**Going green?**

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The government has imposed a 17 percent sales tax on the import of solar PV equipment. Solar traders have protested against it and consider it an anti-green approach. Reportedly, the finance minister had promised to not withdraw the previous tax exemptions on solar panels, but this has not been implemented yet.

The government wants to generate much-needed revenue through taxes, while the traders think that such a move would discourage the evolving solar market. Had the government levied taxes under a developmental objective, it would have acquired some legitimacy and support.

It has been estimated that the imports of solar panels and equipment stood at 2380 MW in 2021. In 2016, the total was 700 MW. A good quantity of 5,000 MW of panels has been imported over the last five years. The demand has been growing at a rate of 50 percent. The 530 MW capacity of grid-connected PV systems is surprisingly only a small fraction of the total solar installed capacity, as indicated by the imports data.

The capacity of rooftop solar panels (net metering) stands at 282 MW. There should be sizable rooftop capacity which is not under net metering on which data is not available. The demand emanates from the many solarisation programmes of the provinces involving schools, university, and mosques solarisation. Solar water pumping is also a major sector.

Even if we assume solar panels imports to grow at 20 percent in the next five years, the demand/imports may go up as high as 5000-7000MW per year. And the installed capacity by 2025 may be more than 12000 MW. These numbers should be considered by Indicative Generation Capacity Expansion Plan (IGCEP) planners while estimating their demand projections. However, our focus in this space is the need for indigenous solar panel/equipment manufacturing capacity.

The IGCEP has provided for a capacity of 7932 MW of solar and 5005 MW of wind power by the year 2030. Until recently, there has been no major solar utility project. Several solar projects were in the pipeline, but there were some tariff issues. Temporary excess power capacity, circular debt and the current financial problems have also had an impact on the lack of solar projects installations. The provincial governments are, however, quite keen on launching their projects. Some formalisation and apportionment of solar capacities is required in this respect.

Provincial interest and action can go a long way in expanding solar capacity, especially in the education and health sectors and rural electrification. This, however, has to be under a consultative arrangement so as not to cause excess capacity problems.

Several countries – India, Turkey, Chile, Hong Kong, Thailand, Malaysia, Singapore, and Vietnam – have emerged as leading solar PV manufacturers after installing local solar panel manufacturing plants. Turkey entered into solar PV business in 2011, and has built a thriving sector consisting of more than 20 solar PV assemblies and manufacturing plants with an aggregate capacity of 5610 MW in a decade.

Recently, a Chinese company installed a 500 MW-integrated solar PV manufacturing facility with an investment of $400 million. India has an installed capacity of more than 10000 MW of solar panel assembly and 4000 MW of integrated cell and panel manufacturing capacity. India plans to add another 15000 MW manufacturing capacity.

Malaysia has a solar PV manufacturing sector of several thousand MW capacities despite a small installed capacity of 1500 MW of solar energy production. It means that the bulk of the production goes to exports. The Chinese plan to invest $10 billion in integrated solar PV manufacturing in Malaysia. Recently, there has been an agreement by a leading Chinese company for installing an ingot and wafer manufacturing plant with a large capacity of seven GW in Vietnam.

Interestingly, the US, a large importer of solar panels, imports 27 MW of solar panels, and its local production is limited to some 5000 MW. In the US market, Malaysia, Vietnam and Thailand have a respective share of 31 percent, 28.8 percent and 26.2 percent. In these three countries, exports are made from Chinese-owned and installed plants.

In Saudi Arabia, a relatively large 1.2 MW solar cell and assembly plant has been commissioned with an investment of $186.9 which does not appear to be an extraordinarily large investment figure. Even the UAE has four solar PV manufacturing plants despite high labour cost and availability issues. In India and Turkey, there are incentives and subsidies on local manufacturing.

Local manufacturing, apart from saving the fast depleting foreign exchange reserves, is likely to increase the employment rate and promote technologies and skills. Pakistan’s solar market is dominated by small traders and the informal sector, creating quality and even safety issues. Local manufacturing will organise the market, reduce cost and improve quality. The same can be said about the local manufacturing of solar water heaters and biomass cookers to reduce gas demand.

Pakistan installed a pilot plant of making solar ingots and wafers as early as in the 1970s. Called the Pakistan Council of Renewable Energy Technologies (PCRET), the plant is still working. Panel assembly facilities were added later. Unfortunately, the initiative couldn’t be sustained. However, solar PV economics and competitiveness has emerged only recently.

Although there is a substantial market, solar PV projects would be required to attract foreign direct investment (FDI) in the manufacturing sector. There are some manufacturers of ancillary equipment who are mostly limited to assembly operations. Such nuclei may also be encouraged and expanded. It may be noted that solar manufacturing capacities in developing countries are far greater than their installed solar energy production capacity.

This implies that all of them are export-oriented besides local consumption. One wonders: why is Pakistan far behind? The country needs to adopt forward and positive thinking and shun pessimism.

Chinese companies are leading suppliers of solar panels and other associated equipment and are also active in installing manufacturing facilities abroad. We have SEZ programmes with China under CPEC. Some efforts should be made for launching local manufacturing projects of solar equipment.

Normally some incentives are required to compete with low-cost-entrenched market players importing the product. India, Turkey and others have done it. India has a subsidy programme and is now considering introducing 40 percent tariff protection for local manufacturers. Subsidies may not be feasible under the current budgetary circumstances. Some degree of tariff protection may be required.

The recently imposed GST on the imports of solar equipment has been rightly opposed by market players. Although GST on imports may affect the solar market – burdening end users, it may serve as an incentive for the entrants to local manufacturing, if the latter is exempted.

Another approach for incentivising indigenisation would be to award higher tariffs – say a 50 USc tariff – to solar IPP projects. It would be important to announce such protection much in advance of the solar-IPP approval process. Reverse auction has been talked about. There is provision for solicited projects in the power policy as well.

Local investors are usually shy without government initiatives and policies especially in new areas. The Ministry of Industries and Production, the Board of Investment (BOI) and the power division should consider initiating consultations and policy dialogue in this respect.

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