**Energy projects and potential**

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A rather ugly situation is developing with respect to the IGCEP (Indicative Generation Capacity Expansion Plan). Reportedly, no consensus has been achieved in the CCI on the subject. And, also reportedly, the Sindh minister of energy is mulling over legal channels to get his province’s grievances heard. It must be noted that the IGCEP has been under review for a number of years.

The complaint of the Sindh leadership is that the least-cost principle, which is universally accepted as a basic criterion of power planning, is not being implemented in its true spirit. And more expensive and less competitive projects have been pushed in under the name of committed projects. Indeed, in the current situation, there are so many committed projects that making the IGCEP appears to be rather meaningless. Theoretically, all project planning and preparation should follow after the IGCEP has been completed. On the other hand, a portfolio of identified projects is to be there for continuous project development activity. A balance is to be created in this respect.

The cheaper solar and wind power is asserting itself. No solar or wind power project has been implemented for the last many years, despite its cost having come down tremendously – under 2 USc elsewhere and 4 USc in Pakistan. And the proposed IGCEP does not include as much solar and wind power as the proponents want it to be. Sindh has abundance of solar and wind while Khyber Pakhtunkhwa has abundance of hydro and solar power.

Solar and wind power are costing around 4 USc while hydropower costs almost double this figure. There is confusion among people that hydropower is cheaper – costing around Re1.0 per kWh. This indeed used to be the case but applies to older hydro projects like Tarbela and Mangla. All new hydro projects cost much more; Neelum-Jhelum, Suki-Kinari, Azad-Pattan, Karot etc all have tariffs around 8-10 USc. The potential Bhasha power tariff is not known in reliable terms.

All power sources have merits and demerits. Planners, therefore, have adopted least cost as the decision-making criterion for including a project in their portfolio. Unfortunately, a lot of politics and patriotism has gone into the issue. Hydro, nuclear and later Thar have become almost a test of patriotism. Opposing any one of these is taken as unpatriotic. And the new contenders are solar and wind now.

Nonetheless, ignoring solar and wind power generation capacity is acquiring controversial dimensions. It is difficult to justify ignoring or downplaying sources that cost half of the competing sources. Balochistan’s requirements of solar projects should have received priority for both cost and non-cost reasons. But this was not done, creating an unnecessary controversy. Similar are the grievances of Sindh.

There is, however, a locational dimension of electricity generation. Generation has to be spread out to minimise transmission cost and losses. As it is inadequate to bring hydropower from KP, it is equally inappropriate to propose bringing hydropower to Karachi and Sindh. The thermal answer is distributed generation which is economic and politically acceptable as well.

There is another complicating factor of the falling energy-to-GDP quotient (elasticity). Almost everywhere in the world, due to the conservation and efficiency effect, less energy is required to produce one unit of GDP. A ready example is LED and energy-efficient air-conditioners and other appliances. There are enthusiasts who wrongly argue that energy consumption grows faster than GDP. Worldwide, the opposite is the case, including in India. In Europe and other advanced countries, the energy and GDP relationship has been dissociated due to ever-rising energy saving technologies. The involvement of eminent economists in energy modeling will alleviate the intensity of controversy that is being generated in this respect.

The fact is that Sindh has vast energy resources including Thar coal, wind and solar – although solar is everywhere – while KP has abundant hydropower resources. However, the problem with the politics in the two provinces is that when the federal government develops resources in these provinces, they often start making unreasonable claims. For example, leaders demanding that gas be diverted to CNG stations in one province while homes in another be deprived of gas for cooking.

Coal has been made expensive through cost manipulations and undue demands of higher equity return. In a matter of a few years now, Thar coal projects are being proposed at almost half the cost. Similarly, there are unreasonable excessive demands in KP with respect to NHP (Net Hydro Profit). What we all have to realise is that energy resource competition is emerging with the advent of solar and wind power. Provinces which are the owners of these resources have to market their resources and be flexible and reasonable. Legal fighting may not be enough.

The issue of committed projects has to be sorted out. Grid code and IGCEP methodology require that generation projects be selected on the basis of least-cost and then projects be committed into a formal project portfolio. The opposite is happening.

One of the reasons is that there are multiple sources of authority who manage to push their projects through informal channels. It costs a lot of time and resources to prepare bankable projects. To be fair, it is also a fact that a portfolio of prepared projects is required in order to develop a realistic and practical plan. Otherwise, one would be able to assign capacities in various sectors only. Perhaps, the Private Power and Infrastructure Board (PPIB) has to come up with reforms in its case processing and introduce some controls.

Another issue is that Take or Pay is a great risk-free system guaranteeing income and profits irrespective of demand or utilisation. Provinces and promoters have a free ride. All they have to do is to get the project approved and let the federal government deal with the problem of circular debt. The market system of Take and Pay seems to be far away. The proposed CTBCM has many issues in the way of a viable implementation.

There is, however, scope of accommodating additional projects as demand may increase more than it has been assumed in the IGCEP. Some projects may not be implemented. There are many doubts on the Bhasha dam (6000 MW) which has been on the agenda for a long time. The Bhasha dam is important from the point of view of water storage and supply. There are political and financial issues. It is a $12-15 billion project. IFIs require that Pakistan obtains an NOC from India – which is obviously considered preposterous by Pakistan.

There are problems with Chinese involvement as well. There are others who think that dams are not necessary, and aquifer charging is a better solution. So, there are opportunities for accommodation and the project proponents should be hopeful that their demands may be accommodated eventually.

It appears that it may just be time soon to start considering the provincialisation of the energy sector as a whole or the power and petroleum sector separately as is a common practice among federations. There are risks involved which have to be evaluated and mitigated in a sector already mired in controversies and difficulties. Politics is making things even more difficult.

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