

Rapid climate change, melting glaciers, changing crop patterns and rapidly growing unforeseen natural calamities are growing evidence of planet's inability to sustain mindless exploitation of natural resources i.e. oil, coal and gas. Fossil fuel model has gradually run out of road.

It is most significant in Indian context, where 70% of energy generation capacity is based on fossil fuels – 40% coming from coal, 24% from crude oil and 6% from natural gas. In 2009-10, India imported 159.26 metric tons of crude oil amounting to 80% of domestic crude oil consumption and 31% of country's total imports. In the 10<sup>th</sup> Five Year Plan, our energy demand is expected to grow upto 9% per annum as against our projected GDP of 8% per annum.

In this scenario, we cannot but over emphasis the emergent need to harness all green and renewable sources of energy, particularly hydro wind, biomass and bio-fuels, geo-thermals, solar, waste to energy and ocean power. This is not a luxury for our Nation but a necessity for survival of our next generation of humans, animals, plants and all other species.

We need to add 80,000 mega watts of generation capacity by 2012 to achieve the target of energy for all, a target that does look difficult to achieve if not possible. Our voluntary declaration in Copenhagen Summit to reduce our carbon ( ) by upto 15% by 20:20 is well known. Need of the hour is to ensure policy frame work, regulatory processes and ground level implementation by Centre and States alike.

India's hydro power potential alone, when fully tapped, is close to 100,000 mega watts, including nearly 40,000 hydro power potential of State of Arunachal Pradesh alone. Despite our best efforts, we are still only the fifth largest producer of wind power with 40% potential coming from Tamilnadu alone. We have just made a beginning on solar power – Jawahar Lal Nehru National Solar Mission. Most of our cities have not harnesses their waste to energy potential. To my knowledge, geo-thermal power has not even been

tapped despite having the entire range of young Himalayas. Awareness qua bio-mass and bio-fuels power is scanty, sketchy and marred by policy and tariff constraints. Ocean power is similarly awaiting to be harnessed.

Despite its federal structure, India needs to take some hard, concrete and firm policy initiatives backed by legal framework. Some of these could be:-

- (i) Section 86 of Electricity Act, 2003 directs State Electricity Regulatory Commissions to specify renewable energy as a percentage of consumption in the distribution licensee's area.

It, however, gives no time line for Regulatory Commissions to do so. It also allows individual States to determine the percentage of renewable energy with no minimum requirement. Resultantly, States have fixed percentages from 0.5 to 10.

For any policy initiative to succeed, this must change to a uniform implementational practice.

- (ii) Section 61 of Electricity Act, 2003 provides for fixation of favourable tariff for co-generation and generation of electricity from renewable sources.

This has been hardly implemented.

- (iii) Non-discriminatory access to the grid for renewable energy projects has been a major challenge.
- (iv) There is no penalty for non-compliance of (i) to (iii) above.
- (v) There is no National Renewable Energy law. Resultantly, each State has different interpretation of Section 86 and Section 61 of Electricity Act, 2003.

- (vi) There is no compulsion on energy audits, energy conservation funds, energy efficient lighting and heating/cooling systems.
- (vii) A general carbon tax on all formal energy for ( ) research on renewable energy/ideas is also needed.
- (viii) There is an urgent need for statutory backing to discounted/preferential lending practices and long term tax breaks for renewable energy projects.