

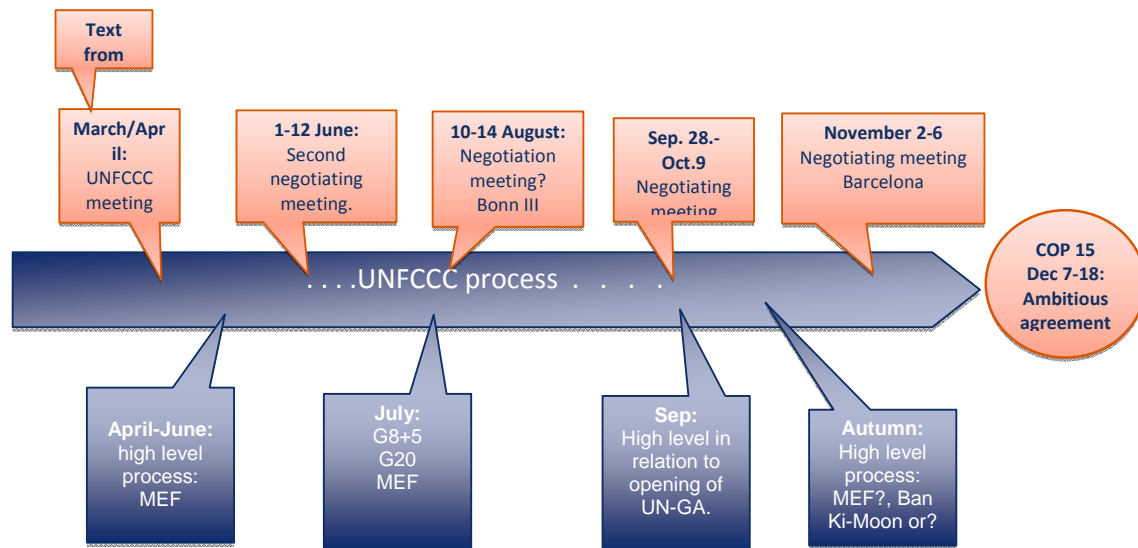
International Negotiations on Climate Change: Road to Copenhagen

Background

The 15th Conference of Parties (CoP 15) on Climate Change is scheduled to begin on December 7, 2009 in Copenhagen and continue till December 18, 2009. The conference will attract the world's environment ministers and about 15,000 officials, journalists, NGOs and other interested parties. The world needs the CoP 15 to be a success. At this point it is difficult to say what would be labelled a 'success' at Copenhagen, given that there is a tendency to conclude that all conferences on climate are successful even if participating countries fail to commit to CO₂ emission reductions. It is really important that this year 'success' is achieved in terms of commitments for emissions reduction and not just in terms of a conflict free conference.

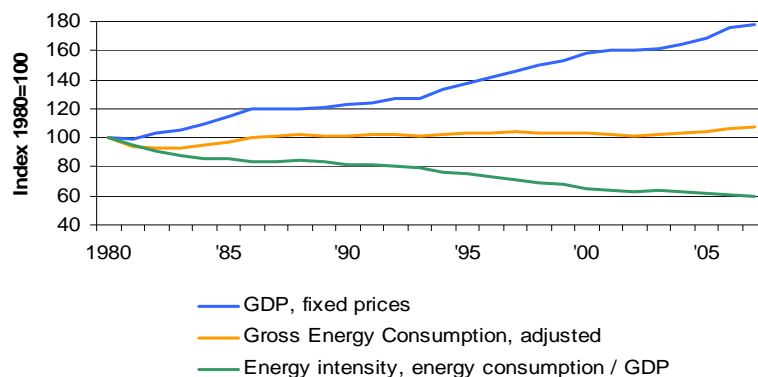
Perspective of Developed Countries

The mandate from Bali is to reach an ambitious and fair agreement in Copenhagen. Going by Science, the agreement in Copenhagen must allow us to limit average temperature increases to less than 2°C by restricting CO₂ concentrations in the atmosphere to about 450 parts per million. Towards this end, we need to identify common ground among parties. We also have to ensure that different dialogues on climate change feed into the negotiation process. There is reason for hope as political leaders and heads of State are getting involved. The fact that the United States which has been sceptical thus far is now reengaging in climate change negotiations adds to the expectations from Copenhagen.



A future agreement on climate change should begin with a shared vision to limit global emissions in accordance with Science. Second, it must set ambitious mitigation targets for developed countries along with Nationally Appropriate Mitigation Action (NAMA) by developing countries. Third, it should lay out adaptation strategies. This is important because climate patterns are already changing and the only way to deal with it is to adapt to it. The fourth component is technology and the fifth is finding ways and means to fund investment in mitigation and adaptation.

The EU has said that it would reduce emissions by 20 percent compared to 1990 levels by 2020. If there is an ambitious agreement in Copenhagen this is likely to go up to 30 percent. The US has said that it would limit emissions to 1990 levels by 2050. A Bill introduced in the US Congress, if passed would reduce emissions by about 5 percent of 1990 levels by 2020 and probably by 80 percent by 2050. Australia has said that it would reduce emissions by 25 percent of 2000 levels by 2020. Norway has committed to becoming CO₂ neutral by 2030. Russia has said that it would reduce emissions by 10 to 15 percent compared to 1990 levels (when it was part of the USSR) by 2020 and also increase energy efficiency by 40 percent but Russian targets are not as ambitious as they sound because Russia's emissions are already 30 percent below 1990 after the collapse of the USSR. Japan has said that it will reduce emissions by 15 percent compared to 2005 levels which amount to only 7 or 8 percent reduction from 1990 levels. This rather un-ambitious target from Japan is one of the early disappointments in the run up to Copenhagen. As shown in the figure below, Denmark has been able to de-link economic growth and energy consumption.



Note: Energy consumption for international maritime traffic (international bunkering) is not included in the individual country's energy consumption under international rules for energy statistics, but is calculated separately; therefore it does not appear in the figure.

Denmark has increased energy efficiency and also increased the share of renewable energy in its energy basket. Even though the Danish GDP increased by about 80 in the last 25 years its green house gas emissions have been stabilised. Denmark plans not only to meet but also exceed EU emission targets. Clean technologies and renewables account for 10 percent of the total export of Denmark and it remains one of Denmark's fastest growing export areas.

Indicative targets from different countries add up to between 10 to 15 percent reductions in 2020 compared to 1990. At this early stage of negotiations, targets are being collected from individual nations on a bottom-up basis. Part of the task at Copenhagen would be see if

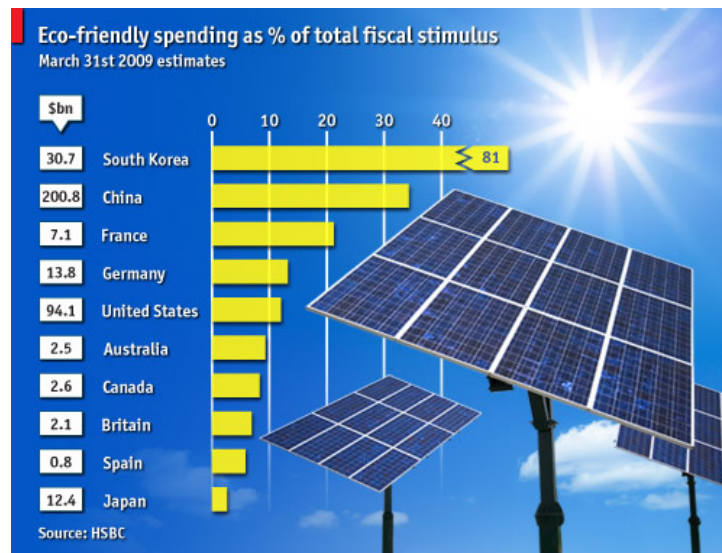
these individual targets add up to what Science demands from the world which is a reduction of emissions by 25 to 40 percent by 2020 if temperature increases are to be limited to 2°C. It is now clear that individual targets may have to be supplemented by 'top-down' emission limits if we are serious about combating climate change. Negotiations with developing countries would be based on the basic premise of 'Common but Differentiated Responsibilities'. Developed nations are responsible for most of the stock of GHG accumulated in the atmosphere and the responsibility to limit further flow of emissions rests primarily on developed countries.

The problem is that even the best efforts of developed countries are unlikely to have the required impact on the climate. In this light, there is probably no choice but to seek some contribution from developing countries. Developing countries have drawn up very constructive and ambitious proposals. China has said that their emissions would peak in 2035 and that they would achieve a 40 percent reduction in energy intensity and derive 15 percent of their energy needs from renewable sources. South Africa has said that its emissions would peak in 2020-2025 and that emissions would reduce from 2030. Costa Rica has said that it would be carbon neutral by 2021. In the recent negotiations in Bonn, Mexico said that it would reduce emissions by 8 percent in 2012 compared to 2009 emissions and by 50 percent by 2020. Brazil has said that it would reduce deforestation by 70 percent. The Indian Prime Minister has assured the world that per capita CO₂ emissions of India will remain far below that of developed countries even after two or three decades. India has also put forth a National Action Plan on Climate Change with eight different focus areas key among which are the use of solar energy and energy efficiency technologies and measures.

Despite these ambitious announcements, there are challenges that have to be addressed in order to have agreement in Copenhagen:

- Ensuring deep, early and mandatory cuts in emissions of industrialised countries through ambitious mitigation commitments.
- Ensuring that developed countries deliver new, predictable and additional financial support through enhanced commitments and better oversight of those commitments.
- Ensuring enhanced mitigation actions by developing countries and putting in place the needed support and incentives.
- Ensuring a meaningful response to the challenge of preparing for and adapting to the impacts of climate change.

Financing mitigation measures was one of the key pillars of the Bali Action Plan. In the light of the financial crisis, there is a feeling that funding for climate measures will be limited. Though this is not completely untrue, many countries are using green stimulus packages to facilitate the move towards a low carbon environment. South Korea has spent a staggering 81 percent of its stimulus package on 'green initiatives'. Other countries have also pledged significant sums towards eco-friendly spending as shown in the table below.



There is agreement in developing countries that they need to play a role in mitigation of GHGs. The only question for which they are yet to receive a clear answer is ‘who will pay for these interventions?’ There are many interesting and innovative financial mechanisms on the table. One of them is the ‘International Fund for Greenhouse Gas Emissions’ from the shipping industry. When bunker fuel is purchased, a contribution towards mitigating GHGs is paid to the registered bunker fuel supplier, who then transfers the contribution directly to the International Fund. If the contribution is fixed at 0.5 percent of the bunker fuel price, it has the potential to generate about \$2 billion a year for the fund. Depending on the political will to combat climate change the magnitude of the contribution could be increased.

It is correct that ‘technology’ has the greatest potential to deliver us from climate change. However the call from developing countries for transfer of technology without IPR constraints may be premature. Most of the emission reductions that are required can be achieved with available technologies which are inexpensive. New clean and efficient technologies will probably have to be introduced in the next two or three decades. In this context India’s call for collaborative research and development in clean technologies is very relevant. Picking winners among the numerous renewable technologies is not among the mandates for the Copenhagen negotiations. Each region or country may make a choice depending on its resource endowments and structural characteristics. In this respect financing becomes an important aspect in facilitating identification of core technologies that specific countries or groups of countries could develop and scale up. Scalability is an important aspect in making the right technology choice.

The Bonn meeting earlier this year revealed that the divisions between the North and South are yet to be mastered. If the deadlock persists between the developed and the developing nations, the substantial gains made in developing countries in terms of poverty eradication and improved quality of life could be wiped out completely. There is no question that the developed world should carry the burden of responsibility. In fact the world should be grateful to countries like India where over half the population are vegetarians. This is definitely one of the main reasons why the emissions per capita in India are so low.

However cultural issues such as this that require behavioural change at the individual level in the developed world may prove to a key barrier to reaching an agreement in Copenhagen.

The 200 page negotiating text that emerged out of Bonn must necessarily transform into a shorter and more concrete set of proposals if we want an agreement at Copenhagen. At this point there are two different texts: One is focussed on the commitments of Annex I countries as per the Kyoto Protocol and the other which targets 'Long Term Positive Action' from all countries.

Perspectives of Developing Countries

Key Questions

- How do we bridge the North-South divide in international negotiations?
- Is climate change only a cost to industry or are there opportunities for industry?
- Is low carbon growth possible in Developing countries?

Developing Countries are well on their way to a Low Carbon Future

The fact that India as well as other developing countries such as China are well on their way towards a low carbon future is rarely acknowledged. In countries like India, the largest cuts in emissions are not going to come in from new green technologies but from basic efficiency and management parameters. However it is a fact that the Indian economic growth has decoupled from its energy consumption growth. India has grown at over 8 percent annually at less than half its energy intensity. 80 to 90 percent of India's industries are going to be new by 2030. India does not have substantial capital assets to retire as is the case in developed countries. India can therefore leap-frog into 'state of the art' technology in energy intensive industries such as cement, aluminium and steel. Yet another reason for the push towards state of the art energy efficiency technologies is the high price the Indian industry pays for energy. The average Indian consumer pays one of the highest prices for energy in PPP terms, which provides a 'built-in' incentive to reduce energy consumption and adopt energy efficiency technologies.

The growing gap between India's electricity demand and supply needs no elaboration. In the last 17 years India has not been able to add even 40 percent of the planned power generation capacity based on fossil fuels. Yet in 2007 India added more renewable energy based power generation capacity than it did coal based capacity. In the 10th plan period (2002-2007), the targeted power generation capacity addition, which was largely coal based, was 41,000 MW but only 17,600 MW added. However in that plan period, target for renewable energy based power generation capacity was achieved in just the first three years of the plan period.

India's Nationally Appropriated Mitigation Action Plan (NAMA) has specified three major missions – energy efficiency mission, the solar mission and also the water mission. The energy efficiency mission has already made significant progress. India has certified energy auditors and 9 designated energy sectors where energy audits are mandatory. The Government will be coming out with national benchmarks for energy efficiency. These are not to be confused with sectoral caps which have been proposed by developed countries. India believes that sectoral caps would facilitate 'market capture' by Annex I countries.

India's NAMA will provide for a low intensity path even in the absence of international mandates and caps. For example, bidders for India's Ultra Mega Power generation Projects (UMPPs) which are evaluated on the basis of tariff have opted for super critical boilers with commercial finance. Even though global investment in clean technology declined by 25 percent from \$ 155 billion in 2008 to about \$ 115 billion in 2009 on account of economic recession, India's clean technology investments went up by 12 percent and China's by 18 percent.

Uncompensated Mitigation Actions are Unacceptable

The fundamental conflict constituting the so called 'North-South' divide in climate negotiations is over who will bear the cost of mitigation actions. Developing countries are concerned that any cost imposed on them on account of mitigation would saddle the poorest of the poor with rising energy costs and condemn them to generations of poverty. Developing countries want to avoid any uncompensated GHG emission constraints and want assurance that any apportionment of GHG emission rights is based on equity and historic responsibility. On the basis of 'fairness' and 'equity', developing countries seek the assurance of financial resources and affordable technology for mitigation and adaptation from developed countries. Developing countries do not find any moral justification in the effort of developed countries to extract a commitment towards GHG reduction from developing countries in the absence of clear commitment on the part of industrialised nations towards deep, long-term and legally binding GHG reductions. This is a key issue that needs to be resolved as no group in the negotiating table would want a compromise on its terms of trade. Developing countries are seeking 'technology transfers' and funding from the developed world not as 'aid' but as an 'entitlement' on account of the historic responsibility of developed countries in saturating the atmosphere with GHG emissions. The available carbon space in the atmosphere has been completely 'encroached' by the industrialised nations which leaves very little 'space' for developing nations to industrialise and grow out of poverty.

In Bonn, India proposed setting up of innovation hubs around the world. If the ambitious goal of reducing emissions by 80 percent by 2050 is to be achieved, efforts to find new technologies must be accelerated. Public and private investment must be harnessed. In this context access to technology, access to information, access to risk financing in not only the supply side but also on the demand side of the equation become critical. Financing models need to be innovative in order to move renewable technologies to the market. Rough estimates suggest that 0.5-1 percent of GDP of developed countries which amounts to roughly \$ 200-250 billion annually should be devoted for climate related mitigation and adaptation actions in developing countries.

The idea that all renewable energy technologies are carbon neutral over their entire lifecycle has been questioned by many studies. It has also been pointed out that some of the renewable options are 'net energy negative' in the sense that the energy output is less than the energy input. Some studies have pointed out that solar photovoltaic cells are net energy negative if their energy intensive production process is taken into account. Solar thermal on the other hand may be the appropriate technology for India. India made an early start towards energy efficiency in the rural household sector through the introduction of 'improved chullas' (energy efficient wood stoves) in the 1970s. Though the transfer of this

mission from the Federal to the State Government has reduced its effectiveness, it can be revived from the climate perspective. Another concern is over the use of market mechanisms such as carbon trading which merely redistribute the right of emission from the developing to the developed world rather than reducing overall emissions. The overall emissions of the European region have grown despite its implementation of the emissions trading scheme.

India essentially seeks a collaborative rather than a competitive response. India calls for a global regime for capacity building so that the key challenge of identifying appropriate technologies and means for their rapid assimilation can be addressed.

Adaptation Measures Require Greater Focus

A large segment of the Indian population is dependent on nature for their livelihood and the same segment is also a victim of nature's fury that targets them in the form of cyclones, floods and drought. India knows from years of experience that adaptation to climate variability is at least as important as mitigation if not more important. India currently spends 2 percent of its GDP on adaptation and the extent of spending on adaptation measures is likely to grow to over 6 percent of GDP by 2020.

Predictions in the IPCC reports include a decline in the agricultural yield, increase in migration and an increase in the frequency of droughts in developing countries. Economic growth in developing countries must progress despite this additional burden. The reluctance of developed nations for cooperative technology development and technology sharing adds further to the burden of developing countries in tracing a cleaner path to economic progress. In this light, it is reasonable to ask if the issue at stake is the growth of India, china and other countries or climate change. If the issue is climate change then there is no justification for the hesitation of the West for supporting calls for joint research and development for energy and adaptation technologies. The Adaptation Fund created through the CDM mechanism has not attracted adequate funds. India has more than 1500 CDM projects but most of them are unilateral rather than bilateral. This means that the flow of technology from West to East is not facilitated even through the CDM mechanism. This defeats the basic purpose of CDM.

India will need 3000 billion kilo watt hours of additional energy by 2030. If all this has to come from clean energy sources, India would require an additional investment of roughly \$ 330 billion in the power sector alone taking Rs. 5 per kilo watt hour at today's rates as the investment cost of renewable and clean energy (a mix of clean coal, wind, solar and other renewables). Even if one fourth of the power required is to come from renewable sources \$ 85 billion will be required. These are the indicative investment requirements of India for a dramatic change from its 'business as usual' position. According to a report approximately \$20 trillion will be required between now and 2020 for investments in clean energy in developed and developing countries. Current investment by both the public as well as private sector is just a fraction of this amount. Much of the investment so far is on supply side of the energy equation. Investments on the demand side including investments in energy efficiency are far less.

Negotiating Framework that presents Developing Countries as 'Villains' rather than 'Victims' will widen the North-South divide!

According to the information International Energy Agency, two-thirds of the electricity that is generated in developed countries is used in households/buildings, i.e. in the residential sector while three fourths of the electricity generated in developing countries goes for industry. Developed countries which do not want to reduce two-thirds of its energy use which goes into small appliances used in households for heating, cooling, entertainment and communication are seeking a reduction in the energy that goes into industries in developing countries. In other words, the developed world would rather compromise investment in the provision of basic needs of infrastructure and energy that are critical for livelihoods of over one billion people in developing countries than ask for a small sacrifice in the high energy lifestyles of households in developed nations. No leader in the developing world would want to ask his people to deny themselves a livelihood so as to sustain lifestyles in the developed world.

Adaptation, mitigation, development are seen as three distinctly different instruments in combating climate change but they are very closely integrated. Development is actually the best form of adaptation to climate change. The more countries develop, the better adapted they are to the vagaries of climate change. Furthermore, 'technology' and 'financing' are shown as distinct items rather than the means of enabling mitigation and adaptation, in the negotiating context. Technology and financing should become integral part of implementing mitigation and adaptation actions. This will facilitate narrowing of the divide between the North and South.

Nationally appropriate mitigation action by developing countries should be taken in the context of sustainable development and based on the legitimate priority needs of developing countries for development and the eradication of poverty. China which was celebrated as the factory of the world just a few years ago is now accused of being the biggest polluter. China's economic competitiveness attracted global manufacturing industries which produced low cost products and supplied them world-wide. While the rest of the world benefited from low cost products, the emissions from the production process were left behind in China. In this context, accounting for emissions at the point of consumption rather than at the point of emission may be an idea that could be explored further. In fact, such a measure may produce the desired change in the high consumption lifestyle of industrialised nations. If there is no demand for products from developing nations on account of their high levels of GHG emissions during the production process, developing countries will automatically shift to cleaner modes of production or shift to other forms of economic activity. It is likely that accounting for emissions at the point of consumption may result in some of the current low cost production centres such as China becoming a target for trade sanctions. However such measures may not be compliant with WTO regulations.

The persistent divide between the developed and developing world underscores the fact that we have framed Climate Change it as a typical management issue which can be resolved within existing institutional framework ignoring the fact that it is in fact a global ecological crisis. Current framing of the issue treats the call for technology and finance flows from the West to East as 'undue aid flows'. If the crisis is reframes as a global

ecological crisis in Copenhagen, the call technology and finance could be raised in very different light. Our inability to frame the issue correctly reflects the fact that we do not understand how to accelerate the natural transition to a low carbon economy along with the required technological and social changes. A radical shift in framing the issue as a global problem calling for a global solution would significantly alter the terms of the debate. Climate negotiations are not about identifying villains and heroes in the effort to combat climate change but rather a joint and cooperative effort to adapt ourselves to nature's limits.

For more details on CoP 15 go to www.cop15.dk, a website in seven languages launched by Denmark which is the host country for CoP 15 negotiations in 2009.

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