Policy Options for promotion of Renewable Energy in Pakistan

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Pakistan is facing acute energy shortage and the gap between supply and demand is ever increasing due to increase in population, urbanization and modern life style. Reason for the energy shortage is primarily lack of long term planning for increased energy production/energy mix coupled with transmission losses and poor governance. Consequently, public is facing increased load management in domestic, commercial and industrial sector. Thus Pakistan is facing increased energy security threats at all levels that hampers industrial production and trade besides creating un-employment.

An overview of the energy mix show that Pakistan is still relying on the tradition sources of energy like hydro and fossil fuel as the gap between energy supply and demand further increased the use of fossil fuel to generate power as a short term solution. Relying on fossil fuel for power generation is not only eating the country foreign currency reserve of Pakistan besides increasing the risks on increased emission of Green House Gases (GHG) into the atmosphere leading to global warming.

Natural gas one of the major energy source that Pakistan possess has increasingly been used in domestic sector though its use in industry and transport sector also showed increased demand in the past. With a view to rationalize the use of natural gas in various sectors, Pakistan must develop a comprehensive strategy for judicious allocation of natural gas to industry, transport and domestic sectors besides identification of alternative sources of energy. This will greatly help in ensuring increased trade, reduced import of fuel for transport and thus help in increasing the foreign currency reserves of Pakistan which is essentially important to stabilize national economy.

One way to reduce the natural gas supply to domestic sector is to devise policies that encourage supply of decentralized sources of renewable energy. This policy option must be based on the principal of encouraging private, public and civil society in installing decentralized energy systems for domestic, commercial or industrial sector to develop their own sources of energy. Public sector must provide a proportion of upfront cost of the development of such

decentralized sources of energy through concessional loan besides providing guarantee for purchase of the surplus energy/power by the national grid.

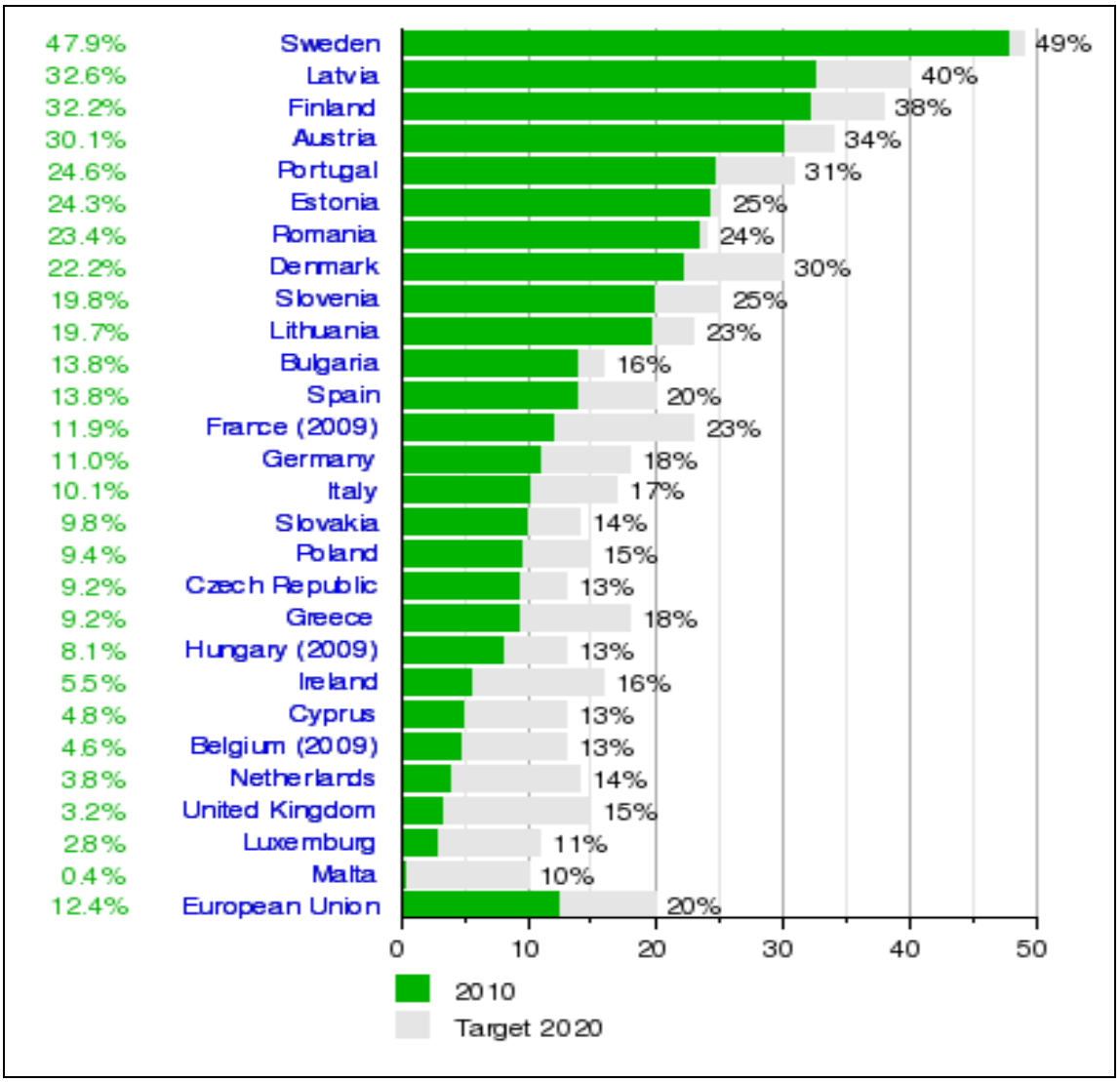
Pakistan being a tropical country is blessed with tremendous potential of solar, biomass and wind energy at various places. Biomass energy is available everywhere and it can prove a major source of natural gas for domestic, commercial and industrial sector. Rural areas of Pakistan can have their own sources of domestic energy through the production of biogas as almost every second rural household has got 4-5 big livestock enough to generate the required quantity of natural gas as a decentralized domestic source of energy. This will help in reducing the pressure on the national gas grid for supply of natural gas to the domestic consumers in rural areas.

Pakistan has recently embarked on developing state of the art decentralized domestic biogas plants in rural areas, which the communities have greatly adopted because of low cost of development and production, the ease in operation, better hygiene and increased gas pressure. Most of these interventions are done by projects loaded with incentives and aimed at minimum cost contribution by the consumers. Private sector is almost absent as there is no mechanism in place to encourage private sector to provide market mechanism to such innovative interventions. To be sustainable these interventions has to be based on market mechanism.

Countries in the world both developed like USA, UK, EU countries, Japan and developing like China, India, Brazil and many more are working to increase the proportion of renewable sources of energy in the energy mix as sustainable energy policy options. The energy mix of countries in the European Union (EU) shows a sharp rise of the Renewable Energy (RE) sources in their energy mix during the past couple of years. The major reason of increased RE proportion in the energy mix is almost all renewable energy sources are environmentally clean and safe, they are cheap and highly sustainable besides being eligible for earning carbon credits under the Clean Development Mechanism (CDM).

European Union leaders reached agreement in principle in March 2007 that 20 percent of the bloc's final energy consumption should be produced from renewable energy sources and achieve this target by 2020 as part of its drive to cut emissions of carbon di-oxide into the atmosphere. Historically EU has strongly advocated the use of increased RE in the energy mix and therefore supported the Kyoto Protocol aiming at reducing the emission of GHG into the atmosphere.

Graph bellow show the progress of various EU countries in achieving the RE targets:



Almost all the EU countries are located in temperate zone having cold climate and receive less solar exposure in day time but their commitment and viable policies based on realistic data has enabled them to increase the RE proportion in the energy mix. Most parts of Pakistan on the other hand has got maximum exposure to sun in day time and can therefore produce plenty of biomass besides being the 5th largest livestock country can supply large quantity of animal dung for biogas production. In addition, Pakistan is blessed with over 1000 km long coastal belt full of

biomass and wind corridors. But what is lacking is realistic RE policies and commitments to achieve the targets set in the objectives of the RE policies. Pakistan must immediately follow the EU model of renewable energy aiming at developing realistic, achievable and sustainable energy policy based mostly on the increased RE proportion in the energy mix of Pakistan.