Development, the Development threshold and the low carbon path

Extract from a presentation by D. Raghunandan, Delhi Science Forum at the International Metalworkers Federation Seminar, November 2010

Thinking through New Developmental Pathways

- Some argue that the deep A1 cuts are unrealistic
- But IPCC/AR4 says targets can be achieved in medium term with available technologies, and at less than < 0.1% GDP p.a.!
- The co-benefits approach works best when energy savings is done through both energy efficiency and demand reduction
- Equity within nations (not just between them), shows the way forward
- Many ICs (especially US but also Canada, Australia, Japan and partially EU) argue that emission cuts are too costly in present recession
- The question is costly for whom? Who is bearing the burden even now in BAU in the ICs? We have
    1) bonuses for CEOs, wage cuts for workers?
    2) tax cuts for the rich, pension cuts for employees?
    3) more billionnaires, but more unemployment?

In Developing Countries (DCs)

- Here too, BAU only benefits the corporate.
- Emission growth cuts by large DCs makes sense.
- But again, the question is who will bear the burden?
- 46% Indians have no electricity and power which is mostly coal-based, LPG etc will only increase emissions.
- So, emissions in high energy consumption sectors and sections of society must be controlled.
- The co-benefits approach suits well but there should also be alternative low-carbon and equitable development strategies

In India?

- promote public transport in cities: shift away from personal-vehicle automobile-led growth
- promote inter-modal shift from road to rail
- promote rural industries/non-farm employment and reduce pace of urbanization
- decentralized production and distribution
- no need to follow discredited industrial Country models such as malls, hypermarkets and retail chains
- low entropy systems &
- concerns of the common people, in adaptation and increasing energy access, must be addressed

Extract from **Sustainable development—an oxymoron** by Sagar Dhara.

Development implies energy use. But fossil fuels, which meet 85% of the world's commercial energy needs, are exhausting as we have overdrawn energy from nature primarily to serve the greed of developed countries and the rich. No other viable alternative energy sources are currently in a position to replace fossil fuels.

Sustainability implies reducing energy consumption. Effecting this outlook shift requires two programmes to be put into place:

- Powering down global energy to about 40% of the current energy consumption of 12 00 million toe/year and in future relying primarily on the sun, the only reliable long-term energy source we can tap safely.
- Move towards energy equity.

For the sake of argument, if we were to power down our energy use to 5,000 million toe/year and distribute it equally amongst the world's 7 billion people, each of us would get ~0.7 toe (current global average is 1.7 toe/year), or about the same as the average per capita energy consumption prevalent during the seventeenth century. Is a decent living possible with this energy consumption. Yes, because modern technology is a more efficient than earlier. A family of four can afford to live in a decent-sized home with a fridge, an oven, a music system, mobile phones for all, eat well, but cannot afford have air conditioners and private vehicles.

At 0.7 toe/year, an Indian can double her energy consumption over current average levels. But for that to happen, Americans must reduce their consumption by 90% and Europeans by 80%. That is a real challenge.

Local action for sustainable living

We should not wait for that perfect society to happen at some point in future to start implementing community level programmes that can move us towards sustainable living. Wherever possible, we need to reduce energy and material use and move towards energy equity.

People in different parts of the world have started in small ways on this journey. Some have discarded private transport, others have started living in collectives, do organic farming, grow community forests, and yet others are using solar cookers and have installed photovoltaic panels on their roofs to power their homes.

Such efforts are essentially individual initiatives and cannot solve the social problems of energy overdrawal and energy inequity. But such initiatives, in a practical way, challenge the ideology of "Gain maximization for all". It is such actions that will help us re-configure our relationship with nature and with one another to usher a sustainable and equitous society.

Extract from Pro-people Energy Policy and Climate Considerations by Girish Sant, Prayas (Energy Group), Pune at the Low Carbon path Consultation.

Development – Growth – Energy – GHG emissions are all linked by the links are flexible. But electricity is important for development. In next 10 years, power demand likely to double (addition of 150,000 MW). But where will the additional power be used? Biggest demand increase from Industry (steel, cement, etc.) & Residential and large commercial premises. So

- It is critical to curb inefficient use least around 50,000 MW in ten years. Efficiency has least costly and has the highest potential, to reduce power needs. It can save more than the combined addition of power we can get from Nuclear, Hydro, and Gas. But it gets disproportionally low attention.
- The cost of power from different sources should be considered (Essential or basic needs energy should be billed at cheaper costs rates, whereas high consumers should pay at the higher rates at which newer sources which are renewable like solar are being produced. Solar, wind has high cost (except in niche applications)

<u>Rights, Responsibility and Climate</u>

- Climate problem has been caused by excessive use of low cost energy from fossil fuels like coal. This has been achieved by:
- Depriving the poor of their legitimate share of low cost power
- Power plants not internalizing the cost of environmental and social devastation.
- Not allowing decentralized RE to have same benefits as that of large (MW scale) wind-mills or solar plants
- Once this is reversed – Rights based approach will not only benefit the poor but will also help reduce GHG emissions……

<u>There is need for new energy paradigm using the 'Rights Framework'</u>

- We have limited coal reserves : We will have no new coal plant after 2030, if we continue present pattern. Currently free coal blocks given to industries
- Meanwhile the Poor are not getting reliable power from the grid – they have to pay high cost for alternatives (like kerosene / diesel).
- Decentralized renewable power is insufficiently promoted and the MW scale projects get mega-bucks. The large plants are constructed with high social and environmental costs which are largely paid by the poor

<u>Principles for new energy paradigm</u>

- Large power projects should be constructed only with minimal environmental impacts (for coal projects a cost increase of 25 p/u can minimize the impacts to minimal level).
- Land should be leased from original owners (with increasing rents)
- Coal mines should be allocated free for the power projects dedicated to the rural (non-agricultural) consumers, against commitment from states that rural supply will be 24x7.
- Free (near free) connection to all households.
- Renewable obligation for the utilities should also be used for de-centralized generation. So any wood-gassifier / PV / micro-hydro plant (either off-grid or connected to the grid) should

automatically get a subsidy proportional to its generation. This will promote renewable energy for the poor.

- Grid supply to the rich should be limited (Commercial building / rich households should be asked to run their ACs on solar power – or grid power can be charged at Rs 15/u – and used to fund construction of solar plants, rather than using subsidies from the budget). This will reduce consumption of rich and make sure that they pay for the development of renewable energy

Further readings on Energy

1) An overview of Indian Energy Trends: Low Carbon Growth and Development Challenges by Narasimha Rao, Standfort University, Girish Sant, Prayas, Sudhir Chella Rajan, Indian Institute of Technology Madras, Ashwin Gambhir and Gayatri Gadag. Prayas, Energy Group, Pune, India
2) Notes on the energy and climate change conclave and a People's energy action plan by Sagar Dhara, Hyderabad Platform, 12 Apr 2011
3) Shadow Integrated Energy Policy (IEP) Prepared for National Alliance of Movenments Against Coal by Shankar Sharma,.
4) Energy Efficiency Future Conservation (Video) by British Council. 2005. [L.E31d.V165]