



Delhi Sustainable Development Summit 2007

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DSDS 2007



World Sustainable Development Forum
DSDS 2007



Keynote address

The global energy challenge: technology scenarios for a sustainable future

Chairperson

Mr V Subramanian, Secretary, Ministry of New and Renewable Energy, Government of India, New Delhi

Speaker

Mr Claude Mandil, Executive Director, International Energy Agency, France



Mr Claude Mandil



Mr V Subramanian

Day 2 of DSDS 2007 began with a keynote address by Mr Claude Mandil, Executive Director, IEA (International Energy Agency), France. Titled *The global energy challenge: technology scenarios for a sustainable future*, his speech began with the persuasive contention that the three Es – energy security, environment protection, and economic growth – are inviolable

pillars of sustainability. The growth pattern, however, would lead to significant increase in emissions and result in high import dependencies for all major consumers. These two factors, coupled with the ever-growing threat of climate change, would hurt long-term economic growth.

Mr Mandil's speech then focused on comparing and contrasting future emission scenarios. To understand the

potential emission reductions new technology options can help achieve, the IEA has created scenarios till 2050, which is the realistic point at which newer technologies can make a significant difference to emission trends. Mr Mandil shared these scenarios and pointed out that optimal deployment of clean technologies already available would help reverse global emission trends by 2050, but persisting with conventional technologies would exacerbate emissions to unmanageable levels.

The IEA reference scenarios highlight the fact that the world is on a completely unsustainable path, with a projected 85% of energy coming from fossil fuels in 2050. This would mean a steep increase in global emissions. But, if the world dedicates more resources, research, and commitment to new technologies to increase energy efficiency; introduces cost-effective renewables; and applies carbon capture and sequestration technology, emission levels in 2050 would be the same as they were in 2003. The choice before the world could not have been clearer—switch to newer, cleaner technologies now to ease the pressure on the planet's climate, or continue with a business-as-usual mindset and be prepared for runaway global warming in less than 50 years.

As they said it...



What is non-conventional today would be conventional tomorrow. In India, we have a particular luxury/liability in that we have as many as seven ministries dealing with energy—far too many!

Mr V Subramanian
Secretary,
Ministry of New and Renewable Energy,
Government of India



A more sustainable energy future is possible with known technology; the costs are also not out of reach.

Mr Claude Mandil
Executive Director
International Energy Agency, France

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Keynote address

Perspectives on climate change

Chairperson

Mr Nitin Desai, former Secretary General of the United Nations

Speaker

Dr R K Pachauri, Director-General, TERI



Policy formulation with regard to climate change must follow the principles of equity and sustainable development, said Dr R K Pachauri, Director-General, TERI. Efforts should be directed towards enhancing social and natural capital. In addition, there is a need to manage natural resources carefully. For instance, in the case of climate change, the atmosphere is to be managed efficiently.

The Kyoto Protocol was identified as a mechanism that could facilitate technological breakthroughs to reduce greenhouse gas

emissions. Although the Protocol is not a perfect agreement, it is a major step forward. Clean development mechanism projects do hold hope. The Protocol has resulted in the initiation of a carbon market that shall expand in future. Several countries are worried about the costs of meeting the Protocol targets. However, IPCC analysis shows that the benefits outweigh the costs.

The impacts of global warming will be felt most by the developing countries. Therefore, there is a need to cope

with the situation using traditional and modern knowledge. On the issue of technology transfer, the UNFCCC clearly specifies that the incremental cost will be supplied by developing countries. While covering of incremental cost is essential, the overall life cycle cost should also be looked at.

The time has come for the global community to come up with win-win opportunities. The solution lies in integrating climate change into development thinking.

As they said it...



Rather than talking about economic costs and benefits, we ought to be talking about the costs of action and inaction, which are borne by different people.

Mr Nitin Desai, former Under Secretary General of the United Nations



The global community has failed to tackle problems like poverty, climate change, and declining biodiversity.

Mr Pieter van Geel, Cabinet level State Secretary, Ministry of Housing, Spatial Planning and the Environment, The Netherlands

Session 3 Energy for sustainable development

Chairperson

Dr Adnan A Shihab-Eldin

Speakers

- Mr Jean-Paul Bouttes
- Mr Pieter van Geel
- Dr Bindu N Lohani
- Mr Nick Mabey
- Mr Vikram Singh Mehta
- Dr Lutz Mez
- Ms Cornelia Richter
- Dr Leena Srivastava
- Mr Patrick Verhagen



It is now beyond doubt that the energy choices we make have a direct bearing on our efforts to attain sustainable development. The session saw focused discussions around making the right energy choices, and in a manner that leads to a decisive shift of development paradigms towards just and sustainable models. Speakers in the session agreed that the year 2006 has been a minor watershed in the context of energy use, with governments, business, scientists, and society making measurable efforts to reduce the use of fossil fuels, increase awareness of the environmental com-

plications arising from fossil fuel emissions, and promote new and renewable energy systems. However, the magnitude of the challenge facing the sustainable development movement can be gauged by the fact that such initiatives have barely scratched the surface of the problem. The fact remains that global energy demand is going to continue to increase, and fossil fuels will be the only widely avail-

able option to meet the increased demand. The challenge before the world community is to increase the basket of options available to a world hungry for more energy, and fill that basket with clean technologies and renewable sources of energy.

To achieve this, speakers suggested several strategies, central to which was the need to foster greater cohesion and collaboration between stake-

holders. PPPs (public-private partnerships) have a key role to play in this context. The traditional template for PPP – an institutional arrangement between the private sector and governments – needs to be redefined and expanded to include the civil society and local bodies. Governments, it was suggested, should make more concerted efforts to create an enabling environment for the blossoming of PPPs and the integration of energy, environment, and society. A clear regulatory framework, an incentive regime, and policy support were some of the mechanisms governments could consider.

Speakers also spoke about the need for greater international consensus on energy issues, especially the urgent issue of reducing the environmental impacts of fossil fuel consumption. They noted that while developing nations must approach the energy-environment question within their broader development goals, it is important for developed countries to take a lead in this regard.

BOOKS RELEASED



Dr Montek Singh Ahluwalia, Hon'ble Deputy Chairman, Planning Commission, Government of India, releasing the book titled **GREEN India 2047: Looking back to change track**, published by TERI Press, on the occasion of the launch of India Council for Sustainable Development



HE Mr Mamadou Lamine Loum, former Prime Minister of Senegal releasing the book titled **Towards Cleaner Technologies: a process story on biomass gasifiers for heat applications in small and micro enterprises**, published by TERI Press



A book titled **Comanagement of Natural Resources: local learning for poverty reduction**, published by IDRC, was also released. For details, visit www.idrc.ca/in_focus_comanagement

Keynote addresses

Chairperson

Mr Pekka Plathan, Director General, Finnish Meteorological Institute, Finland

Speakers

- Nobel Laureate Prof. Paul Crutzen, Director Emeritus, Max Planck Institute for Chemistry, Germany
- HE Mr Alain Juppe, former Prime Minister of France and Mayor of Bordeaux, France

Atmospheric chemistry for climate in the anthropocene

The focus of the address by Prof. Paul Crutzen, Director Emeritus, Max Planck Institute for Chemistry, Germany, was on the scientific aspects of climate change and its history, the challenges we face today, and the possible solutions. The issue of climate change needs to be broadened from the main theme of carbon dioxide emissions, to consider other ozone-depleting gases such as methane, water vapour, and nitrous oxides. Heightened human activity has changed atmospheric chemistry and, as a result, global temperature is rising. We need to ask ourselves the question: 'what can we do?'

There is an urgent need to stabilize the carbon dioxide in the atmosphere by reducing emissions by 60%. Although methane emissions have stabilized in the past five years, nitrous oxide emission is still a matter of concern. Chlorofluorocarbon reduction has been achieved, but due to its long lifetime, it will continue to linger in the atmosphere for



Nobel Laureate Prof. Paul Crutzen

at least 70 years. Solutions are available in the form of striving for energy efficiency; carbon capture and storage; using nuclear power and renewable energy; and so on. One option on offer is an experiment that involves releasing sulphur into the stratosphere (as in volcanic eruptions). Advanced models that enabled the creation of the exact atmospheric environment under controlled conditions were established. Thereafter, the model was used to investigate the effects under three different scenarios. In the first scenario, carbon dioxide concentration is doubled; in the second, sulphur

is ejected; and in the third, both these situations occur simultaneously. The outcome showed that when both situations occurred, the climate nearly imitates actual conditions. Prof. Crutzen emphasized its importance in the present day.

Environmental threats and international governance on environmental matters

HE Mr Alain Juppe, former Prime Minister of France and Mayor of Bordeaux, reiterated that the existing international framework is inadequate to meet the challenges of global environment. He emphasized that climate change was undermining development. It is likely to cause massive migration of populations termed as 'climate change refugees'. An increasing number of extreme meteorological phenomena would also need attention. Food and water crises must be considered as security problems. The cost of inaction would be huge and thus collective and immediate action is necessary.

The planet warming to an average of 2 °C is not alarming. However, this minimum threshold demands a reduction in GHGs (greenhouse gases). France is aware of this and hence, the French energy policy has set a target of reducing emissions by 75% by 2050. He wished that this target would



HE Mr Alain Juppe

become common for all industrialized countries, including the US.

Mr Juppe also called for better integration of policies in the poorer countries based on radical, rapid, and effective action to curb GHGs. He emphasized on the mainstreaming of environmental concerns and the insufficient support to developing countries.

He concluded by saying that it was time to face responsibility and give the UN tools, means, and authority it needs by upgrading the UNEP into a special agency for environment. He proposed setting up of UNEO (United Nations Environment Organization) with a strong coordination mandate. An umbrella organization, the UNEO, would ensure policy and decision-making based on sound and reliable knowledge, headed by an executive director who would be the global face and voice of the environment.

Session 4 Sustainable use of natural resources

Chairperson

Mr Denis McDonough

Speakers

- Mr Yves Cabana
- Mr Warren Evans
- Prof. Michael von Hauff
- Prof. Peter Hennicke
- Dr Ganesh M Kishore
- Prof. Charles Kolstad
- Prof. Akimasa Sumi

Discussion in the session focused on various aspects of sustainability as they relate to natural resources—from academic, policy, donor, and industry viewpoints. Defining the 21st century as an era of 'knowledge expansion', the discussions emphasized the need to use the tools of science to build an issue-based approach to sustainability—one that can reliably predict the future and create a network of data and knowledge.

Multilateral perspectives on natural resources were also put forward in the session. These include valuation of ecosystem services, and development of

mechanisms for payments for ecosystem services. Households who live near natural resources tend to better manage them, and meeting short-term needs of communities who depend on natural resources is thus, as important as long-term sustainability goals.

Private sector initiatives to supply water, waste, and energy management services were stressed by speakers. Sustainable development, it was stated, can and should become an integral part of business functioning. In the same vein, the critical role of biotechnology was discussed, and its potential to make enormous contributions in meeting food, energy, and clean water needs was noted. Biotechnology can also help poor nations that cannot normally access expensive technology through agricultural innovations to satisfy their basic food and nutrition needs.

Panellists then commented on the relatively less discussed issue of governance.



Mr Warren Evans

Governments need to create more choices so that better decisions can be taken at the individual level. Speakers also made the key point that local governance institutions are normally more willing to pay for local development than national institutions, and the former could also act as engines of local innovation to resolve conflicts between local-level livelihood needs and countervailing macro-forces.

Energy and climate: a global perspective



Held over two modules, the event was an occasion to discuss and share global as well as regional perspectives on the synergies between energy security and climate change mitigation. In the morning session, panelists focused on the global perspective, and discussions ranged the full spectrum of issues—from technology interventions to market opportunities. Speakers contended that while, in the long term, technological breakthroughs could play a significant role in climate change mitigation, the short-term focus would have to be on energy efficiency improvements.

The second module of the event focused on Asian perspectives on the issue. Initiatives being undertaken by industry and government to address the issue of climate change were discussed. The Asia-Pacific Partnership on clean development and climate came in for praise as a step in the right direction to accelerate the development and deployment of clean energy technologies in the region.

SPECIAL EVENT



Session 5 Sustainable development technologies for the poor

Chairperson

Mr Raj Chengappa

Setting the theme

Ms Monique Barbut

Speakers

- HE Ms Rejoice Mabudafhasi
- Dr Alok Adholeya
- Mr Francois Binder
- Ms JoAnne Disano
- Dr Arun Kumar
- Ms Pearl Tiwari

Environment and poverty were traditionally treated as two disconnected issues having few overlaps within the development paradigm. But increasingly, through focused developmental initiatives in the recent past, the gap between the two issues has reduced. In this session, the discussion shifted towards one of the key outcomes of the reducing disconnect between the environment and the poverty conundrums. This is the search for technolo-



Mr Francois Binder

Mr Raj Chengappa

gies for the poor that are not only affordable but also sustainable. It was stated that such technology should essentially fulfil 3 As: affordability, accessibility, and appropriateness. In this context, speakers recommended framing technology-specific developmental programmes focussing on the vulnerability of the poor, and which draw upon traditional, indigenous knowledge for inspiration.

To address the affordability aspect of sustainable technologies, panellists suggested the creation of markets that

involve the poor as actors or producers in the value chain. Speakers also called on governments to address the issue of absence of micro-enterprises for economic development for the poor in developing countries. Other subjects that were discussed in the session included international funding for research and development in global public goods, collaborative North-South research and South-South cooperation, and the need for stakeholders to work towards bringing about a change in mindsets.

As they said it...



South-South cooperation should be nurtured for solving problems specific to poor countries

Ms JoAnne Disano, Director, Division for Sustainable Development, Department of Economic and Social Affairs, United Nations, USA



Consider poor as customers not beneficiaries

Mr Francois Binder, Country Director, Swiss Agency for Development and Cooperation, India

Keynote address Evolution of environmental markets: a practitioner's view of the past, present, and path forward

Chairperson

Mr C Dasgupta, Distinguished Fellow, TERI, New Delhi

Speaker

Mr Richard Sandor, Chairman and Chief Executive Officer, The Chicago Climate Exchange, USA

Mr Richard Sandor's address focused on devising market-based solutions to environmental problems such as rising GHG (greenhouse gas) emissions. Giving the example of the CCX (Chicago Climate Exchange) – a voluntary emissions management and trading system – Mr Sandor explained how environment markets can be a force-multiplier in the fight to reduce GHG. The CCX market architecture aims to cut emissions by 6% from the baseline levels by 2010. The price discovery mechanism is driven by seasonality, temperature, commercial and industrial growth, and GDP



Mr Richard Sandor

growth, and is sensitive to political impacts.

Mr Sandor went on to suggest that India could now replicate the same process followed by the CCX, considering that the country's 9% GDP growth is generating a lot of wealth. Some initiatives that need to be looked at to build an

environmental market highlighted by Mr Sandor include regulation or private sector laws that create the enforcement of property rights, building underlying institutions to perform functions ranging from clearance, tax allowances, knowledge acquisition, and monitoring and verification.



HE Ms Tarja Halonen, President of Finland, presenting a memento to Dr R K Pachauri, Director-General, TERI, on the occasion of TERI celebrating 25 years of excellence in research and innovation

SPECIAL EVENTS Youth conference Water management: waste water recycling

To seek innovative solutions for effective management of waste water, TERI, under the aegis of the Department of Science and Technology, Ministry of Science and Technology, Government of India, organized a one-day youth conference as a



special event of DSOS 2007. UNESCO and Delhi Jal Board partnered TERI to organize the event. With the theme *Water management: waste water recycling*, the youth conference was structured around plenary sessions, expert sessions, and a poster session to discuss and debate the role of the youth in enabling effective water management. Topics included in the sessions were waste water policy, waste water treatment, health impacts of waste water, and communication interventions to inform and educate society. The conference provided a unique platform for students, who participated and shared their views on issues related not just to waste water management but also to sustainable development as a whole. It also provided an excellent opportunity for youngsters to engage with development practitioners and broaden their perspective on sustainable development.

Sustainable buildings: developments and challenges

The session had Dr Binu Parthan, Deputy Director, REEEP (Renewable Energy and Energy Efficiency Partnership), Austria, giving an insight into the activities of REEEP. Mr Henry Derwent, Chairman of REEEP delivered the inaugural address.



Participants deliberated over the implementation of Energy Conservation Building Codes and stressed on the need for integration of various frameworks. The discussion also dwelled at length on disruptive technologies associated with existing buildings, which comprise 97% of total buildings in India. The session also touched upon the sustainable building initiatives taken up by TERI, including TERI-GRIHA (green rating for buildings), which could be a model for ECBC 2006. It was also emphasized that training, awareness generation, and human resource development to carry out energy conservation activities were most imperative for a sustainable future.