**Energy transition**

BY S H A H M U N I R K H A N 2022-01-04

REMEMBER Kodak? It used to be a household name globally including in Pakistan. Kodak`s management failed to forecast the speed of technological transformation of digital photography. The pioneers of photography and videography underestimated the potential of digital photography and hushed the inventor of the digital camera,StevenSasson,anelectricalengineerat Kodak. The management expected this disruptive technology to be a slow process and non-threatening to their business. To cut a long story short, Kodak filed for bankruptcy in January 2012.

History is repeating itself and this time this disruptive change will eradicate fossil fuels and allied industries. Today, more than half of the newly installed power generation is from renewables globally. The share of renewables in global electricity generation stood at 29 per cent in 2020.

Europe is leading the way and is set to become the first climate-neutral continent by 2050. Currently, the share of renewable energy in final energy consumption in the EU is around 20pc. Sweden leads with a 56.4pc share of RE in its gross final consumption. The motivation behind this race towards RE are the threats posed by climate change, the political economy of fossil fuels and the increased profitability of RE projects.

Technological advancement has made the installation of RE projects much cheaper and cost-effective. The levelised cost of energy for solar PV has gone down from $359/MWh to $36/MWh, a 90pc reduction, in the last 12 years making it the cheapest source of electricity. Wind power followed a similar pattern; it declined 72pc making it the second cheapest source. RE sources, such as solar PV, wind, hydropower, biomass and geothermal are providing electricity competitively cheaper compared to fossil fuel. RE has become the most economical solution for growing electricity needs and provides a cheap alternative to developing countries that mainly rely on coal.

The share oftransportadonisone-ñfthin global carbon dioxide emissions. At COP26 in Glasgow, 30 countries, including India, pledged to phase out fossil fuel-powered vehicles by 2040. These countries were joined by leading automakers such as Ford, Mercedes-Benz, General Motors and Volvo, and two dozen fleet operators, including Uber, in transition towards zero-emission vehicles. The EU wants to phase out gasfuelled car sales by 2035. The US has already introduced the Zero Emission Vehicles Act of 2020 requiring 50pc of all vehicles sold in 2025 to be zero-emission vehicles. This would be followed by a 5pc increase every year and ultimately all pas-senger vehicles sold in the US in 2035 would be zero-emission vehicles.

What will happen to countries that resist this change? For developing countries like Pakistan, the situation doesn`t seem to be pleasant. With increased focus on clean energy to keep the global temperature under control, strict environmental rules and regulations will be enacted in the spirit of the Paris Agreement, COPs and the SDGs. Trade policies, embargoes and trade barriers will be created to promote green products and discourage all products made of or relying on `dirty fuel`. With the current pledges made by governments, it is estimated that 13 million new jobs in the renewable sector will be created in the next 10 years. The new employment opportunities in clean energy will have the potential to offset the decline in employment in fossil fuel industries, resulting in a change in dynamics of the labour market.

Saudi Arabia has sensed this disruptive change that will come to its economy as a blow and opened itself up to embrace thistransition. In an effort towards a green Saudi Arabia, the kingdom recently signed multimillion-dollar deals to purchase solar power plants as it embarks on a journey to produce50pc of its electricity from renewables by 2030 compared to 1pc today. Efforts are underway to shape and transform its tourism industry as a major source of generating profits. An estimated 10 billion trees are also to be planted in the coming decade to counter desertification, pollution and health hazards.

The prospects of transition towards RE seem to be bleak in Pakistan in the near future considering the strain on public expenditures during the pandemic, debt servicing, newly built coal-fired power plants that will be dif ficult to retire and hiking tax on RE items to meet IMF conditions.

Yet, Pakistan has a great potential in RE generation and according to the World Bank, by utilising just 0.071pc of the land, Pakistan can fulfil its electricity demand through solar PV alone. However, the need of the hour is a firm stance and long-term policy commitment to make our fate different to what happened with Kodak.  The writer is a PhD scholar at University of Naples Parthenope and working at the IBA, Karachi.

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