In terms of governance, Mexico stated that many of the existing institutions are not satisfactory for all Parties. We would therefore need one financial instrument that will be acceptable for every Party, it said. Mexico looks forward to hearing comments and criticism of its proposal.

South Africa – G77

- **A statistical outlook:**

The population was estimated to be 40.6 million in the 1996 census. In 1999 the estimated growth rate was 2.2% and the total population was estimated at 43.1 million. It is expected that the population will stabilize at 80 million by the year 2100 with a 2.1% fertility rate and 1.9% growth rate.
Unemployment is high and increasing. It has been estimated that approximately 30% of the population was unemployed in 2000 and that unemployment is growing at 2.2% per annum
South Africa is a middle-income developing country with an abundant supply of mineral resources. South Africa's reliance on fossil fuels as a primary energy source is approximately 90%, with coal providing 75% of the energy supply. The total primary energy demand is expected to grow on average by 3% per annum between 1993 and 2010.

- **A historical outlook**

In August 1997 the Government of the Republic of South Africa ratified the United Nations Framework Convention on Climate Change (UNFCCC) and in July 2002 they acceded to the Kyoto Protocol.

- **Previous stance regarding the Kyoto Protocol:**

South Africa, as a non-annex I country, is not required to reduce its emissions of greenhouse gases. However, the South African economy is highly dependent on fossil fuels and the country can be judged to be a significant emitter due to the relatively high values that can be derived for emissions intensity and emissions per capita. Such calculations put South Africa as one the world's top 15 most energy intensive economies, with a significant contribution to greenhouse emissions at a continental level. There could be benefits to be derived from adopting a future strategy that is designed to move the economy towards a cleaner development path. This will require continued attention to the process that is currently being developed to access investment through the Clean Development Mechanism of the Kyoto Protocol, technology transfer and donor funding opportunities. However, even given this scenario, emissions can still be expected to increase with economic development, albeit at a smaller pace than would have happened without intervention.

- **Current climate policy towards COP 15:**

To ensure appropriate access to the Kyoto Mechanisms, and other development funding, South Africa generally aligns itself with the Group of 77 and China negotiating bloc (G77+China). However, as one of the leading nations in the Africa Group, this will often take precedent if there is disagreement with the G77+China. It is important to note that it is unlikely that South Africa can take the position of the annex I and annex II countries ahead of the needs expressed by the G77+China, or the Africa Group, unless this action is specifically advantageous for South Africa. Further, South Africa must take the lead and express its concern for issues that are related specifically to its own economy and development, such as the dependency on coal.

South Africa plans to generate some 15 percent of its electricity from renewable sources by 2020. Abundant in sunlight and wind, renewables are an effective and cheaper alternative for the country, industry players say. But the lack of investor-friendly policies and subsidies and the need to boost power generation after the national grid nearly collapsed last year have made progress slow.

Minister of Environmental Affairs and Tourism Marthinus van Schalkwyk said lack of action could lead emissions in South Africa, the continent's largest emitter, to quadruple by 2050.
"If we continue to grow without a carbon constraint, we face the threat of border tax adjustments or trade sanctions from key trading partners and the destruction of thousands of jobs in the high emitting trade exposed sectors," he said. He said the government was finalizing a regulatory, fiscal and legislative framework that would make tracking and reporting of emissions mandatory. There would also be penalties if companies did not comply with emission reduction targets.

- **Policy regarding CO2 emissions**

South Africa has high CO2 emissions that is well above other developing countries. This is mainly due to the strong dependence on coal. South Africa has acknowledged that emissions need to be reduced by 30% by 2050 but they are not ready to make binding agreements – unless the industrialised countries have made serious binding reduction targets.

Brazil wants historic emissions to be the basis for greenhouse gas pollution targets and is proposing that the second period of (Kyoto Protocol) commitments be based on the historic responsibilities of each country. China, India and South Africa will back the historic emissions proposal in the United Nations talks.

- **Policy regarding Finance and Technology**

South Africa stressed that finance, technology and capacity building are all critical means of implementation, and a coherent architecture should address them all. On public finance, it stressed the importance of assessed contribution towards fulfilling commitments of Annex I Parties to provide new and additional funds, and that it was critical that this was under the COP. Commitments by Annex 1 Parties can only be considered measurable, reportable and verifiable if they are under the guidance and authority of the COP.

South African officials recently met to discuss strategy ahead of the December climate change talks in Copenhagen and agreed that at least 1 percent of global GDP should be set aside by rich nations. That money would help developing countries conduct research and take other steps to cope with climate change. It also could help them obtain technology to reduce their carbon emissions.

Alf Wills, a top South African environmental official, summed up the position of South Africa: "No money, no deal."

Saint Lucia (representative for AOSIS) – G77

- **A country profile:**

St. Lucia is one of many Small Island Developing States (SIDS) located in the Caribbean Sea. It sits on an ancient volcanic ridge connecting Martinique to the north and St. Vincent to the south. It has an area of 616 square kilometers and an estimated population (2000) of 156,300.

St. Lucia is classified as a middle-income Small Island Developing State. As is typical of any such States, St. Lucia is characterized, inter alia, by: Limited mineral resources; An open fragile economy highly vulnerable to external economic factors; Limited human resources; Limited financial and technical resources.

Although a small island, St. Lucia has a relatively high level of biological and ecosystem diversity. It is home to numerous terrestrial and marine plants and animal species. Ecosystems include rainforest, coral reefs, mangals and sea grass beds.

Population centers and economic activities, including tourism, are concentrated along the coast. These are therefore highly vulnerable to the anticipated effects of climate change such as sea-level rise. The supply of water has been affected over the years by deforestation and there is grave concern that it may be further negatively affected by the effects of climate change. St. Lucia is poor in mineral resources including petroleum. Consequently, there is heavy dependence on imported fuels for electricity generation. Approximately 97 percent of the population currently has access to electricity. The main economic activities are tourism, agriculture, services and manufacturing, in that order. Bananas constitute the main agricultural export although production has fallen sharply over the last few years due to unfavorable developments in traditional markets. This serves to underscore St. Lucia's vulnerability to external economic factors. Overall, St. Lucia's fragile natural and economic circumstances make it highly vulnerable to external events. Climate change is therefore likely to have a significant impact on the natural, social and economic environment of the country.

- **Current climate policy towards COP 15:**

St. Lucia signed the Kyoto Protocol the 16 March1998 and ratified it the 20 August 2003.
It is a Small Island Developing State, that has limited capacity to address the myriad issues to be faced as a result of the climate change phenomenon. Notwithstanding, notable progress has been achieved in areas such as policy development, public awareness, systematic observation and research and capacity building. It therefore looks to the developing countries to take action against the climate changes that is threatening the very existence of the island. It is the opinion of St. Lucia and the Alliance of Small Island States (AOSIS), that any package of mitigation-related activities must be sufficient to ensure that long-term temperature increases are stabilized well below 2 degrees Celsius. Even a 2 degree Celcius increase compared to preindustrial levels would have devastating consequences on SIDS due to resulting sea level rise, coral bleaching, coastal erosion, changing precipitation patterns and the impacts of increasingly frequent and severe weather events. Based on the best scientific evidence available, a 1degree Celcius increase in temperature above 1980-99 levels implies significant coral bleaching, increased losses from flooding, and substantial species extinction.

- **Policy regarding CO2 emissions**

With 1994 used as the reference year total CO2 emissions were calculated at 268 Gg. The energy sector was St. Lucia's largest source of GHGs, followed by the transport sector.
St. Lucia is pushing for at least 45% reduction of CO2 emissions by developed countries, by 2020 to combat climate changes in its region. In order to achieve long-term stabilisation levels well below 450ppm, global GHG emissions must peak within the next 10-15 years, and be followed by reductions of at least 50-80% of 2000 levels by 2050. The cost of achieving stabilization at 450ppm has been estimated at less than 3% of GDP by 2030 or less than 0.12% of GDP per year. This is a small figure, compared to the potential costs of the impacts of climate change if stabilization at that cannot be achieved. However, AOSIS is of the view that a substantially larger investment in mitigation measures, well beyond 0.12% of GDP per year, is needed, justified and must be ensured under the Convention to achieve a lower stabilization level and thereby ensure protection of Convention Parties that are particularly vulnerable to the impacts of climate change, including SIDS. Major emitting developing countries will also need to take action to reduce their emissions trajectories, with assistance from developed country Parties. These countries should be prepared to pursue a clean development path in the Post-2012 period, measured through decreasing carbon intensity, an increasing reliance on renewable energy technologies, and/or through quantified emission limitation commitments.

- **Policy regarding Finance and Technology**

The effects of climate change will have far reaching implications for all aspects of life in St. Lucia. Steps must therefore be taken to address all relevant issues in a proactive, coordinated manner. Given St. Lucia's limited human, financial and technological resources, regional and international cooperation and support will be required in a number of key areas including research, capacity building, adaptation measures, sustainable energy initiatives and public awareness. The funding of adaptation should be by way of grants not loans so that it was consistent with the polluter pays principle. Barbados, on behalf of the Alliance of Small Island States (AOSIS), highlighted the special and unique challenges that they face. These include insufficient funding for adaptation and mitigation technology, burdensome criteria to access the funding, limited access to funding, difficulty in measuring the true economic cost associated with adaptation. In addition, priority given to mitigation and adaptation is seen as peripheral.

St. Lucia supports the Convention Adaptation Fund that AOSIS has proposed. Using 1990 as a base year, Parties should be required to contribute to a Convention Adaptation Fund using a formula that is comprised of two components: (1) the level of a country's greenhouse gas emissions, reflecting responsibility; and (2) a GDP index, reflecting ability to pay. The creation of a Convention Adaptation Fund on this basis will implement the polluter pays principle and the principle of common but differentiated responsibilities and respective capabilities. The Convention Adaptation Fund can complement the Kyoto Protocol's Adaptation Fund and falls under the overall financial mechanism that has been proposed by the G77 and China.

St. Lucia is also in favour of the proposal by the Least Developed Countries and China, to set the level of contribution by Annex I Parties to a fixed percentage of GNP, which is over and above the 0.7% ODA (overseas development assistance) commitment.

Sweden - EU

- **A statistical outlook:**

Sweden ratified the UNFCCC in June 1993 and its Kyoto Protocol in May 2002. Its quantified emission limitation and reduction commitment under the Kyoto Protocol and the European Union (EU) burden-sharing agreement (its Kyoto Protocol target) is to keep its total greenhouse gas (GHG) emissions below 104 per cent of the base year (1990) level during the first commitment period (2008–2012).

- **A historical outlook**

In spite of considerable economic growth since the mid-1990s, Sweden is likely to reach its emission reduction commitment under the Kyoto Protocol by means of domestic measures alone.

Sweden managed to stabilize its CO2 emissions between 1990 and 2003 and to reduce its overall GHG emissions by 2.3 per cent over the same period. Emission reductions in the residential/commercial sector (–41.3 per cent) and in the waste sector (–28.4 per cent) were partly offset by increases in emissions from energy industries (+25.9 per cent) and from transport (+10.4 per cent).

Since the early 1990s, Sweden has developed and implemented a wide range of policies and measures aimed at mitigating GHG emissions. The ERT found that the work of strengthening and refining these policies and measures has continued and is coherent with active participation of a broad range of stakeholders and institutions at all administrative levels.

- **Previous stance regarding the Kyoto Protocol:**

Sweden's Kyoto target under the EU burden-sharing agreement is to keep total GHG emissions during the first commitment period (2008–2012) below 104 per cent of the 1990 level. On the basis of the information contained in its RDP, Sweden will meet this target by means of policies and measures already adopted or implemented. According to the NC4 projections, total GHG emissions (excluding LULUCF) are expected to be 1 per cent lower in 2010 than in 1990.

Sweden is developing the option of using the Kyoto Protocol mechanisms through its active participation in the pilot phase of the activities implemented jointly, as well as through investments in multilateral joint implementation (JI) and clean development mechanism (CDM) funds. It has allocated SEK 174 million for the acquisition of emission reduction units from JI and CDM projects.

- **Current climate policy towards COP 15:**

Sweden wants to push for a tax on CO2 in sectors that do not participate in the EU's emissions trading scheme (EU ETS) upon assuming the EU helm in July. Sweden is hoping to rally support for its proposal by highlighting how well a carbon tax has worked at national level.

- **Policy regarding CO2 Emissions**

Together with Norway, Sweden was one of the first countries to introduce a tax on carbon emissions back in 1991. Customers already pay a tax per litre for their fuel, and the government's proposed climate bill would hike up the price of diesel further, and link vehicle registration fees to carbon emissions.

Compared to the other IEA countries, Sweden's CO2 emissions per capita and per unit of GDP are low, partly owing to efficient and low-carbon space heating, and virtually carbon-free electricity generation. Nuclear provides almost half of the electricity in Sweden, at a low cost and without CO2 emissions. But the future of nuclear power in the national power mix is still uncertain. To provide clear guidance to the electricity sector, Sweden will need to resolve the ambiguity about the future of nuclear power in the country.

- **Policy regarding Finance**

Swedish official development assistance (ODA) in the area of climate change is intended to contribute to measures that prevent or minimize GHG emissions, reduce the vulnerability of least developed countries to the effects of climate change, and enhance their capacity to cope with and adapt to a changed climate. Sweden is one of the few countries to meet the United Nations ODA target of 0.79 per cent of gross national income (GNI) per year. The country's ODA budget for 2006 amounts to SEK 28,090 million, or 1 per cent of the calculated GNI for 2006. The greater part of Sweden's ODA consists of financial assistance for developing countries and countries with economics in transition, and is managed by the Swedish International Development Cooperation Agency (Sida). Approximately one third of Swedish ODA is channelled via multilateral organizations, coordinated by the Ministry of Foreign Affairs.

- **Policy regarding Technology**

Sweden reports on several projects that are being implemented in China, India, Indonesia, Mongolia, the Philippines, Thailand and Viet Nam with the aim of improving capacity for environmental inspection and administration, reducing GHG emissions in the iron and steel, cement and lime, pulp and paper, and chemical industries. The activities involve the training of operators and civil servants, supervision and the development of inspection guidelines.

In recent years Sweden has significantly increased its support to developing countries, with the aims of mitigating GHG emissions, reducing the vulnerability of poor countries and strengthening their ability to adapt to a changed climate.

Denmark - EU

- **A statistical outlook:**

Denmark has been a Party to the UNFCCC since 1993 and to its Kyoto Protocol since 2002. Within the "burden-sharing" agreement of the European Union (EU) for the Kyoto Protocol, Denmark committed itself to reducing its Green House Gasses (GHG) emissions by 21.0 per cent compared to the base year (1990) level during the first commitment period from 2008 to 2012.

- **A historical outlook**

The economy has been growing since 1993 at a rate of 2.7 per cent per year. In 2003, Denmark's Gross Domestic Product was DKK 1,400 billion, corresponding to DKK 260,000 per capita. The economy is open and sensitive to exports, which account for a substantial share of GDP. Denmark has a national climate policy and it has put in place a comprehensive package of policies and measures to mitigate GHG emissions. Among the domestic measures, taxation plays a particularly important role; among the EU-wide measures, the implementation of the EU Emission Trading Scheme (ETS) is most prominent in terms of the projected impact on GHG emissions.

- **Previous stance regarding the Kyoto Protocol:**

Denmark is optimistic that the use of the Kyoto Protocol mechanisms (the Clean Development Mechanism (CMD) and the Joint Implementation (JI)) and of the EU ETS will provide more cost-effective options for GHG emission reductions than domestic action, and will enhance Denmark's chances of meeting its commitment. Denmark adopted a national Climate Strategy (2003) for the period 2003–2008, followed by sector-specific strategies with concrete measures such as the waste strategy (2003), the energy strategy 2025 (2005), and strengthened energy-saving efforts (2005). As part of the Climate Strategy the national Climate Committee was set up in 2005 to monitor progress towards meeting Denmark's commitment under the Kyoto Protocol. To support the implementation of the EU ETS and the Kyoto Protocol mechanisms, the Danish Environmental Protection Agency has been appointed as the national allowances registry under the EU ETS, and will also act as the national registry under the Kyoto Protocol, while the Ministry of the Environment has responsibility for oversight of JI activities and the Ministry of Foreign Affairs has been selected as the coordinator of the CDM. The projected GHG emissions under that scenario in 2010 are 3.0 per cent above the base year level, whereas, under the EU burden-sharing agreement for the Kyoto Protocol, Denmark's target is a 21.0 per cent reduction. The gap between emissions and the target during the first commitment period is projected as 16.9 Tg CO2 equivalent per year. This indicates that meeting the Kyoto Protocol target may be a challenge for Denmark, and measures to meet the target may need to be strengthened.

- **Current climate policy towards COP 15:**

Denmark implemented various domestic policies and measures over the period 1990–2003 aimed to promote the transition to a low-carbon economy and a reduction in GHG emissions. These efforts included the switch from coal to natural gas at power plants, increased generation efficiency with CHP co-generation, and the use of subsidies as incentives to increase the share of biomass and other renewable in energy production (particularly wind power), the use of biodiesel and biogas capture. CO2 emissions per capita have thus declined over the years, despite the growth in gross domestic product (GDP) – by over 30 per cent during the period 1990–2003. Denmark has supported most of its emission reduction programmes by various acts and regulations but predominantly through fiscal policies (taxes).

- **Policy regarding CO2 Emissions**

The policy "Energy 2000" was introduced in 1990 to establish the goal of sustainable development in the energy sector. The aim of this policy and its characteristics are consistent with the "Energy 2000" which was introduced later, in 1996. The main overall target of these policies was to reduce CO2 emissions in 2005 by 20 % in compassion to 1998 levels. There is a subordinate target for the transport sector to reduce its CO2 emissions to the 1988 level, meaning that other sectors must reduce by 25 % to ensure the overall target is met. The main sources of CO2 emissions were power plants and transport, accounting for 50 % and 20 % respectively at 1994 levels. Renewable energy therefore has a large part to play in the forthcoming years to help reduce the CO2 levels. These policies therefore also incorporated the goal of the share of renewable energy to grow to 12-14 % of energy supply within this time period.

- **Policy regarding Finance**

Denmark has reported information on the assistance provided to developing country Parties that are particularly vulnerable to the adverse effects of climate change towards meeting the costs of adaptation. For example, a grant of DKK 11 million to a regional project for 14 island States in the Pacific in 2003 and a financial contribution of DKK 11.4 million to the Least Developed Countries Fund (LDCF) are reported. Furthermore, Denmark has reported on other financial resources related to the implementation of the Convention provided through bilateral, regional and other multilateral channels for the period 2000–2004.
In the NC4, Denmark reports that in the year 2004 development assistance of about DKK 12 billion, corresponding to 0.84 per cent of gross national income (GNI), was provided with the overall goal of promoting sustainable development through economic growth oriented towards the eradication of poverty. Denmark emphasizes that development cooperation should contribute to meeting the Millennium Development Goals by 2015. Denmark has also reported that official development assistance (ODA) of at least 0.8 per cent of GNI would be granted for the years to come, which will make Denmark one of the few developed countries to attain the indicative United Nations ODA target of 0.7 per cent of GNI.

- **Policy regarding Technology**

Denmark cites sector programme support to the energy sector in Mozambique, Burkina Faso, Egypt, Nepal and Malaysia as the most important examples of Danish-supported activities leading to the transfer of technology, and also reports that quite often there is no clear dividing line between soft and hard technology. The CDM has been identified as an efficient approach for developing, applying and disseminating environment-friendly technologies, know-how, and procedures and processes that can influence climate change.

Denmark has reported on a private-sector programme, an industrial fund for developing countries and partnership facility programme, and measures related to the promotion, facilitation and financing of the transfer of, or access to, environmentally sound technologies through involvement of the private sector.

France - EU

- **A statistical outlook**

France is a developed country and possesses the fifth largest economy by nominal GDP and eighth largest economy by purchasing power parity. France is one of the founding members of the European Union, and has the largest land area of all members. It is also a founding member of the United Nations, and a member of the Francophonie, the G8, NATO, OECD, WTO and the Latin Union. It is one of the five permanent members of the United Nations Security Council, possesses the third largest number of nuclear weapons in the world and the largest number of nuclear power plants in the European Union.

According to the OECD, in 2004 France was the world's fifth-largest exporter and the fourth-largest importer of manufactured goods. With an estimated population of 65.1 million people, France is the 19th most populous country in the world. France is the largest country in the European Union by area and has an annual emission of 383,148 tons of CO2. That is 1.4 % of the world's total emissions.

- **The political context**

By incorporating environmental protection into the constitution, passing an energy policy Act and drawing up a climate plan, France has given itself the legal means to address the environmental challenges.
In March 2005, France added a reference to the Environment Charter to the Preamble to her Constitution. This charter endorses inter alia the precautionary principle and reconciles the protection and husbanding of the environment with economic development and social progress. Starting in 1965, France made large investments in nuclear power and to this date about 80% of its electricity comes from nuclear reactors. This means that France is now considered as exemplary by advocates of nuclear power.

- **A historical outlook**

In 2004, France shut down its last coal mine, and now gets about 80% of its electricity from nuclear power and therefore has relatively low CO2 emissions. Nuclear power has not been the solution to eliminating greenhouse gas emissions in France, however. Despite the essential elimination of the use of oil in the French electricity sector since 1973 and the reduction of coal use, greenhouse gas emissions are high and have been rising. This is because the main greenhouse gas emissions come from the transportation sector as well as from the use of oil and natural gas in the residential, commercial, and industrial sectors.

Under the Kyoto agreement on global warming signed in 1997, most countries pledged to freeze their carbon dioxide emissions by 2010 at the level of 1990. For France, this represents 552 million tonnes a year.

The campaign against the greenhouse effect in France has produced positive results, a report from 2002 says. Carbon dioxide emissions have been brought down 15.5 per cent from 1990 to 2001. French industry has reduced emissions by 25 per cent over this period, and energy generation companies by 22 per cent, the report says. But emissions through transport and house heating have increased. Carbon dioxide emissions from transport have risen more than 26 per cent since 1990, and emissions from house heating more than 12 per cent, the report says. These two sectors produce 47 per cent of greenhouse gases emitted in France in 2001.

France will fail to meet the target despite the fact that it generates almost all its electricity in nuclear power stations, which do not emit greenhouse gases.

- **Previous stance regarding the Kyoto Protocol**

France signed the Kyoto Protocol in 1998 and ratified it in May 2002. Because of the high percentage of nuclear powered electricity, France is one of the lowest carbon-emitter countries in Europe per unit of GDP (Gross Domestic Product). Because of that, France is not obligated to reduce its CO2 emissions relative to 1990 under the Kyoto protocol, while other European countries have to reduce their emissions to 8 percent (collectively) below their 1990 levels sometime between 2008 and 2012.

- **Current climate policy towards COP 15**

France will be negotiating along with the European Union. EU's goal is to guarantee that the global temperature does not rise more than 2 degrees compared to previous levels at the industrial revolution. This can only happen if the global gas emissions peak sometime before 2020 and dramatically reduce before 2050. "The necessary cuts in global emissions can be achieved only if all countries contribute their fair share according to their responsibility and capacity. And even if the temperature increase stays below 2°C there will still be a need for significant adaptation efforts by all countries.

International negotiations are under way to conclude a global agreement at the UN climate change conference in Copenhagen (December 2009) for the period after 2012. The successful conclusion of these negotiations is a key priority for the EU."

- **Policy regarding CO2 Emissions**

France is the smallest emitter of CO2 among the seven most industrialized countries in the world, due to its heavy investment in nuclear power.

As a result of large investments in nuclear technology, most of the electricity produced in the country is generated by 59 nuclear power plants (78% in 2006, up from only 8% in 1973, 24% in 1980, and 75% in 1990).

- **Policy regarding Finance and technology**

France, along with the EU, recognizes the need for an effective institutional and organisational arrangement coordinating, supporting, enabling and managing the activities related to technology, including the recognition of activities and commitments undertaken by Parties and other actors, both within and outside the Convention.

Germany - EU

- **A statistical outlook:**

Germany has a developed social market economy that is ranked the world's fourth largest economy in USD exchange-rate terms, and the largest economy in Europe. From 1990 to 2004 the population of Germany increased by 3.1 million to 82 million. Since 2003, however, a downward trend in the population can be observed, and this will probably continue in the years ahead in view of the demographic structure and average fertility rates in the German population. Agricultural land (including bog and heath land) accounted for 53.0 percent of the total area of Germany in 2004 (189,324 km2). This was a reduction of 1.1 percentage points in agricultural land compared with 1996. By contrast, the area under forest shows an increase – of 0.4 percent points compared with 1996 – covering an area of 29.8 percent in 2004 (106,488 km2). With a share of 2.3 percent, the area covered by water accounts for only 8,279 km2 of the total area of Germany. Compared with 1996, the area covered by water has increased by 339 km², largely as a result of flooding and renaturing of former sand, gravel and lignite extraction sites. The share due to settlement and transport in 2004 amounted to 12.8 percent of the area of Germany (45,621 km2). Coal is Germany's most important energy resource, although government policy is to reduce subsidies for coal extraction. Coal production has declined since 1989 as a result of environmental policy and the closing of inefficient mines in the former East Germany. Also as of January 2004, proven natural gas reserves were 10.8 trillion cubic feet (310 km3), the third largest in the EU.

- **The political context**

Since 1994, environmental protection has been incorporated as a state objective in the Basic Law (constitution)of the Federal Republic of Germany. The Basic Law regulates the division of duties and responsibilities between the national and regional ("Land") levels. The Laender basically decide for themselves how their administration is to be organised.

Legislative competence in Germany is divided between the national and regional levels. Basically the Laender are responsible for legislation. The Federal Government has exclusive powers of legislation in certain fields allocated to it under the Basic Law (e.g. foreign affairs, defence or currency system); it also has powers of concurrent legislation in certain areas if a uniform federal system is necessary in the national interest (e.g. waste disposal, air quality control and noise abatement), and powers of framework legislation in certain areas (e.g. in the fields of nature conservation, landscape maintenance and water resources management). In view of this allocation of responsibilities, the Federal Government is able to shape environmental legislation.

- **A historical outlook**

The Federal Republic of Germany developed a comprehensive climate protection strategy at an early stage. In 1990 an inter-ministerial working group on CO2 Reduction was set up to identify reduction potential for greenhouse gases (especially CO2). The IMWG on "CO2 Reduction" presented six reports on the National Climate Protection Strategy to the Federal Cabinet in November 1990, December 1991, September 1994, November 1997, October 2000 and July 2005. In its National Climate Protection Programme of 18 October 2000 the Federal Government adopted extensive and coordinated packages of measures for the sectors energy, industry, private households, transport, and trade/commerce/services to safeguard its international promise to reduce greenhouse gas emissions by 21 percent by the period 2008/2012.

The Federal Government's climate protection programme is updated at regular intervals and implemented continuously – on the basis of its existing reporting obligations the IMWG "CO2 Reduction" will in future submit to the Cabinet an annual 13 progress report on the national greenhouse gas situation, with a special focus on the achievement of climate protection objectives.

- **Previous stance regarding the Kyoto Protocol:**

Between March 1998 and March 1999, 84 countries including Germany signed the Kyoto Protocol. In March 2002, the Bundestag unanimously ratified Kyoto. In May 2002, the European Union submitted the articles of ratification for all 15 of its then member states.
As an Annex II nation, Germany's commitment to the UNFCCC with respect to Kyoto amounted to reduced emissions as well as providing an economic crutch to developing nations via Clean Development Mechanisms. In November 2006, Germany's planned annual quota was 482M metric tonnes of CO2. German Greenhouse Gas Emissions were reduced by 17.2% from 1990 to 2004. Germany is actively promoting government carbon funds and supporting multilateral carbon funds intent on purchasing Carbon Credits from non-Annex I parties (developing countries). These government organizations are working closely with their major utility, energy, oil & gas and chemicals conglomerates to try to acquire as many Greenhouse Gas Certificates as cheaply as possible.

- **Current climate policy towards COP 15:**

Throughout the series of international negotiations leading to the United Nations Framework Convention on Climate Change (FCCC) and the Kyoto Protocol, Germany, along with the European Union (EU), have been at the forefront of efforts to address the challenges of global warming. Central German priorities include: The EU shall show leadership in the Climate Change Negotiations. Germany aims at benefitting from first mover advantage, through taking technological leadership in low carbon technology. Large scale innovation in the energy sector is prioritized.

- **Policy regarding CO2 Emissions**

Germany is Europe's largest and the world's 6th greatest single emitter of CO2. Since the signing and ratification of the protocol, Germany has committed to reducing its emissions 21% below 1990 levels between 2008 and 2012. In November 2008, a study found that Germany had already reduced its greenhouse gas emissions by 22.4%, which means it already reached its Kyoto Emissions Commitments. Along with the European Union, Germany has agreed on objectives for future climate policies: Independent commitment - 20% reduction compared to 1990. In context of international agreement - 30% reduction compared to 1990. So forth a broad agreement that engages the substantial CO2 emitters can be made, Germany is therefore willing to implement policies to reduce CO2 emission with 30 pct.

- **Policy regarding Finance and technology**

Germany recognizes the need for an effective institutional and organizational arrangement coordinating, supporting, enabling and managing the activities related to technology, including the recognition of activities and commitments undertaken by Parties and other actors, both within and outside the Convention. Along with the EU Germany argues that technology oriented agreements should guide and facilitate technology cooperation, including country specific deployment plans and energy efficiency programs. Germany and the EU believe the market and the private sector will deliver much of the finance for technology-related needs. Some tools and incentives however are necessary to facilitate private investment.

Italy - EU

- **A statistical outlook:**

From an agriculturally based economy, the Italian economy has developed into an industrial country ranked by the World Bank as the world's seventh largest economy in USD exchange-rate terms and tenth largest in terms of purchasing power parity (PPP). Italy's economic strength is in the processing and the manufacturing of goods, primarily in small and medium-sized family-owned firms. The country has been less successful in terms of developing world class multinational corporations. In addition, the small and medium-sized firms typically manufacture products that are technologically moderately advanced and therefore increasingly face crushing international competition. The GDP per capita is $30,400 (2007), making it one of the lowest in the European Union.

Italy has few natural resources. With much of the land unsuited for farming, it is a net food importer. There are no substantial deposits of iron, coal, or oil. Proven natural gas reserves, mainly in the Po Valley and offshore Adriatic, have grown in recent years and constitute the country's most important mineral resource. Most raw materials needed for manufacturing and more than 80% of the country's energy sources are imported.

- **The political context**

In Italy, the Government has overall responsibility for the implementation of the Kyoto Protocol, although a range of policies are the responsibility of regions, provinces and municipalities. At central level, the Ministry for the Environment, Land and Sea is responsible for overall climate policy coordination, while the Ministry of Economic Development is responsible for national energy policy. Italy has established a national system, which includes all institutional, legal and procedural arrangements for estimating emissions and removals of greenhouse gases, and for reporting and archiving inventory information.

- **A historical outlook**

Italy ratified the Climate Change Convention in 1994. Following the ratification, the National Program for the Containment of Carbon Dioxide Emissions by 2000 at 1990 levels was approved (1994) and since that time Italian Government has regularly updated the national program to reduce greenhouse gas emissions.

In its efforts to meet the commitments under the UNFCCC and the Kyoto Protocol, Italy has implemented a number of sectoral and cross-sectoral policies and measures that have had or are expected to have a direct or indirect effect on the reduction of greenhouse gas emissions. The most relevant cross-sectoral initiative is represented by the White Certificates system, aimed at promoting energy efficiency and delivering emission reductions in all the energy end-use sectors. The system is designed to achieve a primary energy saving target of 2.9 Mtoe per year by 2009. As regards additional measures still under discussion, there is a realistic chance that the White Certificate system will soon be extended firstly to 2012 and lately to 2020. The European Union Emissions Trading Scheme (EUETS) and the flexible mechanisms of the Kyoto Protocol are also assessed and are expected to deliver reductions for respectively 13.25 and 20.75 MtCO2 per year by 2010.

Since 1990, final energy consumption has been increasing steadily, with transport and industry being the most energy-consuming sectors.

- **Previous stance regarding the Kyoto Protocol:**

In 2002 Italy ratified the Kyoto Protocol, thereby committing to reduce greenhouse gas emissions by 6.5 per cent below base-year levels, on average, over the first commitment period, 2008-2012. While there has been a tendency of increased agreement within the EU, and member countries have expressed the necessity to keep up the international negotiation process in spite of large emitters' lacking will to commit to substantial reductions, Italy have argued otherwise. Italy has several times expressed that an international agreement is useless without the agreement of three of the world's biggest polluters (USA, China, India). The words of the Italian Minister of Environment, when talking about the Kyoto Protocol: "Seeing as these countries do not wish to talk about binding agreements, we must proceed with voluntary accords, bilateral pacts and commercial partnership," reflect a priority quite different from EU's otherwise unwavering support for the Kyoto Protocol and UN as framework for Climate Negotiations.

- **Current climate policy towards COP 15:**

In the energy supply sector, strong reductions are expected from implemented and planned policies and measures in the renewable energy sources field, where reductions for 6.87, 19.01 and 26.60 MtCO2 per year will be delivered respectively by 2010, 2015 and 2020. The major policy mechanism through which The Government supports the development of new renewables capacity is the Green Certificates system that introduced the obligation on electricity producers to feed the grid with a minimum share of electricity produced from renewable energy sources. Via the renewable energy policy Italy aims to: Achieve 17% renewable electricity production by 2010. Concerning bio fuels a mandatory target of 2% of sales in 2008 and 3% in 2009 has been set. Policies include: Priority access to the grid system is granted to electricity from renewable energy and CHP plants. 3.05% target for electricity from renewables. Not yet mandatory. Introduction of Tradable Green Certificates to fulfil renewable energy obligation. A fixed, feed-in tariff for Photo voltaics exists (guaranteed for 20 years) Subsidies for bio ethanol production. Tax exemptions for biodiesel production.

- **Policy regarding CO2 Emissions**

Only two other European countries have higher CO2 emissions that Italy (Germany, UK) and on a global scale, Italy ranks as the 10the largest emitter of CO2. Measuring the CO2 emissions per capita shows that Italian per capita emissions are well below the EU-27 average, though. The yearly emissions reach 474,000,000 metric tons, which means that Italy is responsible for 1.7 pct. of the world total emission and 13 pct. of EU emissions. Italy's emissions increased between 1990-2006 by 9.9% (according to the Kyoto Protocol baseline year). Given the heavy dependence of Italian economy upon fossil fuels, meeting the emissions targets in the accomplishing of the Kyoto Protocol is a very challenging task.
In the framework of the current national strategy, the general approach to achieving the CO2 emission-target consists in the implementation of domestic policies and measures for at least 80% of the reduction effort and in the use of the Kyoto mechanisms up to 20%.

- **Policy regarding Finance and technology**

In line with the EU, Italy argues that technology oriented agreements should guide and facilitate technology cooperation, including country specific deployment plans and energy efficiency programs. Italy and the EU believe the market and the private sector will deliver much of the finance for technology-related needs. Some tools and incentives however are necessary to facilitate private investment. According to the Italian Kyoto Ratification Law (law 1 June 2002, n. 120), Italy shall provide financial assistance to developing countries in the climate change field, in particular allocating 68 million Euro/year.

Poland - EU

- **A statistical outlook**

Poland is a moderately developed country, but among the poorest countries within the enlarged European Union, with its gross domestic product per capita, in terms of purchasing power parity, about 50% of the EU average. The Republic of Poland is a constitutional republic ruled upon a mixed parliamentary and presidential system of power and with a classical power system broken into three subsystems (encompassing legislative, executive and judicial powers.

The process of deep socio-economic changes that began in Poland in 1989 has been targeted at an in-depth ownership transformation, the implementation of effective policy against monopoly, liberalisation of prices and adaptation of their structure to the system operating on international markets, the opening of the economy worldwide, making the capital market operational and allowing for foreign investments in the country.

The main domestic energy sources are coal, lignite, and peat; rivers remain a largely untapped source of power. In 2001, the net installed capacity was 30,559,000 kW. Production in 2000 was 135.2 billion kWh, of which 98.1% was from fossil fuels, 1.5% from hydropower, and less than 1% from other renewable sources.

- **The political context**

The decision on the ratification by Poland of the United Nations Framework Convention on Climate Change, and later of the Kyoto Protocol has been driven by its political will to join the international efforts in activities agreed upon jointly under the Convention to slow down climate change and to take both the individual and international responsibility for the processes leading to that change.

The Minister of the Environment is the leading body of the state administration responsible for supervising and coordinating work within the Government of the Republic of Poland in the field of environmental protection, including climate change. He performs his duties supported by his executive administration body – the Ministry of the Environment. In principle, the Minister of the Environment is responsible for: the protection of the overall environment-related issues and the use of natural resources, meteorology, environmental control and monitoring, as well as forestry. Furthermore, the Minister of the Environment supervises the National Fund for Environmental Protection and Water Management and the 'State Forests'
National Forest Holding. Control powers lie within the Chief Inspectorate for Environmental Protection, which is subordinated to the Minister of the Environment. Financial support for environmental activities is provided by the National Fund for Environmental Protection and Water Management and the voivodship (province), poviat (county) and gmina (commune) level funds. The funds' income comes from fees for utilising the environment and from fines imposed and executed for exceeding the permissible emission standards or for environmental contamination (environmental fees and fines). These financial resources are in return used for financing environment-friendly activities, including air protection, climate protection, environmental education and other fields.

- **Previous stance regarding the Kyoto Protocol:**

Poland signed the Kyoto Protocol in July 1998 and ratified it in 2002. As a Party to the Kyoto Protocol has made a commitment to reduce its greenhouse gas emissions by 6% selecting 1988 as the base year for commitments under the UNFCCC and the Kyoto Protocol regarding emissions of the three main gases: carbon dioxide, methane and nitrous oxide, and 1995 as the base year for industrial fluorinated gases: HFCs, PFCs and sulphur hexafluoride.

Political and economic transformation that has taken place since 1990, caused the national GHG emissions to drop much below Poland's target under the Kyoto Protocol. Over the years 1988–2004, GHG emissions decreased by as much as 31.7% below the base year. This target has been achieved by implementing a package of policies and measures primarily leading to the improvement of energy efficiency and restructuring of fuel consumption.

Poland takes part in the European Union negotiation group, which meet in private during and in between Climate Conferences to agree on common negotiating positions.

- **Current climate policy towards COP 15:**

The priorities for the Polish energy policy until 2030 includes improving energy efficiency, increasing security of supply and developing competitive markets for fuels and energy, introducing nuclear power, increasing the use of renewable sources and reducing the impact of energy on the environment.

Poland aims to reduce the impact of growth in demand for fuels and energy, which in turn will contribute to increased energy security, due to reduced dependence on imports. This will also limit the impact of energy on the environment by reducing CO2 emissions. One of the proposed support instruments is a system of "white certificates", which provides financial benefits for those making the biggest energy savings. In addition, the Ministry plans a dynamic development of production of electricity and heat in the high-efficiency cogeneration technology. A new field of activity is the introduction of nuclear power in Poland, which has strong advantages in terms of zero CO2 emissions.

Since the beginning of 1990s the Polish economy has been functioning and developing in line with the principles of a free market economy and now it is becoming more and more affected by globalisation processes. Poland is successfully making use of certain instruments to stimulate desired behaviour of the

users of the environment assuming that "environmental goods" have a certain value, which should be taken into account in the economic cost-benefit evaluation. The concept based on the fundamental "polluter pays" principle is implemented by using a number of new instruments of a fiscal nature or by enforcing certain requirements or technical standards, which stimulate the desired behaviour of environmental end-users. They include: Promotion of production and services less-burdening to the environment and therefore aiming at more sustainable consumption. Stimulation of multiple-use of goods, recycling and recovery of secondary resources. Development of equipment and facilities that serve environmental protection. Use of the principle of preventing pollution "at source" and promotion of implementing best available techniques/best available practices (BAT/BEP). Securing and developing work places that are less burdening to the environment and serving the environment, the so-called "green work places". Strengthening and enlarging the export offer of Polish economic entities involved in environmental protection, especially the export to the markets of Central and Eastern Europe and of the developing countries. Capacity-building in advisory services serving sustainable development. Involvement of financial institutions to support market-based undertakings in environmental protection and sustainable development.

- **Policy regarding CO2 Emissions**

Pursuant to Article 4.6 of the United Nations Framework Convention on Climate Change and paragraphs 4a and 7 of Decision 9 of the Second Conference of the Parties to this Convention, Poland recognizes justification for a flexible approach to fulfilling its commitments resulting from the Convention as regards the following issues:
Poland has adopted 1988 as the base year for the assessment of its commitments, the 1990 emission level may only be used for the assessment of the state of global emissions, but it cannot be used as a basis for reviewing Poland's compliance with the obligations of the Convention, this Communication was drawn up in conformity with the reporting guidelines as adopted by the Fifth Conference of the Parties to the United Nations Framework Convention on Climate Change, and meets the required scope of information and way of presentation to the maximum extent possible. The reason for Poland to decide on changing the base year from 1990 to 1988 was that the year 1990 was the first year in Poland after major political and economic transformation, which significantly affected the stability of the Polish economy.

Enforced provisions of the environmental policy, and implementation of restructuring and modernization processes in the economy contributed to the reduction of environmental pressures. Air emissions of major pollutants – SO2, NOx and particulates - have declined by around 55%, 38% and 76%, respectively, compared with the level of the early 1990s.

- **Policy regarding finance and technology**

Poland recognizes the need for an effective institutional and organizational arrangement coordinating, supporting, enabling and managing the activities related to technology, including the recognition of activities and commitments undertaken by Parties and other actors, both within and outside the Convention.
Along with the EU, Poland argues that technology oriented agreements should guide and facilitate technology cooperation, including country specific deployment plans and energy efficiency programs.

Romania - EU

- **A statistical outlook:**

Romania is situated in the south-eastern part of the Central Europe inside and outside of the Carpathians Arch, on the Danube lower course (1075 km) and has exit to the Black Sea, being placed at a distance ranging between 1050 km and 2800 km against the continent extremities.
Since 22 June 1995, when Romania submitted formally the application for the accession to the European Union, the European integration has been representing the political objective of all the following Governments and political parties. In 2004 Romania completed the negotiation process followed by the signing of the Accession Treaty on 25 April 2005, establishing the official accession of Romania to the European Union on 1 January 2007.
The Romanian economy is a market economy. The transition at the beginning of 1990, from a centralized, state-controlled economy to an unguided free market economy, resulted in significant economic and social difficulties. During this transition to capitalism, Romania has displayed symptoms of considerable economic recession.

- **The political context**

The 1991 constitution proclaims Romania as a democracy and market economy. The constitution directs the state to implement free trade, protect the principle of competition, and provide a favourable framework for economical development. The constitution provides for a president, a Parliament, a Constitutional Court and a separate system of lower courts that includes the Supreme Court. The two-chamber Parliament, consisting of the Chamber of Deputies and the Senate represents the law-making authority. Deputies and senators are elected for 4-year terms by universal suffrage. Elected officials at all levels of government, with the exception of the president and mayors, are selected on the basis of party lists, with parliamentary seats, city and county council representation, all allocated in proportion to party choices made by the electorate. The president is elected by popular vote for a maximum of two terms. The length of the term was extended from four to five years in an October 2003 constitutional referendum. He is the Chief of State, charged with safeguarding the constitution, foreign affairs, and the proper functioning of public authorities. He is the supreme commander of the armed forces and chairman of the Supreme Defense Council. According to the constitution, he acts as mediator among the power centers within the state, as well as between the state and society. The president nominates the Prime-Minister, who in turn appoints the Government, which must be approved by a vote of confidence in the Parliament.

- **A historical outlook**

Romania signed the United Nations Framework Convention on Climate Change in 1992 at the Earth Summit in Rio, and ratified it by Law no. 24/1994, being included in the Annex I as a country with economy in transition.

The first National Strategy on Climate Change of Romania (NSCC) was approved by the Governmental Decision no. 645/2005. The Strategy represents the general framework for implementing climate change policies and measures in the period 2005-2007. With this Strategy, Romania has taken its first steps towards a targeted and coordinated national effort to limit GHG emissions and to deal with the climate change impacts that are to be expected. The Strategy outlines Romania's policies in meeting the international obligations under the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol as well as Romania's national priorities in climate change.

The National Action Plan on Climate Change (NAPCC) is the main instrument for the implementation of the NSCC and establishes how implementation progress is to be reported. NAPCC assigns tasks and responsibilities for every stakeholder institution and identifies the main actors for each specific action and relevant task. The NAPCC provides clear deadlines for the actions that need to be implemented and identifies potential funding sources for specific actions. Although the Kyoto Protocol's flexible mechanisms are "voluntary", Romania got involved successfully in the development of "Joint Implementation" projects based on the cooperation with different countries, for the reduction of greenhouse gas emissions. Romania has initiated and continues to develop bilateral cooperation with different states, for the development of this type of projects.
As with most of the fast developing countries, there is an environmental issue and a concern on Romania's model of economic growth which is based on the construction industry and manufacturing sectors. Although Romania's population decrease by less than 5% between 1990 and 2000, urban areas expanded by no less than 25% over the same period. Meanwhile, Romania's energy consumption has doubled over the last 15 years and is currently rising by 6% per annum. This is particularly worrying for a country whose dependence on imported oil (meeting roughly 40% of Romania's energy needs) is one of the greatest in the European Union. Large-scale housing and tourism development are placing strain on local land and water resources.

- **Previous stance regarding the Kyoto Protocol:**

The Kyoto Protocol was approved in 1997, at the third Conference of the Parties to the Convention, in order to establish clear measures, targets and deadlines for developed countries to reduce GHG emissions. Romania signed the Kyoto Protocol in 1999 being the first Annex I Party to ratify it by Law no. 3/2001. The target adopted by Romania is 8% in the first commitment period 2008-2012, comparing to a different base year (1989).
Romania is a member of the European Union Negotiation Group, which meets in private in between and during Climate Conferences to agree on common negotiating positions.

- **Current climate policy towards COP 15:**

The Romanian energy policy is established taking into account that the Romanian market would be a component of the EU energy market and consequently focuses on energy safety, efficiency, and environment and consumers protection. Presently the Romanian energy policy is focused on meeting the obligations committed during the negotiation of the Chapter 14-Energy within the EU integration process.
Since Romania is fulfilling emission reduction commitments, it is likely that Romania will argue for stronger commitments by other countries. Also within the European Union, Romania advocates for member states to make efforts to reach their commitment levels (E.g. Italy).

- **Policy regarding CO2 Emissions**

Romania is the world's 37th largest CO2 emitter. Annual CO2 emissions 98,500 (thousands of metric tons) and is responsible for approximately 0.4 pct. of the world total CO2 emissions.

The current level of GHG emissions is far below the Kyoto Protocol's target taken by Romania. Assessing the economic growth scenarios and the projected GHG emissions, it is obvious that Romania will fulfil its emissions reduction commitment under the Kyoto Protocol, without any additional measures. However, a substantive potential exists to further reduce the carbon intensity of the Romanian economy and to decouple and lower the GHG emissions growth trend from the GDP growth trend.

- **Policy regarding Finance and technology**

Romania recognizes the need for an effective institutional and organizational arrangement coordinating, supporting, enabling and managing the activities related to technology, including the recognition of activities and commitments undertaken by Parties and other actors, both within and outside the Convention.

Along with the EU, Romania argues that technology oriented agreements should guide and facilitate technology cooperation, including country specific deployment plans and energy efficiency programs. Romania and the EU believe the market and the private sector will deliver much of the finance for technology-related needs. Some tools and incentives however are necessary to facilitate private investment.

United Kingdom - EU

- **A statistical outlook:**

The United Kingdom of Great Britain and Northern Ireland (the United Kingdom) has been a Party to the UNFCCC since 1993 and to its Kyoto Protocol since 2002. Within the "burden-sharing" agreement of the European Union (EU) for the Kyoto Protocol, the United Kingdom committed itself to reducing its greenhouse gas (GHG) emissions by 12.5 per cent compared to the base year (1990) level during the first commitment period, from 2008 to 2012.

- **The political context**

The UK is hard pressed to meet its target of reducing CO2 emissions by 20% by 2010. However, the government has not given up on meeting the 20% goal. The government will push for a greater take-up of energy efficiency schemes provided by energy suppliers and local authorities. It also hopes a new Climate Change Communications Initiative will change public attitudes towards the impact of global warming.

- **A historical outlook**

The United Kingdom's GHG emissions were, in 2004, 14.3 per cent below its 1990 emissions (and 13.6 per cent below the estimated base year level under the Kyoto Protocol), at the same time as 2005 was the 14th consecutive year of positive economic growth. The emission reductions have been driven by a solid and coherent programme of action, which includes measures to increase energy efficiency across all sectors and to support the increase in the share of less carbon-intensive fuels in the national energy mix. Among the measures currently in place, the EU Emission Trading Scheme (ETS) is estimated to provide the greatest emission reductions by 2010. The UK Climate Change Programme includes measures which are projected to provide emission reductions amounting to between 19.4 and 37.8 Tg CO2 by 2012. Besides its Kyoto Protocol target of –12.5 per cent, the United Kingdom has adopted two voluntary and challenging domestic targets: to reduce its CO2 emissions by 20 per cent by 2010 and by 60 per cent by 2050, with real progress towards these targets expected by 2020.

- **Previous stance regarding the Kyoto Protocol:**

In 2004, the United Kingdom's annual emissions of the six GHGs covered by the Kyoto Protocol had decreased by 13.6 per cent below the base year (1990) level. The main drivers for these emission reductions are changes in the energy supply mix, energy efficiency improvements including a CHP support strategy and relevant targets up to 2010, the Renewables Obligation (2002), renewable energy support programmes, pollution control measures in the industrial sector, and reductions in non-CO2 emissions, including the F-gases, achieved through the domestic ETS, the European Community's Integrated Pollution Prevention and Control (IPPC) Directive and voluntary agreements. The combined effect of these measures is estimated as a reduction of emissions by about 30 per cent by 2004, compared to a scenario without these measures. The United Kingdom's legally binding commitment under the EU burden-sharing agreement is to reduce GHG emissions by 12.5 per cent below the base year (1990) level over the first commitment period. The actual emissions trends (1990–2004) and projections demonstrate that the United Kingdom is well on track to meet this target: without any additional measures GHG emissions are expected to be about 19.0 per cent below the base year level in 2010.

- **Current climate policy towards COP 15:**

The additional measures planned and adopted for implementation from 2005 to 2020 are included in the "with additional measures" scenarios. These measures are expected to deliver reductions beyond the Kyoto Protocol target of 12.5 per cent in order to achieve the ambitious national target to decrease CO2 emissions by 20 per cent below the 1990 level by 2010. Among these additional measures, the EU ETS plays an important role: the emission reductions from the EU ETS second phase are estimated to be in the range of 11–29.3 Tg CO2.

- **Policy regarding CO2 Emissions**

The government set the goal of cutting carbon dioxide emissions by 20% from 1990 levels by 2010 when it came to power in 1997. This target went beyond the 12.5% reduction outlined in the Kyoto Protocol - which the UK is expected to meet. The main policy tool for reducing emissions is the EU's Emission Trading Scheme (ETS), which caps greenhouse gas emissions from energy-intensive industries and allows companies to buy and sell emissions permits with each other.The scheme was launched at the beginning of 2005, and European governments are now consulting on national caps for the second phase, to run from 2008-2012.

- **Policy regarding Finance and Technology**

The multilateral institutions to which the United Kingdom has contributed financial resources include the GEF, the World Bank, the International Finance Corporation, the African Development Bank, the European Bank for Reconstruction and Development (EBRD), the Inter-American Development Programme, the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP), the UNFCCC and the World Meteorological Organization (WMO).

The Bristish Prime Minister Gordon Brown were recently quoted saying: "If we are to achieve an agreement in Copenhagen I believe we must move the debate from a stand-off over hypothetical figures."

Britain has given its support for a Norwegian proposal - being considered by the European Union - to levy a charge on national emissions rights allocated to rich countries under a new climate agreement after 2012.

Brown also said some of the $100 billion fund could be raised from international aviation and shipping, for example from taxing or including these in emissions trading markets. Funds might also be raised through government-backed bonds to protect forests.

The United Kingdom reports that technology transfer is provided mainly through its bilateral and multilateral activities. The United Kingdom promotes and enhances developing countries' access to financing for "hard" or "soft" environmentally sound technologies by undertaking or participating in initiatives such as the Renewable Energy and Energy Efficiency Partnership (REEEP), the Climate Change and Energy Programme, the UK Technology Partnership Initiative, the International Energy Agency (IEA) Greenhouse Gas Technology Information Exchange, and the Climate Technology Initiatives of the Organisation for Economic Co-operation and Development (OECD) and the IEA.

Australia - Umbrella group

- **A statistical outlook:**

Australia has a wide range of climates and landscapes, ranging from tropical rainforest to sandy desert. It also has a diverse marine environment along its 36,700 km coastline. The oceans have a major influence on the continental climate, which is temperate in the south, subtropical and tropical in the north, and hot and dry inland. The population of Australia was 19.88 million in 2003, having increased by 15.7 per cent since 1990. This growth is expected to slightly slow down, and the population is expected to be 32.2 per cent higher in 2020 than in 1990. As the birth rate is relatively low, the main driver for this population increase is immigration. This population growth is higher than in other developed countries and will exert an increasing pressure on energy and other resource use, and on emissions of greenhouse gases (GHGs).

Australia's economy is the fourteenth largest in the world, with a gross domestic product (GDP) of USD 502.9 billion (AUD 748 billion) in the 2002–2003 financial year. The economy grew by 51 per cent between 1990 and 2002. Although the growth slowed down slightly to 3 per cent annually in 2002 and 2003, the economy continued to expand, strongly underpinned by consumer spending and export growth that altogether led to a solid growth in employment. Australia's large energy reserves result in relatively cheap energy, and consequently a national economic structure geared towards activities that are intensive in terms of energy(and emissions), such as metal processing, resource extraction and agriculture.

Due to national circumstances, including its export orientation, Australia still had one of the highest energy intensity levels of the OECD countries. Together with heavy reliance on fossil fuels in the primary energy mix, the high energy intensity led to a very high emission intensity of the economy compared to most other countries.

- **A historical outlook**

Australia is among the leading countries in the southern hemisphere in advancing the scientific understanding of climate change phenomena through climate-related research and systematic observation and in sharing this understanding with other countries, especially developing countries. It is also among the leading countries in advancing the scientific understanding of climate change impacts and adaptation, which is understandable given that it is among the developed countries already experiencing noticeable impacts of climate change.

- **Previous stance regarding the Kyoto Protocol:**

Australia ratified the United Nations Framework Convention on Climate Change (UNFCCC) on 30 December 1992. It signed the Kyoto Protocol on 29 April 1998, but decided in June 2002 not to pursue its ratification and to initiate a process for development of a long-term climate response strategy. This was because the Australian Government did not believe that the Kyoto Protocol would be environmentally effective or meets Australia's long-term interests, as it did not include commitments for all countries where substantial GHG emissions occur. Nevertheless, it remained committed to meeting the target under the Kyoto Protocol of 108 per cent of net 1990 emissions (the Kyoto target).

In December 2007 the Australian Government then decided to ratify the Kyoto Protocol, thereby formally accepting the target of limiting Australia's national emissions to 108% above 1990 levels by 2012. The most recent national greenhouse accounts show Australia's emissions tracking slightly below this target. The federal government has also committed to a long-term target to reduce Australia's emissions by 60% by 2050.

- **Policy regarding CO2 emissions**

The Government is strongly committed to reducing Australia's carbon pollution. The Carbon Pollution Reduction Scheme (CPRS) is the main driver to achieve this important environmental goal. When it commences on 1 July 2011, it will guarantee that Australia meets its expanded emissions reductions of as much as 25 per cent of 2000 levels by 2020. As a market-based solution, the Scheme is the lowest cost way to reduce emissions. A range of measures will be put in place to assist business and households to adjust to the carbon price. It will protect the jobs of today while encouraging the jobs of the future.

The Government has committed to reduce Australia's carbon pollution to 25 per cent below 2000 levels by 2020 if the world agrees to an ambitious global deal to stabilise levels of greenhouse gases in the atmosphere at 450 parts per million CO2-equivalent or lower by mid century.
The Government will adopt such a reduction only as part of an ambitious international agreement involving comprehensive global action capable of stabilising atmospheric greenhouse gases at 450 parts per million or lower by mid century.

Such a comprehensive and ambitious agreement must meet following conditions:

1. comprehensive coverage of gases, sources and sectors, with inclusion of forests (e.g. Reducing Emissions from Deforestation and forest Degradation - REDD) and the land sector (including soil carbon initiatives (e.g. bio char) if scientifically demonstrated) in the agreement;
2. a clear global trajectory, where the sum of all economies' commitments is consistent with 450 ppm CO2-e or lower, and with a nominated early deadline year for peak global emissions no later than 2020;
3. advanced economy reductions, in aggregate, of at least 25 per cent below 1990 levels by 2020;
4. major developing economy commitments to slow growth and then reduce their absolute level of emissions over time, with a collective reduction of at least 20 per cent below business-as-usual by 2020 and a nominated peak year for individual major developing economies;
5. global action which mobilises greater financial resources, including from major developing economies, and results in fully functional global carbon markets.

- **Policy regarding Finance and Technology**

Australia argues that the architecture of any future new climate funding mechanisms should contain criteria for contributions by Parties and non-state actors. Contributions should be determined in accordance with national capabilities and circumstances. Criteria for spending should also be adopted with the goal of maximizing the effectiveness of national and private sector funding. The coverage of the carbon market should also be expanded. Australia has furthermore stated (implicitly suggesting differentiation of non-Annex I countries) that 15 developing countries today are wealthier than Portugal, which was used as the benchmark for determining participation in Annex I of the Kyoto Protocol.

Canada - Umbrella group

- **A statistical outlook:**

Canada has the tenth largest economy in the world; it is one of the world's wealthiest nations, and a member of the OECD and Group of Eight (G8). In the context of COP 15, Canada is part of the informal coalition 'the Umbrella Group'. Canada's population is 32.8 million (2005). As with other developed nations, the Canadian economy is dominated by the service industry, which employs about three quarters of Canadians. Canada is unusual among developed countries in the importance of the primary sector, with the logging and oil industries being two of Canada's most important. Canada also has a sizable manufacturing sector.
Canada has considerable natural resources spread across its varied regions. In British Columbia, the forestry industry is of great importance, while the oil industry is important in Alberta and Newfoundland and Labrador. Northern Ontario is home to a wide array of mines, while the fishing industry has long been central to the character of the Atlantic provinces, though it has recently been in steep decline. Canada has mineral resources of coal, copper, iron ore, and gold. Canada is one of the few developed nations that is a net exporter of energy. Most important are the large oil and gas resources.

- **The political context**

Given the diverse nature of the country's regions, knowledge of Canada's governance structure and political tradition is essential to understanding its response to climate change. Governing rights and responsibilities are divided among the national and provincial governments based on the Canadian constitution. The constitution does not assign exclusive responsibility for environmental protection or related public policy to a single level of government. Jurisdiction over the many areas critical to the implementation of climate-change policy is shared among federal and provincial governments. Natural resources are under provincial jurisdiction, while international treaties such as the Kyoto Protocol are under federal jurisdiction. While the federal government plays a formative role in national environmental policy, this division of responsibilities calls for a high degree of cooperation among the federal, provincial, municipal and First Nations governments in shaping effective climate policy.

- **A historical outlook**

Canada's climate change policy has evolved considerably during the last fifteen years, through initiatives undertaken by all orders of government. Three periods can be outline:
First Steps: 1990-1996: Nationally coordinated approach; "no regrets" approach focusing on energy efficiency & voluntary action. Secondly: The National Climate Change Process: 1997-2002 with focus on voluntary and incentive based actions including technology; increase in federal funding. And finally: The Post-Kyoto Ratification: 2003-2005: National process shifts to bilateral approach; provincial/territorial initiatives advanced.

Canada's New Government is taking an integrated approach to the reduction of both greenhouse gas (GHG) and air pollutant emissions. The cornerstone of Canada's new approach is legislation tabled in Parliament on October 19, 2006. Canada's Clean Air Act takes a comprehensive approach to the problem of worsening air quality and GHG emissions. The Act represents a significant shift from a voluntary to a regulatory approach. They will lead to significant and long-term reductions in air pollution and GHG emissions from industry, transportation and consumer products, as well as new standards for energy efficiency in a wide range of everyday products and appliances.

- **Previous stance regarding the Kyoto Protocol**

Canada signed the Kyoto Protocol in 1998 and ratified it in 2002. It was active in negotiations leading to the Kyoto Protocol of 1997. However, the Liberal government that later signed the accord took little action towards meeting Canada's greenhouse gas emission targets. In the decade after Kyoto, Canada's greenhouse gas emissions increased by around 30%. The current Conservative government opposed the imposition of binding targets unless they were also imposed on such countries as China and India, which are exempt from reduction requirements under the terms of the Kyoto Protocol. At the Bali Summit in 2007, the IPCC urgently recommended that world leaders and their policymakers take all necessary steps to ensure that average global greenhouse gas emissions peak no later than 2015 and then decline quickly afterwards. For most of the conference, representatives of the Government of Canada, along with the United States and Japan, worked to oppose crucial elements of the Bali roadmap. During the conference, Canada was singled out by other countries and high-ranking UN officials for its obstructive behaviour. In virtual isolation at the end of the conference, Canada agreed not to block a weakened consensus agreement.

- **Current climate policy towards COP 15:**

By adopting the Clean Air Act (2006) Canada intends to reach significant and long-term reductions in air pollution and CO2 emissions from industry, transportation and consumer products, as well as new standards for energy efficiency in a wide range of everyday products and appliances. Other means to reduce GHGs, include use of the Kyoto Mechanisms, to supplement Canada's domestic action. Canada's current government has expressed a target of 20 per cent below 2006 levels by 2020, which is less than 3 per cent below 1990 levels. Canada will probably not agree to a more substantial commitment at the COP15 and will likely block negotiations that will pressure it to do so. At the Conference of Parties discussions of which base line year should be the underlying basis for reduction measures, Canada proposes using a more recent reference year while G-77/China, the EU, Switzerland, Norway, and others supports retaining 1990 as the base year.

- **Policy regarding CO2 Emissions**

Canada's vast geography, natural-resources production, export-oriented economy, northern climate, and high population growth all contribute to increased energy demand – a key determinant of GHG emission levels. Another key determinant is economic growth. Canada experienced significant economic growth since the late 1990s, particularly affecting energy- and carbon-intensive sectors. Canada is the world's 8th largest CO2 emitter and responsible for 1.9 pct. of the total world emissions (2006). Canada's total GHG emissions for 2006 were ~721 megatonnes of carbon dioxide, about 29% above Canada's Kyoto targets. Though Canada creates targets for CO2 reductions, critics claim that since policymakers will not make sufficient pressure on emission reductions within transportation, electricity generation and fossil fuel production - in which the greatest reductions are possible – Canada will not be able to meet the announced targets.

- **Policy regarding Finance and technology**

Canada is a global leader in developing energy-efficiency technologies and practices, and sees potential in using its role as such in regards to transferring technologies to developing countries. While many developing countries stresses the need for public sector funding for technology transfer, with the African Group underscoring that for adaptation technologies in particular, public finance is critical due to lack of private sector interest. Canada, in this respect, stresses the need to catalyze private investment in technology development and transfer. In relation to financial transfers to the developing countries, Canada emphasizes the need to focus on meeting the needs of the poorest and most vulnerable populations.

Japan - Umbrella group

- **A statistical outlook:**

The economy of Japan is the second largest economy in the world, after the United States at around US$4.5 trillion in terms of nominal GDP and third after the United States and People's Republic of China when adjusted for purchasing power parity. Japanese territory extends over 37,790,000 hectares, about 0.3 percent of the earth's terrestrial surface, of which about 80 percent is either forested or agricultural land.

As of 2000, Japan's population was 127 million, and the population density was 340 inhabitants per square kilometre. The ratio of the elderly amongst the population has rapidly increased at a higher rate than ever, and the population segment aged 65 or older was 17%.

- **The political context**

The Government of Japan has been promoting global warming countermeasures through establishing the Action Program to Arrest Global Warming in October 1990, the Outline for Promotion of Efforts to Prevent Global Warming in June 1998 following the adoption of Kyoto Protocol (December 1997) and revising the Outline for Promotion of Efforts to Prevent Global Warming in March 2002 following the enactment of the Marrakesh Agreements (November 2001).

A step-by-step approach that regularly evaluates the progress of countermeasures, policies and emission statuses, and that implements any additional requisite measures and policies was adopted in the Outline revised in 2002. Specifically, the period between 2002 and the end of the first commitment period was divided into three steps between 2002-2004, 2005-2007 and 2008-2012, and the reviewing of countermeasures and policies were to be implemented in 2004 and 2007. Discussion on the evaluation and revision of the Outline were held in 2004, resulting in the Cabinet approval of the Kyoto Protocol Target Achievement Plan. This Plan comprehensively included countermeasures and policies necessary for Japan in achieving the target six percent reduction commitment under the Kyoto Protocol.

- **A historical outlook**

Domestic passenger and freight traffic grew significantly with economic growth throughout the period of rapid economic growth of the 1960s. The number of vehicles owned and total vehicle mileage of passenger car has been consistently increasing since the 1960s. Domestic final energy consumption continued to increase significantly with the Japanese economy's rapid growth during the 1960s. However, after the first oil shock in 1973, it levelled off and eventually decreased. From 1986 onwards, however, the economic pickup primed new growth in energy consumption, equivalent to 15,912 × 1015J in fiscal 2003. These trends from 1990 can be summarized for different sectors as follows. Energy consumption levelled off in the industrial sector. On the other hand, it has significantly increased in the residential and commercial sector. In the transport sector, it has significantly increased in early 1990s; however, its increase rate has slowed down in late 1990s.

Japan's dependence on foreign energy sources peaked in fiscal 1973 at 89.4 percent of its energy supply; since then, this dependence has been reduced by efforts to find substitutes for oil. In recent years, it has remained about 80 percent, putting the nation in an extremely vulnerable energy-supply situation. In fiscal 2003, the shares of the total primary energy supply for oil, coal, natural gas and nuclear power are 51%, 20%, 15%, and 10%, respectively.

Japan is obliged under the Kyoto Protocol to reduce its greenhouse gas emissions by 6 percent from 1990 level during the 5 years from 2008 to 2012 but that looks increasingly difficult. The Japanese government attributes the increase to suspended operations at the Kashiwazaki Kariwa nuclear power plant in Niigata Prefecture, after it was damaged in a major earthquake.

- **Previous stance regarding the Kyoto Protocol:**

Japan signed the Kyoto Protocol 28 April 1998 and ratified it 04 June 2002. Japan's decision to host the 1997 Kyoto Conference was an international sign of its commitment to the international effort. When the United States pulled out of the Kyoto Protocol, however, Japan found itself in a very awkward position. Because of the centrality of the US-Japan Security alliance and concerns about domestic competitiveness, Japans prime minister was reluctant to continue with an agreement to which the US was not a party. At the same time, however, there was very strong public support for the Kyoto Protocol and an international image that needed to be upheld. In the end, Japan chose to join the EU in pushing for Kyoto's ratification (after winning many concessions from the Europeans on the use of flexible mechanisms in the agreement).Ratifying the Protocol was an important milestone in Japan's environmental policies. In relation to the ratification process, some concerns in line with "Is the Protocol really effective without large emitters' participation?" or "What if the Protocol will hurt the economy?" were expressed. Japan was determined to take the step from the perspective that the environmental goals can and should be reached without hurting the economy.

- **Current climate policy towards COP 15:**

In 2004 Japan made an achievement plan of countermeasures and policies necessary for achieving the target six percent reduction commitment under the Kyoto Protocol. Its Kyoto Protocol Target Achievement Plan includes:

  - Countermeasures: Steadily achieve the 6 percent reduction commitment under the Kyoto Protocol. Further pursue long-term and continuous reduction of greenhouse gas emissions on a global scale.
  - Basic Philosophy: Compatibility between the Environment and the Economy in order for efforts to achieve the 6 percent reduction commitment under the Kyoto Protocol to also lead to Japan's economic revitalization, employment creation, etc., Japan will take full advantage of technological innovation and its originality and ingenuity to develop and build mechanisms that contribute to compatibility between the environment and the economy.
  - Promotion of Technological Innovation: The Government of Japan will accelerate technological innovations such as energy conservation, utilization of unused energy, etc., work to disseminate efficient equipment and cutting-edge systems, and aim to be an environmental nation which leads the world.
  - Promotion of the Participation and Collaboration of all Stakeholders (National Campaign and Sharing of Information): The Government of Japan will promote the active participation of all stakeholders including central and local governments, corporations and citizens in countermeasures and policies, and strengthen collaboration between each stakeholder by actively providing and sharing information concerning the progress of global warming countermeasures as well as actions where specific efforts are required.
  - Utilization of Diverse Policy Instruments: The Government of Japan will effectively utilize diverse policy instruments, such as voluntary methods, restrictive methods, economic methods, informational methods, etc., while taking advantage of their special characteristics.
  - Placing of Importance on the Evaluation and Review Process: In 2007, the Government of Japan will comprehensively evaluate the progress of countermeasures and policies and the level of emissions, etc. and will implement necessary countermeasures and policies starting in 2008. Furthermore, the Government of Japan will strengthen the policies as necessary by checking the progress, etc. of policies formulated by the Government each year.

- Ensuring of International Collaboration: The Government of Japan will put in its utmost efforts to make it possible for common rules to be built that will be participated in by all countries, including the United States and developing countries. The Government of Japan will also take a leading role in the world's efforts to combat global warming through international cooperation.

- **Policy regarding CO2 Emissions**

Japan is committed to a 6 percent CO2 reduction under the Kyoto Protocol. Japan is the world's 5th largest CO2 emitter and responsible for 4,6 pct. of the total world emissions. It emits more CO2 than the entire African continent or South America. Total greenhouse gas emissions in 2003 was 1,339 million tons (in CO2 equivalents), an increase of 8.3 percent compared to emissions in the base year (1990) under the Kyoto Protocol (1995 for emissions of HFCs, PFCs, and SF6). This increase can be drawn back to the effects caused by a temporary major decline in the operating rate of nuclear power plants. However, when presuming that the nuclear power plants operated at the scheduled rate, it has been estimated that the carbon dioxide emissions would have been roughly 60 million tons, about 4.9% reduction from the total emissions in the base year under the Kyoto Protocol.

- **Policy regarding Finance and technology**

In August 2003, the Cabinet adopted Japan's Official Development Assistance Charter (the ODA Charter), which spells out the philosophy and principles of Japan's official development assistance. The ODA Charter identifies addressing global issues, including environmental problems, as one of the priority issues of ODA and states as a principle of ODA implementation that "environmental conservation and development should be pursued in tandem." Japan's Medium-term Policy on ODA announced in February 2005 also makes addressing global issues, including environmental problems, a priority issue. In this way the Government of Japan is trying to realize sustainable development on a global scale by supporting the ownership of developing countries. On the basis of the above, Japan's environmental cooperation follows the Environmental Conservation Initiative for Sustainable Development (EcoISD) announced in August 2002 at the World Summit on Sustainable Development (WSSD). In particular concerning the global-warming issue, which threatens sustainable development on a worldwide scale, the Government of Japan announced the Kyoto Initiative on aid for anti-global warming programs in developing countries during the Third Session of the Conference of the Parties to the United Nations Framework Convention on Climate change (COP3) held in Kyoto in December 1997. Under the initiative the Government of Japan provides active support for anti-global warming programs and projects. Annex I countries, incl. Japan, propose to support international R&D, but avoid proposing new funds or bodies under the UNFCCC to do so.

However, Japan supports voluntary international joint R&D including Annex I countries and those Non-Annex I countries that wish to participate. Japan has also recently expressed interest in the Mexican proposal regarding a new financial arrangement for the Convention and Kyoto Protocol. Proposing differentiation of developing countries, Japan said that since 1992 many countries have grown significantly. Some have joined the OECD and others have applied for membership. A number of countries are now wealthier than Portugal. Today, in terms of the polluter pays principle, the ratio of emissions by Annex I and non-Annex I countries is almost one-to-one, it said.

Norway - Umbrella group

- **A statistical outlook:**

Norway ratified the UNFCCC in July 1993 and the Kyoto Protocol in May 2002. Its quantified emission limitation and reduction commitment under the Kyoto Protocol (Kyoto Protocol target) is to keep its total greenhouse gas (GHG) emissions below 101 per cent of the base year (1990) level during the first commitment period (2008–2012).

- **The political context**

Last summer the Government published a white paper on climate change where a broad spectre of national emission cuts is proposed. This month, the Government has come to an agreement with the opposition parties on the further development of Norwegian climate policy. This agreement implies that more than three quarters of the members of the Norwegian Parliament support an ambition climate change policy.

The Government is pursuing a three-pronged strategy to achieve these targets: Firstly work towards a more ambitious international climate agreement. Secondly contribute to emission reductions in developing countries and in rapidly growing economies such as China and India. Thirdly intensify efforts to reduce emissions in Norway. Around 2/3 of emission reductions in 2020 will be cuts in domestic emissions bringing Norway on a path to a low carbon society.

- **A historical outlook**

Norway started taking global warming seriously quite early with the adoption of a CO2-tax in 1991. Since then, a range of additional policy instruments have been implemented to reduce domestic greenhouse gas emissions. Today as much as 70 per cent of Norwegian greenhouse gas emissions are covered by economic instruments setting a price on carbon.

Several national circumstances have implications for Norway's emissions profile and related policies, such as the rising share of the service sector in the economy, a decentralized settlement pattern which increases the demand for transport compared with some other countries, increasing oil and gas exploration activities, and the fact that nearly all electricity is hydropower. GHG emissions from the energy sector contribute more than 70 per cent to total national GHG emissions (without LULUCF). Key policies and measures therefore focus on energy-related emissions by utilizing economic instruments such as the CO2 tax and the Norwegian Emissions Trading Scheme.

- **Previous stance regarding the Kyoto Protocol:**

Under the Kyoto Protocol, Norway has a quantified emission limitation and reduction commitment to keep its total GHG emissions below 101 per cent of the base year (1990) level during the commitment period (2008–2012). Under a "with measures" scenario, total annual GHG emissions are projected to rise to 61,800 Gg CO2 equivalent in 2010, which represents a 23.4 per cent increase over the base year level. The ERT noted that this growth in emissions would have been 17–22 percentage points higher without the policies and measures that Norway implemented or adopted before 2003. Planned policies and measures (introduced after 2003) are estimated to add another 2–3 percentage points to this effect.

- **Current climate policy towards COP 15:**

Norway has provided substantial funds for climate change activities through a number of multilateral organizations, among them the Organisation for Economic Co-operation and Development, the United Nations Environment Programme and the United Nations Development Programme. It indicates the extra budgetary support by Norway for the operations of the Executive Board of the clean development mechanism (CDM), capacity-building for the establishment of registry systems under the Kyoto Protocol, and the organization of UNFCCC conferences and other meetings.

The main channels for Norway's non-ODA (official development assistance) multilateral and regional support are the Global Environment Facility (GEF), the UNFCCC secretariat, the Prototype Carbon Fund and the Nordic Environment Finance Corporation. Norway was one of the first countries to initiate projects for activities implemented jointly (AIJ).

- **Policy regarding CO2 Emissions**

Norway intends to cut the global emissions equivalent to 100 percent of its own emissions within 2030. This way, Norway will become a carbon neutral nation. Norway will undertake to reduce global greenhouse gas emissions by the equivalent of 30% of its own 1990 emissions by 2020. Norway will strengthen its Kyoto commitment by 10 percentage points, corresponding to nine per cent below the 1990 level.

- **Policy regarding Finance and Technology**

Norway has contributed USD 1.4 million to the Least Developed Countries Fund and USD 1.5 million to the Special Climate Change Fund, earmarked for adaptation and technology transfer purposes in developing countries.

In December 2007, the Norwegian Prime Minister announced that Norway would allocate 15 billion kroner (about 200 million euro) over 5 years to rainforest protection. Norway's International Climate and Forest Initiative aims to ensure that natural forests are conserved in order to maintain their carbon storage capacity and genetic diversity. Norway also wants to ensure that emissions from deforestation and forest degradation are included in any new international climate regime. To these ends, Norway is emphasizing the importance of substantial transfers of funding from the rich part of the world to developing countries to finance measures to reduce deforestation and forest degradation. A key goal of the initiative is contributing to the development of a credible system for monitoring, assessment, reporting and verification.

Russia - Umbrella group

- **A statistical outlook:**

The Russian Federation is the largest country in the world. It covers almost 13 per cent of the Earth's surface, with a total mainland area of over 17 million km2. Around 46 per cent of the total land area is covered by forest and other woodland; Russian forests make up almost a quarter of world timber resources; around 8 per cent is arable and permanent crop land, 5 per cent is grassland, 19 per cent is reindeer and pastures; and 12 per cent is covered by marshes and water areas. The remaining part is covered by urban areas and settlements, set-aside lands and roads**.**

The energy sector plays a huge role in the economy of the Russian Federation. It accounts for about 28 per cent of GDP, 26 per cent of industrial output, 55 per cent of federal budget revenues and 54 per cent of exports. The country's natural resource endowment ranks it among the world's most important energy producers. An estimated one-third of the world's natural gas reserves remains in the Russian Federation's super-giant fields and adjacent smaller fields. Annual natural gas production fell by 11 per cent between 1990 and 1997, from 640 billion m3 (bcm) to a low of 571 bcm. Since 1997, production has been rising, reaching 584 bcm in 2000 and 595 bcm in 2002. Over 60 per cent of this is used domestically and the rest is exported – the Russian Federation is a key exporter of natural gas to Europe. The country also holds the world's second-largest remaining reserves of crude oil after Saudi Arabia – almost 15 per cent of total world reserves. Although oil production almost halved from 11.4 million barrels a day (mb/d) in 1988 to 6.0 mb/d in 1996, it has steadily increased from 6.1 mb/d since 1999 to 7.6 mb/d in 2002, and the Russian Federation ranks as the world's second largest exporter of oil and oil products.

- **The political context**

An important development in climate change policy in mid-2003 was the preparation of the 2003 Climate Action Plan, which consolidates elements of climate policy into a single framework. This raises the importance of climate change in the national policy agenda and represents an encouraging step for climate policy development and implementation, given the importance of coordination of policies across all relevant ministries and economic sectors. This was expressed by the Prime Minister of the Russian Federation in the State Dumas in May 2000 and highlighted in the Third National Communication to the UNFCCC (NC3): "The limitation of emissions growth and enhancement of removals should be implemented through coordinated technical, economic, and institutional arrangements and activities in all key sectors of the economy with priority consideration given to the government-set energy saving requirements, indispensable to ensure economic growth."

- **A historical outlook**

After the break-up of the Soviet Union in 1991, the Russian Federation experienced severe economic decline. Gross domestic product (GDP) declined by 46 per cent over the period 1989–1998. Since the financial crisis in 1998, the country has experienced 5 years of strong economic growth, peaking in 2000 at 9 per cent growth which then fell to 5 in 2001 and 4.3 per cent in 2002. Initially this growth was fuelled mainly by high prices for exported oil and the devaluation of the rouble to 25 per cent of its earlier level, but since 2000 government management of export revenues, fiscal budget control and monetary policy have greatly improved. The management of the macro-economy and the progress in promoting large-scale economic reform have been responsible, and by and large successful, although higher prices for export commodities have continued to contribute substantially to sustaining the macroeconomic improvement.

- **Previous stance regarding the Kyoto Protocol:**

In October 2004, the Russian Parliament *(Duma)* ratified that country's signature of the Kyoto Protocol. Annex B of the Protocol set limits to Russia's Green House Gasses (GHG) emissions by the end of the Protocol's first commitment period (2008-2012) at the level of country's emissions in 1990. Between that year and about 2002 Russia's GHG emissions fell dramatically due to the significant economic contraction and dislocation associated with the ending of the former Soviet Union and its replacement with the Commonwealth of Independent States. As noted above, Russia has no difficulty in meeting its formal commitments under the Protocol, without taking any specific actions to limit emissions.

The decrease in emissions created a basis for a low-cost strategy to implement the UNFCCC and the Kyoto Protocol. Analysis of future emission trends suggests that although emissions are expected to rise in practically all NC3 and 2003 Energy Strategy scenarios following the revival of the economy, they are likely to remain below the Kyoto Protocol target for the first commitment period by between 11 and 28 per cent for these scenarios. They are also likely to remain below this target even in 2020, except for the most pessimistic of the three NC3 scenarios.

- **Current climate policy towards COP 15:**

The Russian Prime Minister and former President Vladimir Putin, has recently called for a Russian climate-action plan that includes measures to improve energy efficiency. The Russian government has thereby made a drastic change to its policy on climate change, accepting that anthropogenic global warming poses severe risks and requires immediate action to limit carbon emissions. The doctrine outlines a checklist of key climate actions, and could provide a useful starting point for negotiations at December's international climate talks in Copenhagen. The new climate doctrine is yet to be launched in public.

- **Policy regarding CO2 Emissions**

Russian CO2 emissions can be viewed in three scenarios: "optimistic" (scenario I), "realistic" (scenario III) and "unfavourable" (scenario II). All three differ in terms of assumptions for the growth of GDP, energy consumption and energy intensity of GDP. Given that the "optimistic" scenario encompasses the effect from the policy to promote energy efficiency, which constitutes the main thrust of the national climate policy, this scenario could be characterized as a "with measures" scenario according to the UNFCCC guidelines. The "optimistic" and "unfavourable" scenarios are based on the 2002 Energy Strategy, whereas the "realistic" scenario seem to be included in the NC3 to reflect a view of the Institute of Global Climate and Ecology (IGCE) and the International Conference on Climate Change (ICCC) on probable future economic development and the associated emission levels.

Most of the larger developing countries have ambitious renewable energy programs except for Russia. Russia's large fossil fuel resources discourage alternative energy development and energy efficiency. As of 2001, only 3.5% of the country's energy supply was from renewable sources, the majority of which was produced by hydropower.

- **Policy regarding Finance and Technology**

The following regulatory acts are to be adopted nationally in 2008-2010):

1. Introducing efficiency standards in energy-intensive sectors
2. Strict restriction on further use of obsolete technologies
3. Promoting leading role of public sector
4. Labelling of power-intensive goods
5. Creating incentives for businesses for efficiency improvements
6. Public support for R&D in the area of energy-saving technologies

At the stage of crisis recovery, the global economy may, among others things, face the shortage of energy resources and, thus, the risk of the "de-energizing" future growth. There will be fewer investments, on the one hand, in energy conservation and alternative sources of energy and, on the other, in oil production that will trigger its inevitable decline, which will finally result in yet another uncontrolled price increase at the stage of economic revival. At the same time, the current crisis can turn global energy security into a source of future growth.

This is why, while in no way diminishing the significance of the low-carbon development, Russia, at the same time, believe that in the post-crisis period the emphasis should be made on the concept of energy efficient growth. The integral components of the concept should include the following: Energy saving. Reduction of price volatility through ensuring credibility and interdependence among the producers, consumers and transit countries of the energy resources. Greater role of nuclear and modern renewable sources of energy. Development of new energy technologies.

USA - Umbrella group

- **A statistical outlook:**

The United States of America, having the world's largest economy, is responsible for slightly less than one fourth of global carbon dioxide (CO2) emissions (4520 000 Gg in 1990) and has the highest emissions of CO2 per capita (20 tons compared to an average of 12 tons in countries of the Organisation for Economic Co-operation and Development (OECD).

- **The political context**

The political and institutional system of the United States of America renders climate change policymaking complex and difficult. In particular, climate change policies and actions proposed by the President (who has executive power), have to be approved by the Congress (which has legislative power). The Congress includes the Senate and the House of Representatives, which have diverse and sometimes competing policy mandates. Hence, the legislative process can be lengthy and cumbersome. This explains why climate policies and actions at the federal level often remain voluntary rather than mandatory in nature. However, sometimes voluntary actions at the federal level can be implemented in conjunction with regulatory approaches and actions at the state level. Many state governments, such as Arizona, California, Colorado, Connecticut, Illinois, Maryland, and Massachusetts are supporting the implementation of climate change mitigation policies and actions through legislation at the state level.

- **A historical outlook**

The population growth of almost 1 per cent per year between the years 2000 and 2005, mainly in the warm regions of the country, resulted in increases in the construction of private houses and in the car fleet in the United States of America. These increases led to significant growth in energy demand in the residential and transport sectors.

The economy of the United States of America grew by 13.4 per cent from 2000 to 2005 and the gross domestic product (GDP) stood at around USD 11 trillion in 2005. This growth was mainly driven by growth in the high technology, and the commercial and service sectors, which increased their share of GDP substantially. However, there was a decline in the share of the manufacturing sector. In 2005, the total primary energy supply (TPES) in the United States of America reached 2340.3 Mtoe, which is 21.4 per cent higher than in 1990 and 1.5 per cent higher than in 2000. Energy consumption in the industrial sector decreased slightly in 2005, whereas the industry and transport sectors remained by far the largest consumers of energy.

Coal remains the dominant energy source, as it provides almost half of the electricity generated. Due to domestic coal mining and relatively low coal prices, coal use has competitive advantages over oil and natural gas, since most oil is imported and oil and natural gas are strongly affected by changes in world market prices. Due to a continued increase in demand for transportation, oil remained the main energy source in 2005, accounting for 41 per cent of the total energy demand, followed by natural gas (24 per cent), coal (23 per cent), nuclear energy (8 per cent), and renewable energy (6 per cent).

- **Previous stance regarding the Kyoto Protocol:**

The United States of America has been a Party to the Convention since 1992. It signed the Kyoto Protocol on 12 November 1998, which provided for a reduction of greenhouse gas (GHG) emissions by 7 per cent from 1990 levels by the period 2008 - 2012. However, the United States of America has not ratified the Kyoto Protocol. In 2002, the United States of America set a national goal to reduce the economy's GHG emission intensity by 18 per cent between the years 2002 and 2012.

- **Current climate policy towards COP 15:**

Overall, the long-term climate mitigation strategy of the United States of America appears to be increasingly geared towards low-carbon and renewable technologies, and C capture and storage technology, which are supported by market incentives and regulatory initiatives at states level.
It is also worth noting that there has been a shift in focus, from broadly voluntary to regulatory and incentive-based actions and approaches, such as the EISA 2007 and several bills under consideration in Congress, including the Warner-Lieberman Bill.

As of 2008, the climate policy of the United States of America was reshaped to follow four streams: (1) regulations and mandates (ëmarket pushí), for example an update of corporate average fuel economy (CAFE) standards and the introduction of renewable fuel standards (RFS); (2) incentive-based approaches (ëmarket pullí), for example tax incentives and loan guarantees of up to USD 38.5 billion; (3) continuation of partnerships with industry, for example ClimateVISION and Climate Leaders programmes; and (4) long-term technology development. The climate policies of the United States of America also started to increasingly address CO2 emissions, which have increased by approximately 14 per cent since 1990, according to 2008 greenhouse gas inventory submission.
A recent speech (March 19, 2009) given by the President of the United States, Obama, outlines the opinion of the American administration pretty clearly:
"So we have a choice to make. We can remain one of the world's leading importers of foreign oil, or we can make the investments that would allow us to become the world's leading exporter of renewable energy. We can let climate change continue to go unchecked, or we can help stop it. We can let the jobs of tomorrow be created abroad, or we can create those jobs right here in America and lay the foundation for lasting prosperity."

- **Policy regarding CO2 Emissions**

United States President Obama, was recently quoted saying: "My presidency will mark a new chapter in America's leadership on climate change,"
Obama has pledged his support for a cap-and-trade system approach to cutting green house gases. He would establish annual targets to reduce emissions to their 1990 levels by 2020 and reduce them another 80 percent by 2050. Obama also promoted anew his proposal to invest $15 billion each year to support private sector efforts toward clean energy.
Under a cap-and-trade program, the government would establish a ceiling on the amount of carbon dioxide that can be released into the air from burning fossil fuels. A utility or industrial plant would have to purchase emission allowances for every ton of pollution released. Anyone who exceeds the cap must either make pollution reductions or buy additional allowances, while those who cut emissions below the cap would be able to sell allowances. Initially the cap would be relatively high and then be lowered gradually to achieve the targeted pollution reductions.
Obama favors auctioning off all of the allowances and using the proceeds to invest in energy efficiency and alternative, non-fossil energy that does not add to global warming. Others argue the allowances should be provided for free to reduce the economic costs and then be freely bought and sold in the market place.

- **Policy regarding Finance and Technology**

Protection of International Property Rights (IPR) by countries is an essential component of an overall USA strategy to promote technology innovation, diffusion and transfer. However, an international agreement should include:

- "Provisions on cooperative action to promote the development, deployment, and diffusion of environmentally sound technologies"
- "Provisions to promote greater public and private sector investments in technology research, development, and deployment"
- "Provide information on opportunities for R&D technologies which offer the largest potential for reducing GHG emissions, and to facilitate and foster collaborative arrangements"
- It should also "Promote access to appropriate technologies, knowledge and expertise to address adaptation, in particular for least developed countries, including by creating enabling environments for the successful adoption of such technologies."
- "Provisions on national actions to promote the development, deployment, and diffusion of environmentally sound technologies, including actions to promote favourable legal and policy frameworks"
- "Parties should... Promote the full range of available management tools and financing options in implementing local, national or regional program of action, including innovative managerial and financial techniques... Promote access to appropriate technologies, knowledge and expertise to address adaptation, in particular for least developed countries, including by creating enabling environments for the successful adoption of such technologies."

Ukraine - Umbrella group

- **A statistical outlook:**

The territory of Ukraine covers 60.4 million hectares (ha), of which in 1999 agricultural land made up 72 per cent, forest 17 per cent, water bodies 4 per cent and swamps and unplanted land the rest. Fertile soil is considered as one of the most important natural resources of the country, hence the development of agriculture. In 1995, the population was 51.7 million and it has been declining at a rate of 0.3 per cent annually on average during the last decade.

- **The political context**

Economic policy in recent years has centred on structural reform and the Government has also tried to attract more foreign direct investments into key sectors, e.g. energy, iron and steel, chemicals, machine building, food processing and agriculture, as a way to stimulate restructuring. The level of these investments has, however, remained very low in comparison to other countries of the region.

- **A historical outlook**

Since 1990, Ukraine has undertaken political, economic and social reform aimed at shifting the country from the former centrally planned economy to a free market one. In 1991, it became an independent State. The transition period has been very painful and Ukraine has experienced immense difficulties in laying the foundations of the new economy. Major events on the pathway to this new economy included a decline in industrial output accompanied by inflation (1991-1992), hyperinflation (1994), control of inflation and introduction of the national currency, the hryvnia (Gr) (1995-1996), and macroeconomic stabilization (1997-1998). Thereafter, Ukraine suffered severely from the impact of the Russian financial crisis in August 1998, as the Russian Federation remained by far its most important trading partner. The Russian financial crisis together with the sharp rise in oil and oil product prices led to a devaluation of the currency from 1.6 Gr per US dollar in 1998 to 4.5 Gr per US dollar in 1999 and more than 100 per cent inflation in the latter year. As a result, between 1990 and 1999 the gross domestic product (GDP) fell by half. In 1999, economic recovery was on the way. By then, most prices had been liberalized and more than 60 per cent of the economy was in private ownership.

Due to the heavily industrialized structure of the economy, the energy sector has played an important role in the economic development of Ukraine. With regard to energy supply, the share of indigenous energy production and energy imports in total primary energy supply (TPES) has remained broadly unchanged since 1992. Coal is the most important domestic energy resource, covering not only the country's own demand for coal and coal products but also being exported. However, in the period between 1990 and 1998, coal export exceeded coal import only in 1990, whereas in recent years there was a net coal import. Although the domestic oil and gas production has been growing in recent years, only around 15 per cent of oil demand and 18 per cent of natural gas demand are met by domestic sources.

- **Previous stance regarding the Kyoto Protocol:**

Under the Kyoto Protocol, Ukraine might be one of the main beneficiaries because it can sell large amounts of unused assigned emission rights (with an annual revenue estimated at USD 740 m till USD 2.9 bn from 2008-2012), and because additional reduction of emissions can be achieved at a relatively low cost and sold as further emission rights abroad. This last aspect is of particularly high importance as it potentially stimulates the influx of badly needed foreign direct investment. However, Ukraine's successful participation requires that the necessary institutional infrastructure to measure, monitor and trade emission right certificates is being set up. So far, Ukraine has made only minor progress in ratifying the protocol and is lacking far behind the developments in other Eastern European countries, in particular the EU accession candidates. This is all the more important, as Ukraine has to compete with those countries for such "climate investments," and funds will flow into those countries where institutional conditions are the most advanced (total influx of climate investment into Eastern Europe is estimated to USD 2.4 bn to USD 5.8 bn per year).

- **Current climate policy towards COP 15:**

Ukraine signed the UNFCCC in 1992 and the parliament ratified it in 1996, adopting 1990 as a base year for the estimation of emissions of carbon dioxide (CO2) and other greenhouse gases (GHG). Other important milestones in climate policy formulation and implementation include the adoption of the National Climate Programme (NCP) by the Government in 1997, the submission of the first National Communication (NC1) in 1998 and the preparation in the same year of the national draft Climate Action Plan. Ukraine is a party to several bilateral and multilateral agreements, which the host country officials felt help the country to strengthen its capacity to address climate change.

In March 2006, the Cabinet of Ministers approved the Energy Strategy for the period until 2030, which outlines strategic objectives for energy sub-sectors that aim to enhance the country's overall economic development and the people's well-being. The strategy states as main goals:

- Creating the conditions for a sustainable and high quality energy supply
- Ensuring reliable and sustainable functioning of the energy industry and its efficient development
- Reduction in energy dependency
- Reduction of energy intensity
- Reduction of environmental impact and ensuring civil safety
- Integration of the Ukrainian power industry into the European system while increasing power exports and strengthening the country's position as gas and oil transit country.

- **Policy regarding CO2 Emissions**

The energy sector is the main source of carbon dioxide (CO2) and methane (CH4) emissions in Ukraine, representing 69% of total greenhouse gas emissions (electricity and heat plants alone are responsible for 24% of total CO2 emissions). The combustion of fossil fuels, particularly coal, is the most significant contributor to CO2 emissions. In Ukraine, fuel combustion is responsible for 57% of total greenhouse gas emissions. Fugitive CH4 emissions contribute 12% of total domestic greenhouse gas emissions. Globally, Ukraine ranks 20th in the emissions of CO2 from fuel combustion and 8th in energy-related CH4 emissions. Greenhouse gas emissions in Ukraine decreased through the 1990s, mostly due to the sharp economic decline. Emissions in 2000 (the lowest point in the last 15 years) were about 60% lower than in 1990. Since 2001, greenhouse gas emissions have grown: they were 399 Mt of CO2-equivalent in 2001 and 413 Mt of CO2-equivalent in 2004. In 2004, Ukraine’s total greenhouse gas emissions were 45% of their 1990 level. The energy sector greenhouse gas

emissions in 2004 represented 41% of their 1990 level. Both the CO2 emissions from fuel combustion and fugitive CH4 emissions from coal have fallen significantly since 1990. However, fugitive CH4 emissions from oil and gas have dropped by only 25% in the same time period.

In the last decade, the CO2 emissions from the electricity and heat sectors have also dropped because of changes in the energy balance and efforts to improve energy efficiency. The share of natural gas in Ukraine's TPES increased from 43% in 1993 to 47% in 2004 and the share of nuclear grew from 10.5% to 16% (and is set to increase still more). Coal and oil decreased, respectively, from 30 to 24% and from 16 to 13% over the same period. Without additional policy measures and technological innovations, the country's greenhouse gas emissions will continue to grow with economic recovery. The Energy Strategy to 2030 envisions a significant increase in coal consumption for electricity and heat production, which will lead to increased greenhouse gas emissions. Changes in Ukraine's energy intensity will also have a strong, potentially mitigating, influence on emissions.

- **Policy regarding Finance and Technology**

As a country with an economy in transition, Ukraine does not have a commitment to provide financial assistance to developing countries, or facilitate technology transfer to developing countries. It does however support efforts to make available new technologies to developing countries and transition economies such as itself.