[**Cheap and clean energy**](https://www.dawn.com/news/1665358/cheap-and-clean-energy)

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GLOBAL climate targets will not change if Pakistan commits to net zero emissions. But Pakistan’s economic growth may get a boost that present misplaced policies cannot deliver. Unless Pakistan redirects its energy investments, the energy crisis, circular debt and urban pollution will keep worsening. Renewable energy (RE) can bring down the cost of development remarkably, reduce pressure on foreign exchange, strengthen outreach to underserved communities, and reduce emissions for cleaner air in the cities.

Pakistan’s energy policy has gone in the opposite direction of global trends. Pakistan abandoned its earlier targets of 1,235 megawatts of wind and 430MW of solar, determined in the 2006 policy for development of RE for power generation. The Alternative & Renewable Energy (ARE) policy adopted by this government in 2019 reset the target for energy from renewable sources by 2030 to 30 per cent excluding hydropower. This target was reduced further to 12pc by the Indicative Generation Capacity Expansion Plan approved in 2021. IGCEP committed to the ‘least-cost option’; yet it has revisited the definition and included seasonally flowing hydropower in the RE category, that ARE had not. This change of heart has effectively elbowed solar and wind energy out of the equation and paved the way for foreign investments in hydropower instead of solar that can be commissioned at one-fourth the cost and time, mostly with domestic financing. It has also accentuated differences between the provinces who have more nuanced perspectives.

All this was happening at a time when solar power had become the cheapest electricity in history — cheaper than coal and gas in most major countries. The cost of electricity from solar photovoltaic (PV) panels has decreased by 90pc since 2009, according to the annual World Energy Outlook 2020, by the International Energy Agency. Instead of following the economic logic, Pakistan looked the other way. Our neighbours, India and China, followed the economic imperatives.

During this period, India attained the fourth global position in wind power and fifth in solar installed capacity. Their renewable power generation capacity has recorded an annual growth rate of over 17pc. The Indian government had an initial target of 20 gigawatt capacity for 2022 and that was achieved four years ahead of schedule. This quick success was enabled by importing PV panels from China while the 1,000MW Quaid-i-Azam solar park floundered and languished. In China, likewise, the RE capacity reached an estimated 40pc of the total installed capacity, and about 26pc of total power generation. India and China are now both leading Asia on green energy and have achieved an accelerated economic growth rate by reducing the cost of development.

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The market for RE is created by the high costs and pollution levels of coal as a source of energy. Its global pipeline has collapsed by 76pc since the Paris Agreement. Forty-five countries have already committed to no new coal power plants. Pakistan announced it would shelve two coal plants producing only 2,600MW whereas, at the same time, Bangladesh declared the cancellation of 10 such planned plants of 8,711MW. Pakistan’s announcements lacked both courage and homework.

No wonder the country has backtracked from the commitment made by Prime Minister Imran Khan at the Climate Action Summit in December 2020, where he had declared: “We will not have any more power based on coal.” It has since been changed to no more ‘imported’ coal. He had also committed to liquification and gasification of indigenous coal. No plans for nine operating and another five almost completed projects have so far been announced. As it is a new romance that just started a few years ago, Pakistan has not yet consigned coal to history.

It is against this background that coal imports have been growing at an annual rate of 19.26pc. While the coal power plants were justified on the basis of low-grade Thar coal, in reality, the energy wheel is run by importing high-grade South African coal. In addition to the use for energy, coal is also imported for our fast-expanding cement industry, now propelled to fuel the housing construction to turn around the economic growth rate.

Once the cheapest source of energy, hydropower has now been superseded by solar and wind despite their intrinsic limitations of time of the day and wind velocity, particularly because of the breakthroughs in long-term energy storage batteries. Except for the Tarbela and Mangla dams, all other public-sector hydropower projects have witnessed delays and cost overruns. The average per unit cost at the 969MW Neelum Jhelum Hydroelectric Project, for example, has escalated to 16-18¢ kilowatt per hour, compared to 4-5¢/kWh from solar power plants. In the absence of any financial closing before starting construction, the envisioned large dams (Diamer-Bhasha, Mohmand) and ‘run-of-the-river’ ones (Dasu, Kohala, Suki Kinari, Karot, Azad Pattan) will face similar cost overruns. Their pricing structure will be multiple times more expensive. Clearly, water storage needs must be separated from energy needs. Solar plants can be installed within months and the State Bank can help further reduce their prices by cutting financing costs through simply extending the longer tenure of loans to say 20 years, instead of the present seven to 10 years.

While we have excess electricity production, the government does not always acknowledge that 61 million people still have no access to electricity or suffer from poor quality of access. Almost 46pc of our rural population is living without electricity. It is estimated that $20 billion is required to upgrade the transmission network by 2040. Off-grid solutions can help reach the underserved areas rather than waiting decades for the upgradation of transmission lines.

Electricity can be provisioned through solar mini or micro-grids to bring light to their lives. In addition to getting urban population off-grid through solar home systems, solar energy can also be supplied to schools, health facilities, SMEs, etc. through microfinance facilities and models of rural energy entrepreneurship. The National Electric Vehicles Policy will become more meaningful if the charging infrastructure for the emerging EV market is supported by hybrid solar systems. It is imperative that Pakistan adopts pro-poor approaches to energy production and supply to reduce the cost of economic development. After all, reliable, cheap and clean energy is a right of all citizens.

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