

An Alternative Route to Energy Security

India is on a growth path. For the third year in succession the nation's economy is set to grow in double digits. Unless the continued shortage of power – currently experienced in different parts of the country – becomes an avoidable worry, all the good work of the economy will go waste. Here is a study by an expert on the subject how to achieve Energy Security that has been the nation's worry for some time.

- V K Pandit

As the nation enters the 60th year of our independence, we are still struggling to correct the mistakes of the past to achieve “Energy Security” which is environmentally clean and sustainable in the long run. This is not to deny the importance of other sources of energy. In the Indian context a balance will have to be struck to bridge the gap in power generation capacity both in short and long terms. The consequences of bridging the gap through all available means will have to be squarely faced by the nation. In other words, the long-term solution lies not only in local anti-pollution and conservation measures but in grass roots – clean, renewable energy measures.

Scientists believe that the concept, ‘Global Warming’, represents one of the important threats to our planet's bio-diversity. A solution to this threat can largely be met through renewable energy generation. Almost 60,000 MW of wind power has been installed worldwide of which India stands fourth. In solar photovoltaic market, India has the seventh position and in biomass she commands the second position. The Power Minister's vision is to increase the grid-interacted power capacity through renewable sources from 6 ½ per cent to 10 per cent by 2012. Electricity to 25,000 villages which cannot be connected to the main and through solar photovoltaic, wind, mini hydro and biomass gasifies and for urban areas through municipal solid bio-fuels, waste and energy recovery etc. Through these various sources we can generate 45,000 MW by 2012 if renewed efforts are made on war-footing

In this context, we must address ourselves not only to the innovative technologies available in India and outside but also novel practices for making renewable energy programmes successful. We must also deliberate on the regulators perspective on renewable energy and the financing of the projects. The Maharashtra Regulatory commission has proposed a renewable purchase specification for minimum percentage of power procurement from renewable sources. This needs to be made mandatory.

Attention is also drawn on another very important aspect – a need to implement a roadmap for a hydrogen economy. All the stake holders need to join hands with the Government in the implementation of the National Hydrogen Energy roadmap made under the Chairmanship of Mr. Ratan Tata. The roadmap would put India in the forefront of the new global hydrogen energy initiative and provide sustainable energy security to all citizens. Globally, large scale efforts are in progress not only in advanced countries but also in the developing countries like India, China and Brazil.

Another importance area which has assured strategic importance is the nuclear sector. India has set a target of 40,000 MW by 2020 out of which 2000 MW is already under construction and another 8000 MW power is visualized for implementation. It is a matter of pride that the gestation period has gone down from 7-8 years to just five years.

It is also worth mentioning that Indian offer Rs. Six per MW is, perhaps the cheapest in the world. The issues to be confronted today would be proper selection of new technologies and human resources augmentation. The sector would also need to be opened to the private sector. The NPTC, Reliance Energy, Tata Energy and GMR have shown interest. Even equipment manufacturers like BHEL and Larsen & Toubro could find it beneficial to have equity participation. The large nuclear programme envisages that manufacturing and construction industry must expand their facilities to meet the challenges that are on the way.

Last but not the least; the most important factor is the development of hydro power by removing hurdles in the growth potential. Hydro electricity will play a vital role in the achievement of targets of power for all by 2012 and rural electrification by 2009.

Till date 22 per cent of hydro potential has tapped and 78 per cent remains untapped. For this massive financial resources would be required. The issue is that the private sector came forward in a big way to develop this potential. It may be possible when projects are structured in such a way that it gives a return on investment of more than the present 12 per to 14 per cent. This could perhaps be possible if the high gestation period is taken care of by the Government by getting environmental clearance relief and rehabilitation i.e. taking care of displacement issues acquiring and making land available etc. If this can be taken care by the Government it may be possible for the private sector to come in a big way.

On the issue of 'Water', a state subject, a feeling in certain quarters is that 'water' should become a Central subject to resolve inter-state issues. Whether this is possible in a federal set up like ours is debatable. On the technological side the problem of self abrasion has assured importance in the light of Naptha, Jakhri and Baspa project experience. We must find solutions to mitigate this problem as well as adopt now innovative technologies for tunneling if available. Roller compacted concrete for dam construction also assures importance. We must also find long term solutions for mitigating geological surprises by better methods of investigation.

All said and done, key decisions will depend on the right person with proper knowledge and exposure of his/her subject keeping in mind the urgent requirement of the country as its economy is bound for an upward growth once again.

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Reference Book:

Electrical India November 2006
Vol. 46 No. 11