MONTHLY

ISSN 2309-6578

ENERGY UPDATE

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ENERGY TRANSITION

ANATOMY OF
A BAILOUT

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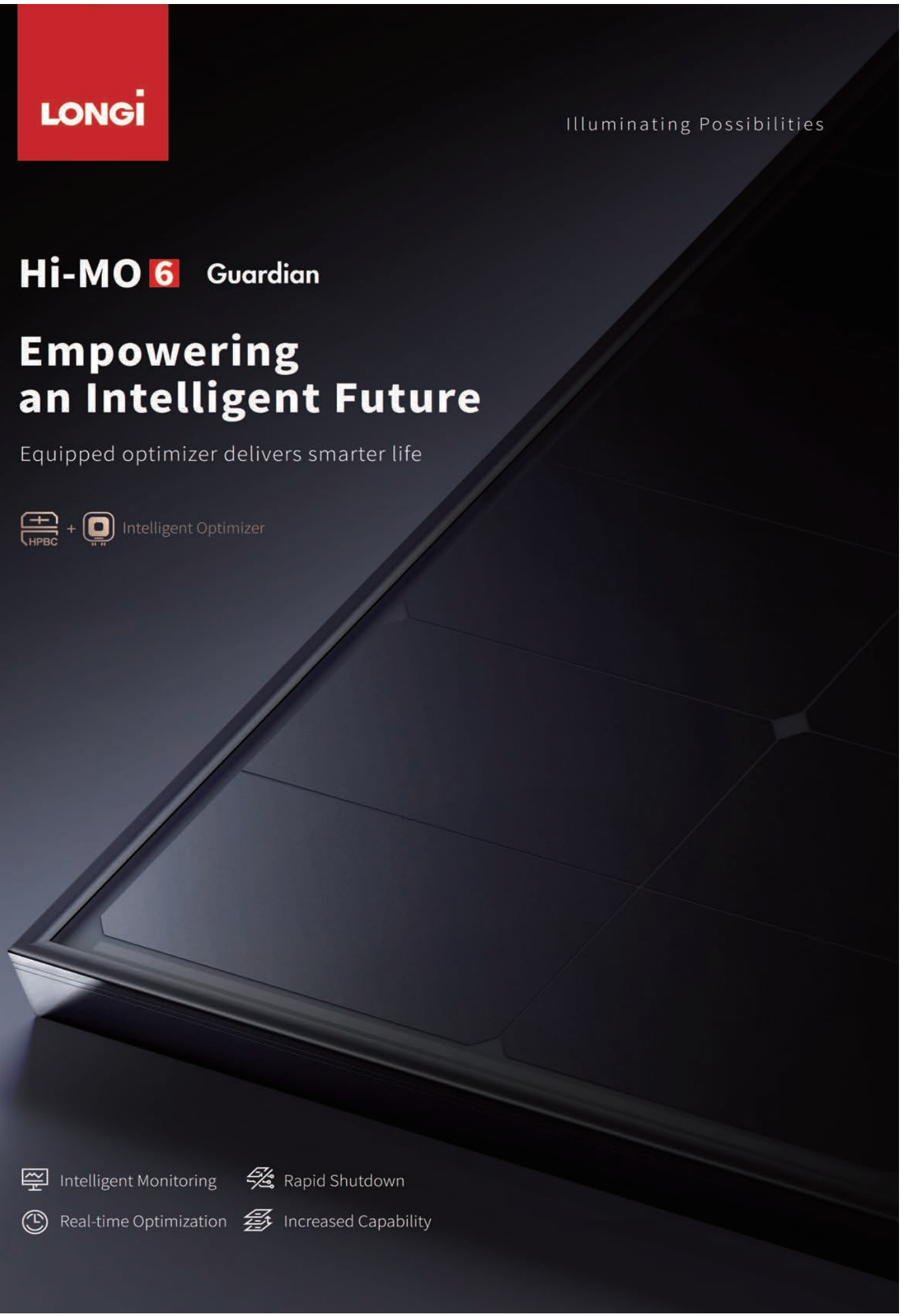

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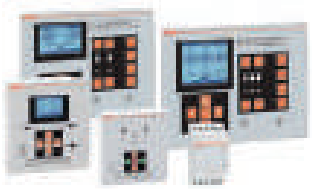

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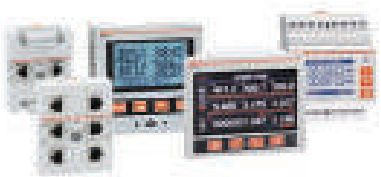

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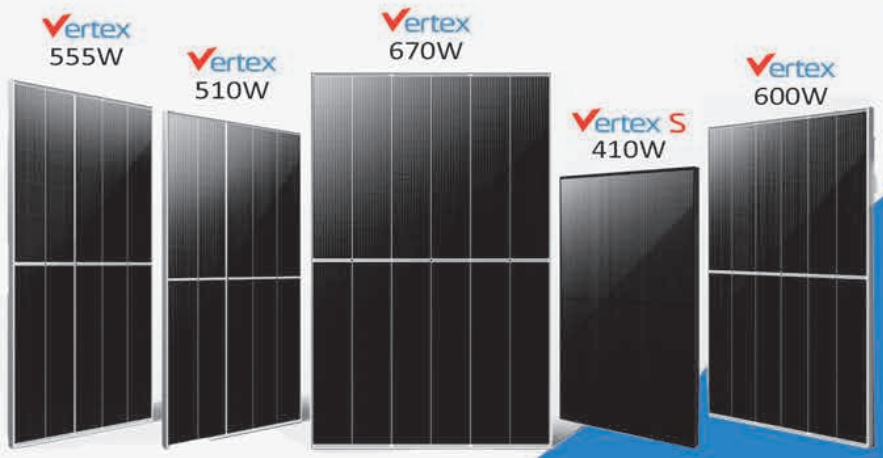

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FROM THE EDITOR'S DESK...

IMF debt trap

Pakistan is almost set to fall into another IMF debt trap as the government has intensified its efforts to get the external loan from this international lender. In order to get this loan to meet urgent fuel import and other expenses, the government on March 2 hiked interest rate to a historical level of 20 percent from 17 percent. This alarming raise in the interest rate has reportedly been termed as highest in Asia.

Before this, fuel prices were raised to a record level following which high speed diesel is being sold at Rs280 per litre, petrol at Rs 267 per litre, and kerosene oil at Rs 187.73 per litre. These rate hikes have made the life of people miserable.

This all is being done to get IMF loans which will be ust an eyewash and short relief as repayments of the loan causes worst financial constraints. The SBP's decision to raise interest rate to 20 percent will make loans more expensive for both businesses and consumers, as everyone will end up spending more on interest payments. Those who can't or don't want to afford the higher payments will have to postpone projects that involve financing. Higher market interest rates will bring a negative impact on the stock market. Credit card debt will also become more expensive.

The economic crises has further deepened in the country where poor and middle people are struggling hard to feed their children while the rich class people are facing hardships in running their businesses and other affairs. The country's economic crises are seen as varied and complex. They are not only domestic, but also external. The domestic factors are inappropriate fiscal and monetary policies, which have led to large current account and fiscal deficits.

Though the Industrial and Commercial Bank of China Ltd on Feb 3 approved a rollover of a $1.3 billion loan for cash-strapped Pakistan, it not enough to rid the country of economic crisis as Pakistan needs huge money to close its financing gap this fiscal year, which ends in June.

The dollar exchange rate has also reached an inappropriate level, which has eroded competitiveness and resulted in the loss of official reserves, and a weak financial system, which can create economic busts. Fact is that the IMF loan is a debt trap, so the country needs to stay away from it.

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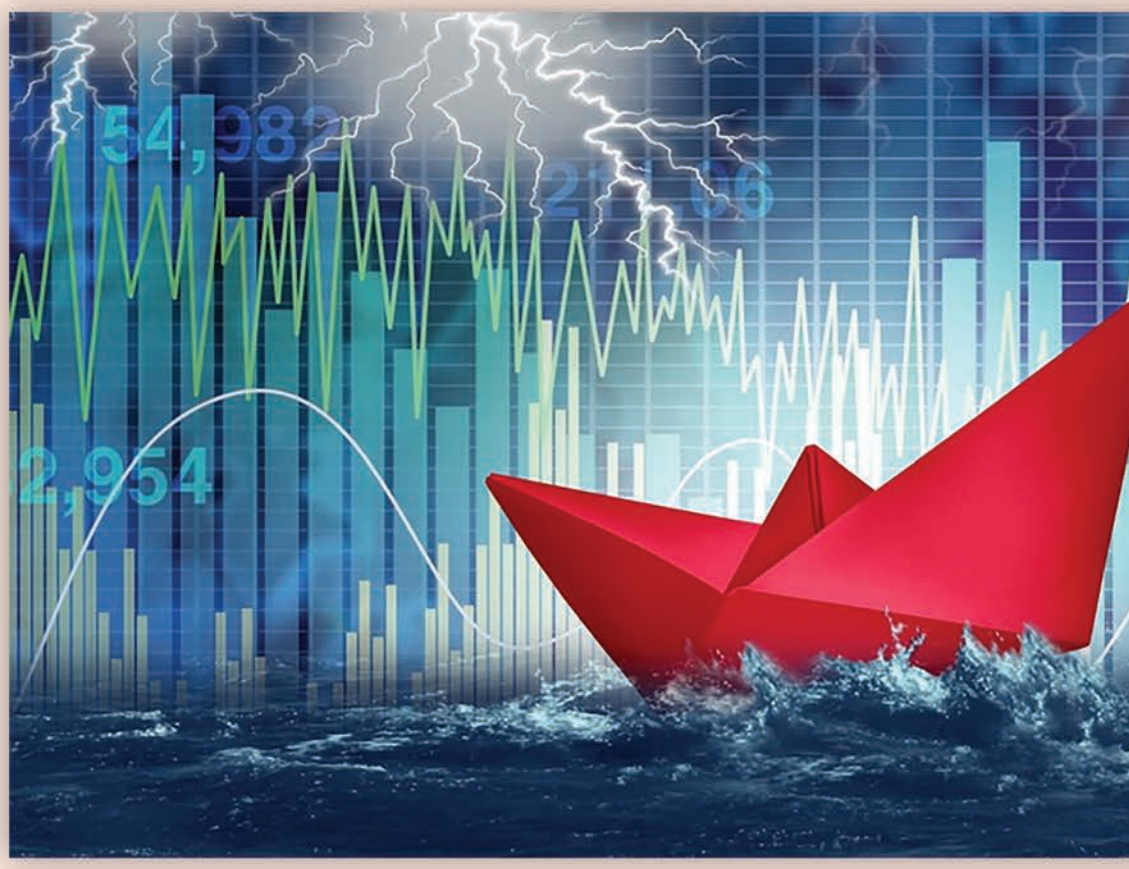
Current economic turmoil and its impact on energy sector

Dr. Basharat Hussain



Pakistan is a developing country with a population of over 220 million, and an economy heavily dependent on agriculture and textile industries. Over the past decade, the country has made significant strides in improving its infrastructure, and the energy sector has been a key focus of development efforts. However, Pakistan's economy has been facing a number of challenges over the past few years, including high inflation, a widening fiscal deficit, and a sharp depreciation of the local currency, the Pakistani rupee. These challenges have been exacerbated by the COVID-19 pandemic, which has had a severe impact on the global economy, including Pakistan's. This note aims to provide an overview of the current economic turmoil in Pakistan and its impact on the energy sector and the broader economy.

Current Economic Turmoil in Pakistan

Pakistan's economy has been facing a number of challenges over the past few years. One of the most significant challenges has been high inflation, which has been driven by a number of factors, including rising food prices, higher energy costs, and a sharp depreciation of the Pakistani rupee. Inflation in Pakistan reached a 10-year high level. This high inflation has had a significant impact on the cost of living for ordinary Pakistanis, particularly those on low incomes.

Another major challenge facing Pakistan's economy is a widening fiscal deficit. The fiscal deficit is the difference between the government's revenue and expenditure. A widening fiscal deficit indicates that the government is spending more than it is earning, which can lead to a buildup of debt. In Pakistan's case, the fiscal deficit has widened significantly in recent years. This has been driven by a combination of factors, including low tax revenue, high government expenditure, appetite for luxury goods and lack of good governance.

A third challenge facing Pakistan's economy is the sharp depreciation of the Pakistani rupee. Since December 2017, the Pakistani rupee has lost over 200% of its value against the US dollar. This has had a significant impact on the cost of imported goods, particularly energy imports, which are denominated in US dollars. The depreciation of the Pakistani rupee has also contributed to higher inflation in the country.

Impact on the Energy Sector

Pakistan's energy sector has been a key focus of development efforts in recent years. The country has made significant investments in its energy infrastructure, including the construction of new power plants and the expansion of the transmission and distribution network. Despite these efforts, Pakistan's energy sector still faces a number of challenges, including high tariffs, a lack of investment in the sector, and a reliance on imported energy sources.

The impact of the current economic turmoil on Pakistan's energy sector has been significant. One of the key challenges facing the sector is the high cost of energy. The cost of energy in Pakistan is among the highest in the region due to high tariffs and a lack of investment in the sector. This high cost of energy has had a significant impact on the competitiveness of Pakistani businesses, particularly those in the manufacturing sector, which are heavily reliant on energy.

Another challenge facing Pakistan's energy sector is a lack of investment. Despite significant efforts to attract investment in the sector, Pakistan's energy sector is still heavily dependent on government subsidies and funding. This has limited the ability of the sector to

attract private investment, which is essential for the development of new energy projects and the expansion of the transmission and distribution network.

Finally, Pakistan's energy sector is heavily reliant on imported energy sources. The country imports a significant amount of its energy, including oil, gas, and coal. This reliance on imported energy sources makes the country vulnerable to fluctuations in international energy prices and currency exchange rates. The sharp depreciation of the Pakistani rupee has made imported energy even more expensive, putting further pressure on the sector.

Impact on the Economy

The current economic turmoil in Pakistan has had a significant impact on the broader

economy. One of the key impacts has been on the cost of living for ordinary Pakistanis. The high inflation and depreciation of the Pakistani rupee have led to a significant increase in the cost of imported goods, including food, fuel, and other essentials. This has put pressure on households, particularly those on low incomes, and has limited the ability of many Pakistanis to save and invest.

Another impact of the current economic turmoil has been on the country's fiscal position. The widening fiscal deficit has put pressure on the government to borrow more, which has led to a buildup of debt. This debt has been used to finance government expenditure, including investment in infrastructure and social services. However, the high level of debt has also put pressure on the government's finances and has limited its ability to respond to economic shocks.

The current economic turmoil has also had an impact on businesses in Pakistan. The high cost of energy and other inputs has made it difficult for many businesses to remain competitive, particularly in export-oriented industries such as textiles. The depreciation of the Pakistani rupee has also made it more expensive for businesses to import raw materials and machinery, further increasing the cost of production. This has limited the ability of many businesses to expand and create jobs, which has had a negative impact on the country's overall economic growth.

Government Response

The government of Pakistan has taken a number of measures to address the current economic turmoil. One of the key measures has been to increase revenue through tax reforms and other measures. The government has introduced a number of tax reforms, including the introduction of a new tax on digital transactions, and has also increased the tax on cigarettes and other luxury goods. The government has also taken steps to improve tax collection and has introduced measures to crack down on tax evasion. Another key measure taken by the government has been to reduce expenditure. The government has introduced a number of austerity measures, including cuts to government spending on non-essential services and the introduction of a new fiscal responsibility law. The government has also taken steps to reduce the size of the cabinet and to introduce measures to improve efficiency and reduce waste in government expenditure.

The government has also taken steps to attract investment in the country, particularly in the energy sector. The government has introduced a number of incentives for foreign investors, including tax breaks and streamlined regulations. The government has also sought to improve the investment climate by introducing measures to improve security, reduce corruption, and improve the ease of doing business in the country.

Short term, Medium Term and Long Term Measures to Overcome Energy Crisis

Short Term Measures

Improve energy infrastructure: Upgrading the existing energy infrastructure can help reduce energy losses and improve the reliability of the energy supply.

Address circular debt: The government needs to prioritize reducing the circular debt by enforcing strict billing and collection practices, reducing line losses, and improving energy efficiency. Crackdown on electricity theft: Strong action needs to be taken against electricity theft and meter tampering. This can be done by imposing strict penalties and implementing smart metering technology.

Renewable energy integration: Increasing the integration of renewable energy sources such as wind and solar can help reduce the demand for traditional energy sources and ease the burden on the national grid. Short-term energy agreements: The government can enter into short-term energy agreements with neighbouring countries to import energy and address immediate energy shortages.

Medium Term Measures

Investment in alternative energy sources such as wind, solar, biomass, Waste to energy and hydropower can help diversify the energy mix and reduce dependence on fossil fuels.

Energy conservation

Encouraging energy conservation measures such as building insulation, energy-efficient appliances, and smart homes can help reduce energy demand and save costs. Energy pricing reforms: Energy pricing reforms can help create a more efficient market for energy by accurately reflecting the true cost of energy production and distribution. Energy efficiency standards: Implementing energy efficiency standards for appliances, vehicles, and buildings can help reduce energy demand and promote the adoption of energy-efficient technologies.

Expansion of the national grid: Expansion of the national grid can help improve the reliability of the energy supply and reduce transmission losses.

Long Term Measures

Investment in renewable energy: Investing in renewable energy technologies can help Pakistan transition to a low-carbon energy system and reduce dependence on fossil fuels.

Research and development: Investing in research and development can help identify new technologies and solutions to address energy challenges in Pakistan.

Energy storage technologies: Developing energy storage technologies such as batteries and pumped hydro can help improve the reliability of the energy supply and facilitate the integration of renewable energy sources.

Smart grid technologies: Implementing smart grid technologies can help improve the efficiency and reliability of the national grid, reduce energy losses, and promote the adoption of renewable energy sources.

Energy independence: Investing in domestic energy resources such as hydropower, solar, and wind can help reduce dependence on imported energy sources and improve energy security in Pakistan. ■

The Writer is Alternative Energy & Climate Change mitigation specialist and Hon. Advisor Energy Update

Pakistan needs to do more to conserve energy

Aamer Raza
Greaves COO

Engr. Nadeem Ashraf

Greaves chief says fuel has become very expensive commodity worldwide; advises shutting of all shopping malls at least once a week, stresses need to utilize daylight, suggests online education classes

Fuel has become a very expensive commodity the world over as we are under an obligation to work on the cause of energy conservation more than any other country given the very dismal situation of our foreign exchange reserves.

We need to again adopt the daylight saving system as we adopted it over a decade back. We should shut all our shopping malls at least once a week, open our markets early in the day for maximum utilization of daylight, and also adopt the culture of work besides attending classes from home once in a week as we did in the Covid era.

This was stated by Aamer Raza, Executive Director and Chief Operating Officer of Greaves Pakistan, in an exclusive interview with the Energy Update in which he commented on the current state of Pakistan's energy sector. Following are the important excerpts from his interview for our readers:

Energy Update: Tell our readers about Greaves.

Aamer Raza: We are mainly an engineering company. We have been operating in Pakistan for the past 65 years. We earlier started working in the energy sector. Later, we ventured into the CNG sector. We had a quite large market share in the CNG sector. Then we started diversifying our business and established different divisions for the purpose. In the power sector, we are involved in the business of UPS, generators, and renewable energy. We have also been working with the oil marketing companies as we provide them with the necessary equipment. We install the full setup of automatic generators for the industries. We also work as EPC contractors for solar energy projects. Our work in the clean energy sector was a natural diversification of our business as we have been involved in the energy sector from day one.

EU: What are the services of Greaves in the renewable energy sector of Pakistan?

Mr Raza: We carried out many good solar energy projects in the past 10 years. We have completed solar projects with a cumulative generation capacity of 80MW. Our projects have been built for all sorts of industrial, commercial, and industrial consumers. We provide our services in the solar energy sector with tier-one products. We provide our services in this sector as an EPC contractor with a complete range of services.

EU: What is the current state of the clean energy market in Pakistan?

Mr Raza: The import of solar and wind energy equipment has come to a halt in the country due to the government's decision against imports into the country. This equipment serves as a substitute for fossil fuels. Solar panels are installed for the production of renewable electricity using the energy source of sunlight that substitutes fossil fuels. If we stop the import of this equipment, then it would indicate that we are not in the mood of preventing the outflow of dollars from the country.

The government should understand the point that solar equipment was being brought into the country as a substitute for fossil fuels. Whereas there is no restriction on the import of oil as its shipment to the country continues unabated. The import of solar equipment would go a long way to overcome the balance of payment crisis of the country.

EU: How important is the cause of energy conservation for the people of Pakistan?

Mr Raza: The foreign exchange reserves of a lot many countries around the world have come under stress due to the energy crisis. For the first time, the energy conversation campaign has been launched in Europe. Fuel has become a very expensive commodity the world over as we are under an obligation to work on the cause of energy conservation more than any other country given the very dismal situation of our foreign exchange reserves.

We need to adopt all the available means of energy conservation. We need to again adopt the daylight saving system as we adopted it over a decade back. We should shut all our shopping malls at least once a week, open our markets early in the day for maximum utilization of daylight, and also adopt the culture of work besides attending education classes from home once a week as we did in the Covid era. All these measures could help us save billions of dollars annually. If we adopt all these energy-saving methods, then the government wouldn't be required to resort to other drastic measures like restricting imports of vital products and materials that affect the situation of employment and industrial production in the country.

EU: What is the focus of the CSR policy of your organization?

Mr Raza: The green initiative is an integral component of all the CSR-related initiatives of our company. We fully believe in the practice of tree plantation at all our offices and production sites.

Pakistan-IAEA Partnership: Nuclear Technology for Sustainable Development

Maryam Siddiq Baba

Nuclear technology with its inherent efficiency is moving headlong in developing smart and sustainable solutions to global environmental and socio-economic challenges. The International Atomic Energy Agency (IAEA), with its mandate of 'Atoms for Peace and Development' has a unique portfolio of over 60 years in employment of nuclear technology for varied sectors of peaceful applications. These applications vary from health to climate and from agriculture to industrial applications and safety. Pakistan has been a long-term partner and beneficiary of IAEA's Technical Cooperation (TC)programme which is aimed to assist and coordinate with Member States in utilization of peaceful nuclear technology for the best probable and efficient solutions.

Pakistan, in cooperation with IAEA is working systematically to achieve goals set by the United Nations' Sustainable Development Goals (SDGs). These SDGs have identified seventeen (17) areas in immediate need of long-term and consistent action and planning against food insecurity, challenges to health, lack of access to quality education, gender inequality, inaccessibility to clean water and sanitation, unavailability of affordable and clean energy, dearth of decent work and challenges to achieve economic goals, climate action and dangers to the preservation of marine life. IAEA supports countries through specialized technical and development competencies of nuclear applications to the achievement of some nine (9) specific SDGs.

During the last six decades, Pakistan has built its capabilities in the peaceful use of nuclear technology and has expanded its usage in the fields of health (specifically cancer care), clean energy, agriculture, industrial applications and environmental protection. Its technical cooperation with IAEA is manifested through the work of its specialized agencies like research centres, cancer hospitals, power and research reactors and education and training institutes. Pakistan-TC partnership has remained consistent in formulating real-time research and development solutions and capacity building. Ongoing projects in this partnership include enhancing and strengthening Pakistan's national capabilities in climate resistant crops, animal productivity, soil management, water and nutrient resources using nuclear related techniques.

PAEC has so far developed 132 crops varieties through use of state-of-the-art nuclear technology under institutions like Nuclear Institute of Agriculture (NIA), Nuclear Institute for Food and Agriculture (NIFA), National Institute for Biotechnology and Genetic Engineering (NIBGE) and Nuclear Institute for Agriculture and Biology (NIAB).These institutes are involved in innovative use of nuclear techniques in agricultural production through research in soil fertility, disease resistant and time efficient crop varieties, insect and pest control, chemical pollution, animal health and food preservation. In the face of growing threat of food security, the work of these institutes will pave the way to provide better options to the lives and necessities of Pakistan's population.

In the way of achieving the goal of 'good health', nuclear medicine is playing an integral role. Specifically, in Pakistan, 19 cancer hospitals across the country have been established by Pakistan Atomic Energy Commission (PAEC), providing sizable support to most advanced treatment and care to its patients. State-of-the-art treatment is provided in these facilities including, SPECT-CT, PET-CT, Medical LINAC, IGRT, IMRT, VMAT and Cyber-knife. Furthermore, Pakistan, by dint of the IAEA's TC programme continues to maintain upgradation and capacity building of its work force in cancer care which contributes towards cancer treatment and prevention.

The goal of 'affordable and clean energy' in Pakistan is envisioned through inclusion of 8800 MW electricity by 2030 through the use of nuclear power. There are currently 06 operational nuclear power plants in Pakistanwhich are contributing towards clean, reliable and sustainable energy, necessary for continued socio-economic development of the country. Each one of these power plants is operating under the umbrella of IAEA safeguards, thereby ensuring its safe and sustainable operations.

Education is the key as its holds the way to acquisition of necessary skills and capabilities for the achievement of any sustainable goal for development. In the context of addressing the goal of 'quality education' and 'industry, innovation and infrastructure', Pakistan has focused its efforts on building strong institutions. IAEA has also focused its efforts on seeking gender parity and supports in increasing opportunities for women to participate in the nuclear field, leading to the approach of an inclusive workforce. IAEA's Marie Curie Fellowship Programme aims at inspiring and supporting young women to pursue a career in the field of nuclear science and technology. Pakistan, in support of this initiative, hasprovided scholarships for female students enabling them tocomplete a funded Master's degree at Pakistan Institute of Engineering and Applied Sciences (PIEAS).

Pakistan Institute of Nuclear Science & Technology (PINSTECH), Pakistan Institute of Engineering and Applied Sciences (PIEAS), National Institute of Safety and Security (NISAS), Karachi Institute of Power Engineering (KINPOE) and CHASNUPP Centre of Nuclear Training (CHASCENT) are established for a long-term and systematic human-resource building and expert-level education. Furthermore, PIEAS and NISAS are also designated as a part of IAEA Collaborating Centres for education and training in advanced and innovative nuclear technologies and nuclear security education, training and technical support. Being a part of IAEA collaborating centres network, these institutes contribute to IAEA's goal of promoting practical use of nuclear techniques worldwide and help in implementation of its own programmatic activities.

Following the aftermath of the COVID-19 pandemic, IAEA has raised international concerns to the potential dangers associated with zoonotic diseases. IAEA facilitated Member States and in case of Pakistan provided real-time PCR machines for time-sensitive detection during the height of its spread. In order to find new solutions to this threat using nuclear techniques, IAEA's Zoonotic Disease Integrated Action (ZODIAC) initiative aims to facilitate early detection and prevention of future Zoonotic outbreaks. Pakistan is also striving to contributeto the success of this initiative through its laboratories established at NIAB and NIBGE.

Pakistan understands the potential value of nuclear technology in the socio-economic development. Nuclear technology can further make remarkable contributionfor the well-being of people and the environment. It has remained cognizant of IAEA's specialized work and continues to commit to a long-term partnership for the joint goals of advancement of peaceful uses of nuclear science and technology for the betterment of humanity and their commitment to UN SDGs. – The writer is PhD scholar at School of Politics and International Relations (SPIR), Quaid-i-Azam University Islamabad. ■

H.E. RAFAEL MARIANO GROSSI, DG IAEA

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Syed Muhammad Irteza Imam

Pakistan is amongst the founding members of International Atomic Energy Agency (IAEA). The agency was setup as a global promoter and monitor for the peaceful applications of nuclear science and technology. Over the years, IAEA has helped its Members States in applying nuclear sciences for the betterment of mankind and improving the lives of millions through reliable power generation, higher production of food, advanced healthcare techniques and much more.

Pakistan Atomic Energy Commission (PAEC) is leading the application of nuclear science and technology in Pakistan. IAEA and PAEC have benefitted immensely from each other's experiences. PAEC has also helped other IAEA Member States in the fields of agriculture and biotechnology, medicine and nuclear education.

In the COVID-19 pandemic and the resultant social and economic pandemonium, PAEC provided the country with all means available to it to combat this disease. This effort to contain the spread of the disease was actively supported by IAEA through the provision of Polymerase Chain Reaction (PCR) machine, biohazard safety cabinets, test kits and related paraphernalia to help contain the pandemic through the use of nuclear derived techniques.

The equipment was placed in PAEC General Hospital in Islamabad and extended testing facilities not only to PAEC employees but also the general public, at large. PAEC General Hospital in Islamabad was also configured in record time to handle and operate all aspects of pandemic control from testing, treatment and post-treatment follow-ups. Due to a combination of preventive measures, vast scale testing and treatment, the hospital played a pivotal role in the early detection and hence the curtailing of COVID-19 in Pakistan.

IAEA and PAEC also benefit from each other's experience in application of nuclear technology and techniques in the medical sphere. The most prominent among these collaborations is fight against cancer. PAEC operates nineteen (19) cancer hospitals around the country with another under construction in Muzaffarabad. Nuclear technologies and techniques such as radiography and radiotherapy are essential for the detection and treatment of cancer patients. PAEC is also capable of training manpower in the application of nuclear technology for cancer control and treatment.

The avenues of IAEA-PAEC cooperation are vast. Over the years, IAEA has helped PAEC in training its human resource in various different fields of nuclear science and technology. This, in turn, favours other IAEA Member States as Pakistan trains their personnel. In 2019, IAEA signed a cooperation agreement with Pakistan and designated Pakistan Institute of Engineering and Applied Sciences (PIEAS) as a Collaborating Centre to support Member States on research, development and capacity building in the application of advanced and innovative nuclear technologies.

PAEC, through its four agriculture centres namely Nuclear Institute for Food and Agriculture (NIFA-Peshawar), Nuclear Institute of Agriculture (NIA-Tando Jam), National Institute for Biotechnology and Genetic Engineering (NIBGE-Faisalabad) and Nuclear Institute for Agriculture and Biology (NIAB-Faisalabad) has not only been successful in developing one hundred and thirty two (132) varieties of cash crops and pulses but also in imparting trainings to scientists from other countries in an effort to ensure food and thus human security. These exchanges are arranged in coordination with IAEA in order to spread the experience and knowledge gained by the research and development work of these centres.

Further to the IAEA's COVID-19 response, the Zoonotic Disease Integrated Action (ZODIAC) initiative was established in June 2020 to help countries prevent pandemics caused by bacteria, parasites, fungi or viruses that originate in animals and can be transmitted to humans. Using a systematic and integrated approach, ZODIAC will strengthen the preparedness and capabilities of Member States to rapidly detect and timely respond to outbreaks of such diseases.

Under ZODIAC, veterinary and public health officials from Member States can benefit from joint research and development activities and from expert guidance as well as from the technical, scientific and laboratory support of the IAEA and its partners. This includes access to coordinated joint research, training, know-how, expertise and technology packages to enhance pathogen surveillance and disease diagnostics, along with prevention and response actions. Furthermore, it will provide access to scientific and diagnostic data and a decision-making support system that can enable authorities to take timely science- and results-based decisions.

In line with IAEA's ZODIAC initiative, PAEC has recently established a ZODIAC laboratory at NIAB Faisalabad.

The partnership between IAEA and PAEC is not just confined to technical issues but rather extends to undertaking various political and administrative steps to ensure safety, security and efficient use of nuclear technology. These include several steps such as placing all of Pakistan's civil nuclear reactors under stringent IAEA Safeguards.

Both PAEC and IAEA are working together to create opportunities that ensure possibilities of applying nuclear technologies to human security through reliable, safe and carbon free energy, food security through crops that are resistant to pests, climate changes and require less water and by using radiological sciences to detect and treat deadly diseases such as cancer. All these efforts combined would ensure peace, progress and prosperity not only for Pakistan but also for other MemberStates of IAEA, in particular, and the humanity, in general.– The writer is a graduate from QAU, Islamabad. ■

SOLAX POWER strengthens partnership with Fronus SOLAR ENERGY in Pakistan

EU Report

SolaX Power attended the annual award ceremony and product launch organized by Fronus, a leading renewable energy company in Pakistan. The event attracted more than 1,000 participants from all around Pakistan.

As a well-known supplier of on-grid inverters and energy storage systems worldwide, SolaX Power is committed to creating a greener and cleaner future. As Pakistan is one of SolaX's important markets and to expand its presence there, SolaX established a partnership with Fronus in 2022 to supply them with advanced inverters.

In a short time, SolaX new range of models have been well accepted by local clients. And BTA, the official after-sales partner of Fronus, assisted in giving timely and targeted after-sales service, which helped SolaX penetrate the Pakistani market for on-grid inverters ranging from 0.6kW to 150kW. Due to this strong partnership between the two sides, SolaX was invited to attend this grand event and was honored to be awarded as an excellent channel partner by Fronus. On behalf of SolaX, Mr Tiger Yan, Regional Director for South Asia, the Middle East, and Africa, attended the event. He shared his views on the partnership with Fronus and BTA and the vision of SolaX for Pakistan solar market.

What makes SolaX popular in local market is the superior performance of its products. SolaX always invests a lot in R&D and keeps developing cutting-edge PV technology. At this ceremony, SolaX announced the launch of its single-phase X-Hybrid LV inverter in Pakistan. This innovative new product expands SolaX's product portfolio and provides another option for customers to enjoy solar energy.

Looking ahead to 2023, SolaX is optimistic about the potential of the Pakistani market and is committed to strengthening its all-round cooperation with Fronus and BTA in 2023. SolaX believes that this partnership will help it achieve its goals of growth and reach a wider customer base in Pakistan. ■

Pakistan's textile industry

Barriers to renewable energy transition

Shahid Sattar / Noreen Akhtar

Energy sector is the largest GHG producer in Pakistan. It is estimated that the energy demand in the country will reach 108 – 126 million tons of oil equivalent (TOE) by 2030.

With the growing unsustainable management of energy demand, Pakistan's continuous reliance on imported fossil fuels and outdated coal technology has affected the country's energy security and its compliance to the global requirements on energy efficiency and decarbonization.

However, the government's recent tilt towards enhancing the country's capacity for renewable energy (RE) consumption presents a major legislative and policy advancement.

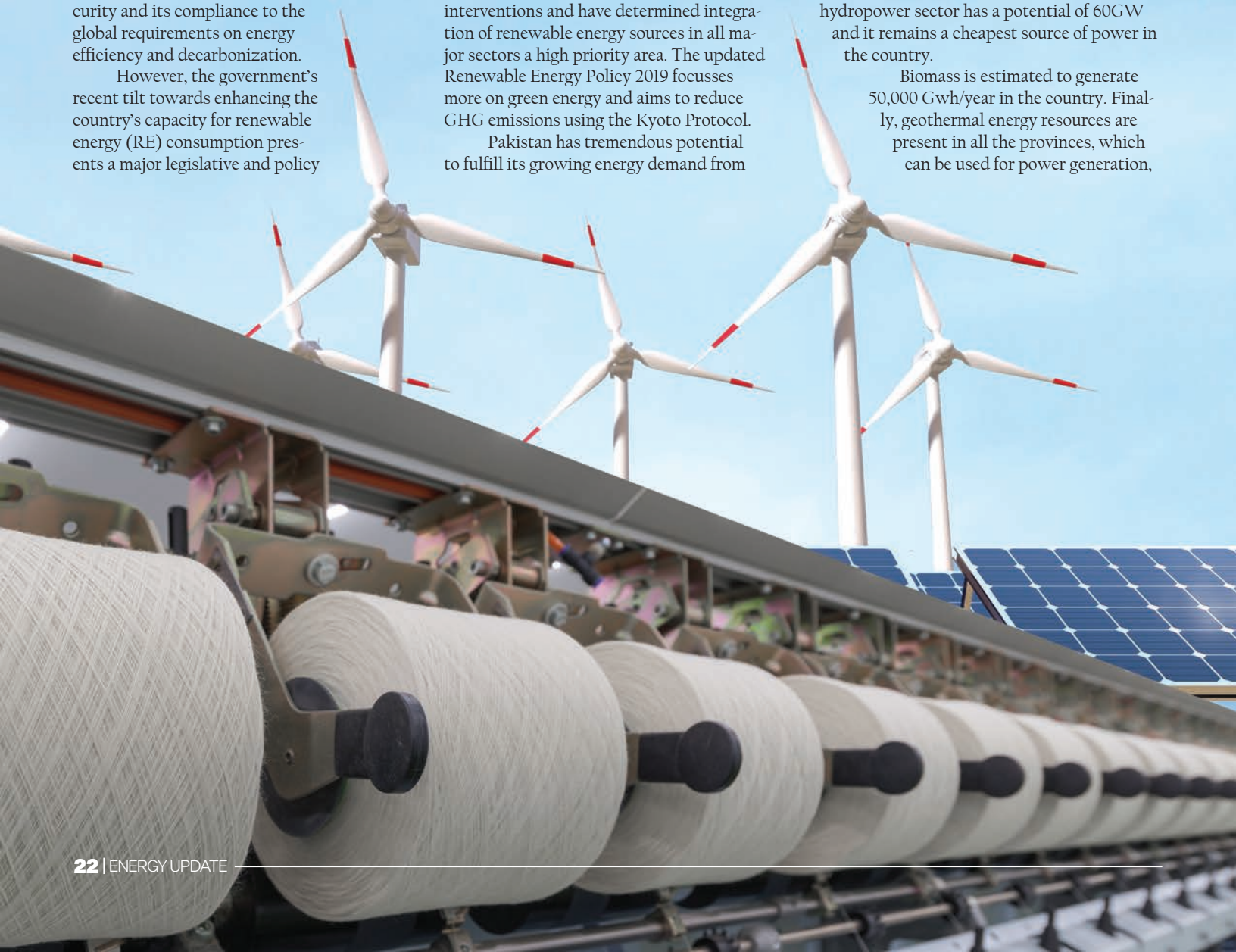
The updated National Climate Change Policy, 2021 puts a major emphasis on achieving climate change mitigation goals via energy efficiency and reducing carbon emissions. It aims to seek technological breakthroughs to harness the country's potential of renewable energy and declares that 60% of all energy produced in the country by 2030 will be clean through renewable resources and Pakistan will no longer pursue imported coal power plants.

Further, Pakistan's updated Nationally Determined Contributions (NDCs), 2021 support government's energy-related policy interventions and have determined integration of renewable energy sources in all major sectors a high priority area. The updated Renewable Energy Policy 2019 focusses more on green energy and aims to reduce GHG emissions using the Kyoto Protocol.

Pakistan has tremendous potential to fulfill its growing energy demand from the renewables including solar, wind, hydro, geothermal and biomass, as these resources are greatly available in the country. Solar, for instance, is the most attractive alternate energy solution which has received considerable attention recently. Pakistan's southwest region receives the highest irradiation.

"The annual global horizontal irradiance in the Himalayas and the Karakoram is 2300 kWh/m2, which is the greatest of any other region on Earth". Wind energy sources have a potential to generate 43,000 MW electricity. Moreover, the International Renewable Energy Agency (IRENA) estimates that Pakistan's hydropower sector has a potential of 60GW and it remains a cheapest source of power in the country.

Biomass is estimated to generate 50,000 Gwh/year in the country. Finally, geothermal energy resources are present in all the provinces, which can be used for power generation,



heating and cooling of buildings and supply of hot water.

If Pakistan brings into play this untapped potential in all the major sectors by implementing the exemplary policy reforms in spirit and expanding RE, a massive decoupling of growth from conventional energy resources such as fossil fuels can add to the existing efforts on climate resilience.

RE expansion will make electricity cheaper, enhance energy security and Pakistan can save up to $5 billion over the next 20 years, as per World Bank's report. Pakistan's textile industry is one major sector that can benefit massively from the available RE resources in the country while supplying eco-friendly power.

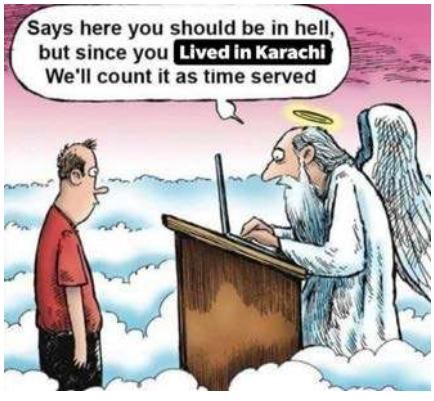
Textile industry's manufacturing processes are energy intensive. 10% of global GHG emissions are accounted for by clothing and footwear production. Raw material production, harvesting, dyeing, and dumping of used textiles, all major steps involved in textile manufacturing and their discarding emit GHGs into the atmosphere.

For Pakistan's textile industry, transitioning to RE solutions is not only cost and resource effective, but also enhances the sector's overall compliance to the global standards on energy efficiency and industrial decarbonization, such as those imposed by the European Green Deal.

Government's support, growing renewable energy market and technological advancement are among the already existing opportunities for the industry to expand its business through renewables. Government of Pakistan has supported RE development and encourages private sector involvement for projects related to carbon emissions reduction.

It is a collaborative effort between non-government organizations, leading textile companies, public institutions and sector experts. The textile companies, in this coalition, commit to set science-based net zero targets, measure and disclose their GHG emissions, decarbonize their value chains and advocate for climate action.

Keeping in view the extrinsic pressure and internal needs for energy efficiency, the initiative must facilitate decarbonization by increasing renewable energy mix and incorporating energy saving technologies. Major textile companies are supporting climate action through clean energy initiatives including solarisation projects and technology installation such as waste heat recovery boilers and converting boilers to biomass based fuels. ■



DONATION CALL

Meeting with NFEH delegation

President Alvi urges philanthropists to donate inflation-hit poor people

President, Dr Arif Alvi, has urged the philanthropists and business community to generously donate to help out the people of the deprived communities whose survival have become highly difficult due to record inflation and devastating floods in the country.

The President expressed these views during a meeting with a delegation of the National Forum for Environment and Health (NFEH) led by its President, Naeem Qureshi, here at Governor House.

The President appreciated the NFEH drive for the past many years to provide a common platform to the leading philanthropists, donors, non-governmental organisations, and charities to work collectively for noble social causes in the country. He said that such noble charitable efforts had gained much significance in the backdrop of unprecedented hikes in the prices of essential products and catastrophic floods in the country last year. Dr Alvi recalled that during his stint as a member of the National Assembly, he had conducted a campaign to plant 200,000 trees in his constituency and distributed 100,000 pencils among school students containing seeds to motivate children to practically take part in the plantation campaigns.

NFEH President while briefing President about the annual activities of his NGO informed him that 15th International CSR Summit-2023 was held in Islamabad on February 21 where over 70 companies were recognised for their community uplift activities in last one year. He said the annual CSR Summit had been held for the past 15 years to appreciate the show of excellence by concerned philanthropists and corporate sector in doing noble charitable and philanthropic work in the country. The meeting was attended by Ruqiya Naeem, Engineer Nadeem Ashraf, Mustafa Tahir of NFEH, Imran Taj of the Fire Protection Association of Pakistan, and Muhammad Ghazal of Saylani International Welfare Trust. ■

Gilgit-Baltistan's energy issues persist

Due to a lack of electricity, hotels have faced huge losses; Power transmission lines are often damaged; Hydroelectricity is available only for 5–6 months for lighting purposes

Ali Rehmat Shims

The energy sector plays a crucial role in driving growth and progress across various industries, including agriculture, defence, industries, and the residential sector. Power shortages have caused enormous damage to Pakistan's economy and created binding and forceful restrictions on the country's growth.

Access to energy is critical, and the United Nations Sustainable Development Goal 7 aims to ensure the need for affordable, reliable, sustainable and modern energy by 2030. Given the ongoing energy crisis and the environmental and economic limitations of relying on finite fossil fuel reserves, it is essential that Pakistan shifts towards clean and renewable energy sources.

Pakistan has abundant water resources. The estimated total hydropower potential of Pakistan is around 60,000MW. Currently, the hydro installed capacity is 10,251MW, which is around 25 per cent of the total installed capacity. The country is not utilizing its full potential and using nearly 16 per cent of the total hydropower potential. Much of the untapped potential for hydropower is in the northern regions along the Indus River in the provinces of Gilgit-Baltistan, Azad Jammu and Kashmir (AJK), Khyber Pakhtunkhwa (KP), and Jhelum River in Punjab.

Unfortunately, approximately 51 million people in Pakistan lack access to electricity, and 90 million experience daily power outages due to unreliable power supply, both of which are having a negative impact on the economy. The reliance on imported fuels for thermal generation, which are subject to price fluctuations, is a major contributor to the energy crisis. The government is under significant pressure to address an annual average power deficit of 4,000MW.

The Gilgit-Baltistan region is known as the 'water reservoir of Pakistan' with more than 7,000 glaciers. Despite these resources, the region suffers from a lack of electricity access. Common challenges to energy access include a gap between the demand and supply of electricity, a gap between installed capacity and power generation, poor construction of hydropower projects without proper environmental impact assessments, seasonal variability in the availability of hydropower, short lifespans of micro-hydropower projects, lack of technical staff and maintenance services, and delays in execution of construction projects.

Electricity demand continues to grow with population growth and development, but the supply of electricity is falling behind. Power plants are not functioning at their

rated capacity and at times proving to be highly inefficient. There is a huge gap between the generation and installed capacities of the hydropower stations. The micro-hydro stations due to less power generation capacity can only fulfill the lighting requirements of the region but not commercial needs. Due to a lack of electricity, hotels have faced huge losses. Fresh produce like meat, vegetable, and dairy products are spoiled due to unscheduled loadshedding.

Power transmission lines are often damaged by landslides and other climate-induced disasters. Hydroelectricity is available only for 5–6 months for lighting purposes, and water in the region is generally frozen for six months. These factors are compounded by climate change and the harsh geographical location, contributing to the unavailability of electricity, poverty, and glacial lake outburst floods (GLOFs).

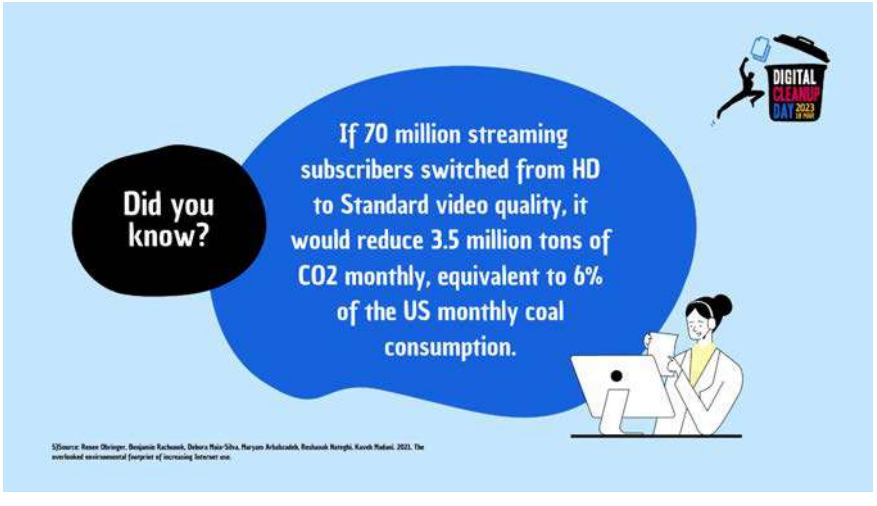
Most hydropower stations are built on streams where the course of water fluctuates in different seasons and mostly small hydropower projects are designed without proper environmental impact assessment (EIA) of the projects. Most hydropower plants are often constructed in disaster-prone areas, without analyzing the seasonal variation in the water level and analyzing the optimal location for the construction of hydropower plants (HPPs). These issues immensely affect the lifespan and productivity of the HPPs and create a huge burden on the communities and government in terms of maintenance. For example, power projects at Hassanabad were damaged during the glacial lake outburst flood (GLOF) because of the rapid advance of Shishper Glacier in Hunza. The implementation of such huge projects in disaster-prone areas can pose financial burdens on the government and other stakeholders working in the area.

Most policies emphasize the need and prospects of building renewable energy resources, but the strategy and framework for its execution remain missing. Therefore, the government of Pakistan needs to develop a research-based power policy for GB. The planning and development department of GB also needs to prioritize RE-related projects during the allocation and formulation of developmental projects.

These challenges are heightened by inadequate or poorly constructed roads and bridges, creating issues in transportation and maintenance of electrical equipment. This situation can have two remedies: first, expand road access, which will also enhance development in sectors like health and education, and second, implement off-stream, run-of-river hydropower that is less susceptible to GLOF risk.

People pay a high price for mixed energy sources – gas and wood to meet their daily life needs. There is a lack of technical staff in most areas in District Hunza such as Shimshal and Chipurson for the operation and maintenance of HPPs. This issue can be remedied through technical skills training programmes.

There is great potential for growing fruit trees in various districts of GB, but due to inadequate transportation, storage, marketing facilities, and an energy crisis, the fruits are damaged causing economic loss. To boost the energy, agriculture and tourism sectors, the government needs to first prepare evidence-based policies for each sector and design projects accordingly to make the projects successful. Many projects have failed in both regions due to a lack of scientific research and environmental impact assessment projects. There is also a dire need to involve communities in planning, designing and implementing projects in each sector using indigenous knowledge and practices. ■



Army decides to solarise its cantonments

As the government has shifted its focus from imported fuel power projects to indigenous resources, Pakistan Army has decided to shift its cantonments from expensive energy system to cheaper solar power, according to a report. In letters to CEO, AEDB, Shah Jahan Mirza, Secretary Finance, Secretary Power Division, Secretary Defence, Governor State Bank of Pakistan (SBP), Farhan Anwar Ali, Bank Al-Falah, Imtiaz Saithna, Habib Bank Limited and M/s Nisam Energy; Colonel Mansoor Mustafa, Director General Works & Chief Engineer (Army), has apprised that Pakistan Army intends to play its role in overcoming current energy crisis by generating energy from solar for self-consumption in Army cantonments nationwide. The projects are already approved by the GoP and have approval, support and guidance of Alternative Energy Development Board (AEDB), National Electric Power Regulatory Authority (Nepra) and State Bank of Pakistan. Pak Army through competitive bidding had awarded projects to the successful vendors - M/s Nizam Energy, M/s Solis Energy Solutions & M/s Foundation Solar Energy. According to the letter, currently, Military Engineering Services is executing projects of a cumulative 54MW at various cantonments across Pakistan. ■

PSA Demand to resume Solar Equipment Import

The Pakistan Solar Association (PSA) has appealed to Prime Minister, Shehbaz Sharif, and the Governor of the State Bank of Pakistan, to immediately allow the import of renewable energy equipment for greater use of clean energy in the country and slashing its burgeoning fuel import bill.

In separate correspondences recently sent to the PM and SBP Governor, the PSA said that continuing ban on the import of solar energy equipment had been retarding the government's efforts to utilize abundantly available clean energy resources in the country for meeting its energy demand instead of relying on expensive imported fuels for the same cause. The PSA said that solar equipment shouldn't be present on the list of non-essential items whose imports are not allowed by the SPB and commercial banks during the current economic turmoil in the country. It maintained that greater use of solar power not only help the country in reducing its reliance on fossil fuels for power generation but also go a long way in improving environmental conditions. ■

Pakistan's surface water at threat of pollution

Urgent steps required to stop untreated waste flow into Indus, Ravi and other water bodies

Special Report by Mansoor

Pakistan has one of the largest irrigation systems in the world. The river Indus and its tributaries feed this system where more than 74% water originates from catchments outside Pakistan. An increase in population, rapid urbanization, increasing industrial, agricultural activities and disposal of untreated wastewater have posed a serious threat to the surface water bodies.

According to a report by Pakistan Council of Research in Water Resources (PCRWR), soil salinization is a major environmental problem because it reduces the productivity of crop lands, landscapes and also degrades water quality. The rivers in Pakistan have been exhibiting a trend of increasing salinity levels, which may be attributed to the manifestation of dry land salinity. Dry land salinity occurs because of changes in land use, which cause a change in the water and salt balance of the cultivated land and landscape, consequently mobilizing stored salts. The quantification of salinity fluxes at the catchment scale is an initial step and integral part of developing dry land salinity mitigation measures.

The Indus river is one of Asia's mightiest rivers and provides key water resources for Pakistan's agricultural production. The surface water resources of Pakistan are mainly based on the inflows from the Indus river and its tributaries. The annual salt load carried by the Indus river system and distribution canals was quantified. In the Upper Indus region, the main source of drinking water is surface water.

Overall, water quality of the Upper Indus and its tributaries was found good for irrigation as well as for drinking (requiring only filtration and disinfection). The water flow in Jhelum and Chenab rivers decreases during winter, consequently increasing the pollution load.

In addition to trans-boundary pollutant load, disposal of untreated domestic, industrial and agricultural wastes from surrounding areas through twelve major drains into Ravi river and through three drains into the Sutlej river has resulted in increased pollution level.

Disposal of untreated domestic, industrial and agricultural wastes from 12 major cities and rural areas into the Ravi and Sutlej rivers enhance their pollution load, which gets further concentrated during dry season.

The good quality share of the rivers is small as compared to other water bodies due to low water quality of three rivers, Ravi, Sutlej and Soan. The Ravi and Sutlej are low flow Transboundry Rivers that carry municipal and industrial waste from the surrounding areas. However, water quality of Soan River is being deteriorated due the joining of Nullah Lai wastes from Rawalpindi and other settlements

From the lower Indus sites, concentration of chloride and salt increased in the lower reaches of the Indus river. The water quality of Manchar Lake was found unfit for drinking and irrigation due to high salt contents.

Quality of 85% water bodies in Pakistan was found good i.e. {rivers (76%), lakes (86%), reservoirs (94%) and groundwater (75%)}. Salt load of the Indus River System (IRS) was quantified at rim stations as well as at distribution canals level. Surface water irrigation canals are depositing about 1.25 tonne of salt per hectare of land per year. The total salt load carried by the river Indus and its tributaries is about 31.61 Mt/year, out of which 19.95 Mt is carried by the irrigation canal system and transferred to the irrigated land annually.

The Indus River Basin is home to a population of nearly 200 million people. It passes through a variety of ecological zones in Pakistan and supports the livelihoods of a large number of communities. Pakistan's economy is water intensive as its water intensity rate is the world's highest.

Rapid population growth, unplanned urbanization and industrialization along with disposal of agro-chemicals and urban waste have detrimental effects on the quality of river water. This has caused water quality degradation at various sections of rivers. Any change in upstream water use can severely affect the downstream users, although they may be thousands of kilometers apart from each other.

The large-scale development work on energy, transportation, infrastructure and industry under China-Pakistan Economic Corridor (CPEC) framework is being carried out mainly in the Upper Indus Basin. These may also influence the whole ecosystem. However, the exact extent of such impacts on water availability, accessibility and quality are yet unknown.

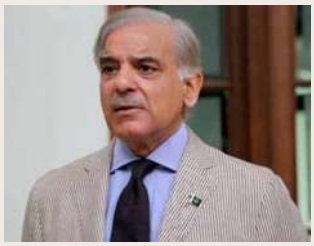
Balochistan has mainly inland drainage and there are no rivers carrying a large permanent flow of water. The largest rivers in the province are Hingol and Bolan. The northern part of the province is drained by the Zhob river in the east and the Pishin-Lora in the west. Further south Nari, Bolan, and Kachhi receive the drainage of the Loralai and Sibi districts. The quality of surface water bodies seems good in Balochistan.

Water coming from different sources is stored in big reservoirs and thus, most of the contaminants diluted or sink down into sediments during storage. Consequently, water quality of reservoirs may vary slightly from the flowing rivers. In wet season, high flow water carries sediments; eroded soil and debris from urban and rural run off and thus increases the turbidity of the reservoir water.

In dry season, the pollutant's load increased in reservoirs during dry season due to decreased volume of water concentrated with more pollution load entering from the surrounding settlements. Therefore, the level of different water quality parameters increased in dry season as compared to wet season. ■

PM wants solarisation of govt buildings in capital

EU Report



Prime Minister Muhammad Shehbaz Sharif has directed installation of solar systems at the government buildings in Islamabad within seven weeks in order to generate environment-friendly electricity and cut reliance on imported fuel. Chairing a meeting here to review development concerning solarisation of government buildings across the country, the prime minister directed that work on solarisation of the federal government buildings should also be started immediately in other areas of the country. The meeting was informed that the power system at 496 government buildings in Islamabad, 340 in big cities, including Karachi, Lahore, Faisalabad and Quetta, and 1,255 in other areas would be replaced with the solar energy system. The meeting was informed that installation of solar panels in government buildings in Islamabad would be done on an emergency basis.

Amir Paracha elected OICCI president

EU Report

Amir Paracha, Chairman & Chief Executive Officer Unilever Pakistan Limited, has taken over as the president of the Overseas Investors Chamber of Commerce and Industry (OICCI) for the 2023 term. This was announced at the 163rd annual general meeting of the OICCI held at the Chamber on Tuesday. Rehan Muhammad Shaikh, Chief Executive Officer, Standard Chartered Bank (Pakistan) Limited, was elected as the vice president. The other elected members of the OICCI Managing Committee for 2023 are as follows: Syed Anis Ahmed (Abbott Laboratories (Pakistan) Limited), Ahmed Zahid Zaheer (Chevron Pakistan Lubricants (Pvt) Limited), Umar Ahsan Khan (Dawlance (Private) Limited), Kamran Ataullah Khan (Dupont Pakistan Operations (Pvt) Limited), Erum Shakir Rahim (Galxosumithkline Pakistan Limited), Najeeb Ahmad (Hitachi Energy Pakistan (Pvt) Limited), Ali Asghar Jamali (Indus Motor Company Limited) and Waqar Irshad Siddiqui (Shell Pakistan Limited).

Jan power breakdown

NTDC, NPCC, Nepra held responsible

EU Report

An Inquiry committee constituted by the Cabinet headed by Minister of State for Petroleum and Natural Resources Dr Musadik Malik has held NTDC, NPCC, and Nepra responsible for the countrywide power breakdown of January 23, 2023. The committee presented its report to the federal cabinet on a couple of days ago, after its four meetings including with different officials dealing with the transmission and despatch system. However, National Power Control Centre General Manager Sajjad Akhtar said the main factors behind the power breakdown were human negligence, the supply of power from wind farms and variation in supply. The Nepra has also held two meetings with the concerned officials of NTDC and NPCC to find out the exact reason for the breakdown. However, the regulator has decided to constitute a formal committee of experts to investigate the reasons for the breakdown, after noticing differences in the statements of the concerned entities.

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Group photo of CSR Award Winners with Chief Guest Federal Minister Planning, Development and Special Initiatives Ahsan Iqbal. Founder Akhuwat Dr. Amjad Saqib, President NFEH M. Naeem Qureshi, Secretary General Ruqiya Naeem, VP Engr. Nadeem Ashraf and others also seen in the picture

15th CSR Summit and Awards 2023

70 companies receive CSR excellence awards

Islamabad: Federal Planning and Development Minister, Ahsan Iqbal, has appealed to the private sector in Pakistan to join hands with the government to work collectively for ending illiteracy, protecting public health, and averting climate emergency, and economic downturn in the country.

The Federal Development and Planning Minister made the appeal to this effect while addressing as the chief guest at the 15th International CSR (Corporate Social Responsibility) Conference-2023 organized by National Forum for Environment and Health (NFEH) here at a hotel.

He said the private sector had to play a key role in helping Pakistan achieve the Sustainable Development Goals (SDGs) of the United Nations for the welfare and uplift of the downtrodden communities. He told the audience that corporate sector entities, which looked beyond the objective of maximizing their profits for the welfare of the community and society at large should be duly recognized and appreciated.

He said history had time and again proved that the business organizations, which failed to deliver beyond the cause of their own profitability lost their sustainability quite soon.

The Federal Planning and Development Minister said that corporate organizations should spare resources and make efforts for ending illiteracy and diseases in the communities where they do their business so that their commercial activities should align with the SDGs.

He said the companies, which regularly invested under their CSR-related obligations to make sure that children of their employees received quality education get the best service input from their workforce.

Group photo of all sponsors with Guest of Honor Dr. Amjad Saqib Founder Akhuwat and Team NFEH

Picture of all Panelist shows Zeeshan Afzal CEO Million Smiles Foundation, Zia Salahuddin Director OGDCL, Sabeen Khalid Total Parco Pakistan, Brig Aslam, Rizwan Ahmed CEO Awan Distributions, Uzair Zavary Trustee Baitussalam Foundation, Team NFEH and Others

EVENT SPONSORS

Speaking as the guest of honour, Akhuwat Founder, Dr Amjad Saqib, expressed gratitude to the corporate sector of Pakistan for generously donating to support the massive relief and rescue work after devastating floods in the country last year.

He said the generous donations received by his non-profit had enabled it to run a massive welfare drive to help out millions of poor people under the noble Islamic charitable principles.

Earlier, NFEH President Naeem Qureshi welcomed the audience and reiterated the resolve of his non-governmental organization for making efforts for environmental protection, the use of renewable energy, sustainable development, and tree plantation in the country. NFEH's Ruqiya Naeem, Nadeem Ashraf, Uzair Zavary of Baitussalam Foundation, Zeeshan Afzal of Million Smiles' Foundation, Rizwan Ahmed of Faizan Global Relief Foundation, Ali Majid Director MEA and CA Longi Solar Technology, NEPRA Chairman Tauseef Farooqi, also spoke and highlighted relief work by the bona fide charities during recent flood emergency in Pakistan.

The Federal Minister also gave away awards to some 70 companies for showing excellence in CSR work in the last year. Non-profits Al-khidmat Foundation, Saylani International Welfare Trust, Baitussalam Foundation, Million Smiles Foundation, Faizan Global Relief Foundation, and Pakistan Disable Foundation were given special awards for conducting excellent relief work during a flood emergency. ■

Group Photo of Panelists with Chief Guest of Concluding Ceremony Federal Minister for Narcotics Senator Talha Mehmood. Pictures Shows Chairman NEPRA Tauseef H. Farooqi, Aftab Iqbal, Sheeza Ahmed Habib Metropolitan Bank, Ali Majid Director MEA & CA Longi Solar, Todd Shea, Omer Mateen Allahwala and Team NFEH

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Resolving the debt question

Structural problems and economic ills are chronic

Dr Abid Qaiyum Suleri

With considerable delay and visible reluctance ("unwillingly" in the words of the prime minister), Pakistan has taken most of the steps that could bring it closer to successfully completing a staff-level agreement (SLA) with the International Monetary Fund (IMF).

However, signing an SLA and obtaining approval from the IMF executive board still seem to be daunting tasks. The government has done whatever was in its domestic jurisdiction: price hike for the recovery of the cost of energy and fuel, a market-based exchange rate of the rupee, an increase in revenue, albeit through indirect taxes (GST,) and some other "non-popular" measures. However, where it is stuck is to meet the target for net international reserves (NIR – usable dollar reserves minus net liabilities in dollars). Pakistan requires rollovers or assurances from its bilateral creditors, especially China and Saudi Arabia, to meet the NIR target.

Inconclusive discussions on global debt solutions at the G20 Finance Ministers' Summit in Bangalore (India) last week have complicated the situation in many debt-affected developing countries, including Sri Lanka, Zambia, and Pakistan. Multilateral lenders such as the IMF are uncomfortable with the idea that any relief they provide on their debts may be spent to settle bilateral debts. If Chinese and Saudi rollovers are not mobilized sooner, the other alternative is to get a waiver from the IMF board. If the board agrees to waive the NIR target, the government will not have to worry about shoring up its foreign exchange reserves to around $12 billion by the end of March 2023.

However, there is another challenge facing the government, for which it can neither seek a waiver nor rollovers. This is the challenge of successfully containing multi-decade high headline inflation (inflation that includes fuel and food prices) that follows some of the decisions taken to complete the IMF's current review.

Despite an anticipated increase in the interest rate, I do not see inflation coming down any sooner (although increased interest would support the stability of the rupee). However, certain measures (both short- and medium-term) can reduce the pain of adjustment for the people.

We begin with measures that should be taken urgently. The IMF rightly opposes providing general subsidies and advises targeted subsidies, for two reasons. First, selling below the cost of production/import leads to a buildup of fiscal and current account deficits. Second, general subsidies benefit large consumers in the name of small ones. Consider the example of petrol. The biggest beneficiaries of a general subsidy for petrol are the owners of large vehicles, as they consume 5-6 times more petrol per kilometer than motorcycles and rickshaws. Large vehicles consume 50-60 percent of the petrol in the country.

Logically, any subsidy for petrol should be provided to the owners of two- and three-wheelers. However, selling petrol to them at a subsidized rate is practically impossible. An alternative is to provide them relief through direct cash transfers, whenever the average monthly petrol price exceeds a certain threshold. I have been floating this proposal since 2021. Let me summarize the same.

All two-and three-wheeler owners (including government officials) earning below a certain monthly income may be eligible for this direct cash transfer programme. Their vehicles are registered against their CNICs. This record is available in the vehicle registration departments and with the owner in the form of a vehicle registration document. This record could be triangulated with the National Socioeconomic Registry (NSER) maintained at the Benazir Income Support Program (BISP). If eligible, they can receive direct cash transfers following the mechanisms established for different BISP initiatives. Those not registered with the NSER may be registered at any walk-in registration center. Only one vehicle per CNIC may be entertained for petrol subsidy.

The targeting threshold and subsidy amount may be determined jointly by the ministries of poverty alleviation and social safety, finance, and petroleum. The international price of petrol can be passed on to consumers. Simultaneously, the subsidy amount is directly

transferred to targeted beneficiaries' bank accounts or mobile vaults. Such targeted subsidies would be acceptable to the IMF and would reduce the inflation burden on lower- and lower-middle-income earners.

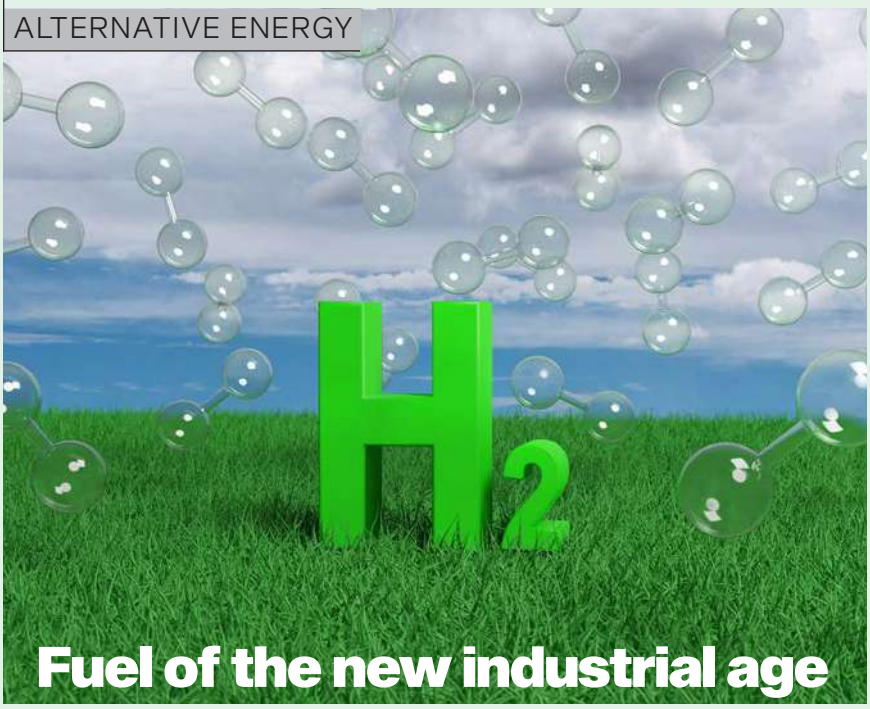
More on energy, the government is recovering the cost of energy generation to contain and eliminate energy circular debt (ECD); hence, an increase in electricity and gas tariffs (except for lifeline consumers) is inevitable. Increased tariffs contribute to headline inflation. Unfortunately, consumers pay more than the energy they consume. They also pay for stolen or lost energy because of poor transmission infrastructure.

It is now official that electricity worth Rs380 billion is stolen each year. To eliminate the ECD, Rs520 billion in stolen electricity would be passed on to consumers in bills from the next fiscal year. In other words, the consumers who pay their electricity bills will be penalized, similar to gas consumers who have been paying for the unaccounted-for-gas (UFG) losses of the Sui Southern and Sui Northern gas companies for the last many years. The pain to consumers can be reduced by plugging holes in the system, reducing thefts and losses, and not passing on the inefficiencies of the distribution companies to them.

Let us discuss the government's revenue mobilization efforts. To reduce the fiscal deficit, the government increased the general sales tax (GST) from 17 per cent to 18 per cent (and in some cases, 25 per cent). GST is an indirect regressive tax that hits the poorest the most. However, I am not questioning the quality of taxation in this piece. My concern is that the Federal Board of Revenue (FBR) still needs to get the capacity (or will) to collect the GST that the consumers pay to vendors. For example, most eateries registered with the FBR point of sales system charge GST from their customers but don't issue an FBR-verified receipt. Paying GST becomes more painful when one knows that it is not going to the national exchequer.

In the short run, the government should strengthen its social safety nets (factoring in the impact of inflation) to ensure the food security of low-income earners through targeted subsidies using BISP's data. In the medium to long term, food inflation can be minimized through the import substitution of edible oils, pulses, wheat, and cotton (a cash crop but extremely important for rural livelihoods). Strengthening rural livelihoods also reduces unplanned rural-to-urban migration. This cannot happen overnight. However, bringing cultivable barren lands under agricultural use is quite doable in the medium to long run.

To begin with, barren government lands in Sindh, southern Punjab, and the Potohar belt should be brought under cultivation. Fiscal resources can be mobilized by leasing out these lands to farmers' cooperatives and investors' consortiums. Human resources can be mobilized by recruiting locals, and technological solutions for it should be sought from agricultural research centers, PCSIR, and specialized institutions such as the electrical mechanical engineering corps of armed forces (they have a competitive advantage for technologies to be used for precision agriculture). It is about time provincial governments got the support of all concerned in bringing vast swathes of land in the Thar, Cholistan, and Thal deserts under cultivation. ■



Fuel of the new industrial age

Pakistan can export green hydrogen to Germany

Fatima S. Attarwala

"In the longer term, the investment potential in Pakistan is huge," says Alfred Grannas, the German Ambassador to Pakistan. In an informal interview, the ambassador outlined the country's potential for exporting hydrogen. "Pakistan has potential for wind and hydropower. It is one of the most promising things that can be built up to a large scale — hydrogen generated through renewable energy. This is the fuel of the new industrial age," he says.

The fossil fuels burned for industrial use are harming the environment. As the world moves forward, industries are transitioning to a green way. "We do produce it ourselves, but not enough. We will always require imports to meet our needs."

Given Pakistan's background of mass mismanagement and the mounting circular debt. Can this potential be realised? The ambassador seemed to think so. "Things in Pakistan can be developed over time. I am sure this investment will be developed eventually because it is so attractive for all parties concerned."

Pakistan can export green hydrogen generated from renewables to Germany in the long term

Some projects are already in the pipeline, for example, the Sindh Wind Corridor in Jhimpir. A relatively concrete plan is in motion to set up a huge wind park. The technology will come from Germany, for which feasibility studies are being carried out. Many industrial companies in Germany require green hydrogen and hence are very interested.

Another project in the works is the assembly plant for Volkswagen AG vehicles, which also depends on Pakistan's economic conditions. "As you know, investment is an investment; it is not charity. So if there is scope for something, only then will it materialise," he says when queried about international investors' views in the current macroeconomic environment.

There are about 40 German companies in Pakistan, and they have been around for quite some time. Companies like Siemens are well established and know how to operate and navigate the local market. Siemens has production facilities in Karachi, from where it exports to other countries.

'It was very encouraging to see a women's campus for higher studies in a rural area — they could speak English well and were not intimidated by the presence of an ambassador'

The ambassador also talked about the potential of exporting agricultural products such as fruits and milk products. "There are things that Pakistan is already producing, and its quality is very good. It just has to meet international standards for exports."

Courtesy Dawn

Pakistan in grip of energy crisis

Dr Engr Basharat Hasan Bashir

Pakistan has been facing a severe energy crisis for many years, which has contributed highly to the country's economic collapse. The energy sector's issues in Pakistan can be attributed to the lack of planning, mismanagement, nepotism, and corruption in appointing CEOs at energy departments, huge circular debt, capacity payments, and appointing unqualified persons as heads of energy departments like PPIB, AEDB, etc. In this article, we will explore how these factors have contributed to Pakistan's energy crisis and economic downfall.

The energy crisis in Pakistan is not a new problem; it has been an issue for several years. The country has been facing severe power shortages, which has caused massive blackouts, resulting in the shutdown of businesses and industries. The government has been unable to provide a consistent supply of electricity, which has severely affected the economy. The energy crisis has resulted in a decline in GDP, loss of jobs, and an increase in poverty.

One of the primary reasons for the energy crisis in Pakistan is the mismanagement of energy resources. The country has a vast potential for energy generation, including hydropower, wind power, solar power, and biomass, but it has failed to tap into these resources. Instead, the government has relied heavily on imported oil, coal and LNG, which has resulted in a significant increase in the country's import bill.

Nepotism and corruption have played a significant role in appointing CEOs at energy departments, which has resulted in mismanagement and inefficiency. Many of the CEOs appointed by the government lack the necessary qualifications, skills and experience required to run an energy department. The government has appointed individuals based on political connections rather than merit, which has resulted in the mismanagement of resources and massive corruption. Many of these CEOs have used their positions to benefit themselves and their political allies, resulting in huge losses for the government.

Another factor contributing to Pakistan's energy crisis is the circular debt problem. The circular debt problem arises when power producers do not receive timely payments from distribution companies, leading to a shortage of funds for power generation. The government has been unable to resolve the circular debt problem, which has led to a reduction in power generation capacity. The circular debt problem has resulted in power plants shutting down due to a lack of funds, leading to power shortages and blackouts.

Capacity payments have also contributed to Pakistan's energy crisis. The government has been paying capacity payments to power producers, regardless of whether they are generating electricity or not. This has led to a situation where the government is paying for idle capacity, which has resulted in an increase in the cost of electricity. The capacity payments have also led to a lack of investment in energy generation.

The lack of planning and forecasting by energy departments like the regulator NEPRA, Energy Wing of Planning Commission, etc., has also resulted in a lack of investment in alternative energy sources. Alternative energy sources have the potential to provide affordable and sustainable energy to the masses. However, the government has failed to provide incentives to investors to invest in these sources of energy.

Moreover, the government has failed to address the issue of energy theft, which has resulted in massive losses for the energy sector. The country's distribution companies are unable to recover the cost of electricity from consumers due to widespread electricity theft. This has resulted in a significant loss of revenue for the energy sector.

The energy crisis in Pakistan has also resulted in a decline in industrial production, which has led to a decrease in exports. The country's industries have been unable to operate at full capacity due to power shortages, which has resulted in a decrease in output.

The lack of investment in alternative energy sources has also resulted in a missed opportunity for Pakistan. The country has the potential to become a leader in alternative energy sources, given its vast potential for renewable energy. However, the government has failed to provide incentives to investors to invest in these sources of energy.

The energy crisis can lead to social unrest, as people may protest against the frequent power outages and the high cost of electricity. This social unrest can lead to law and order problems, which can affect the security of the country.

In the long term, the energy crisis can also affect Pakistan's national security. The country's reliance on expensive fossil fuels and the lack of investment in alternative energy sources can make it vulnerable to external shocks, such as oil price fluctuations. This vulnerability can affect the country's ability to defend itself in the event of a crisis.

Energy Security

Pakistan's energy security is at risk due to the country's over-dependence on imported oil and gas. The energy crisis has led to power outages and blackouts, disrupting the country's energy supply and making it vulnerable to external shocks such as changes in global oil prices, geopolitical tensions, or supply chain disruptions.

Water Security

The energy crisis has also adversely affected Pakistan's water security. The country's energy sector is heavily dependent on water for the generation of electricity, particularly through hydropower.

Food Security

The energy crisis has also had an adverse impact on Pakistan's food security. The lack of electricity has impacted agriculture, which accounts for a large portion of Pakistan's GDP. The shortage of water due to the energy crisis has also affected crop yields and irrigation. ■

The Writer is Alternative Energy & Climate Change mitigation specialist and Hon. Advisor Energy Update

VITAL MEETING

ADB delegation calls on Wapda chairman

A five-member delegation of Asian Development Bank (ADB) called on Chairman WAPDA Engineer Lt Gen Sajjad Ghani (Retd). The delegation comprised Executive Director for Pakistan Noor Ahmed, Executive Director for Japan Takahiro Yasui, Executive Director for People's Republic of China Veihua Liu, Executive Director for Korea Sangmin Ryu and Director's Advisor Ronald Ray San Juan.

The matters relating to development priorities, roadmap and financing of WAPDA projects were discussed during the meeting. Member Finance WAPDA Naveed Asghar Chaudhry and Member Power WAPDA Engineer Jamil Akhtar were also present on the occasion.

The delegation was briefed about the low-cost, clean and green energy generation plan, WAPDA is implementing priority to minimize dependance on costly thermal electricity being generated on imported fuel and counter its adverse impact on the environment.

The delegation was also apprised of WAPDA's asset base, financial streams and innovative strategy to arrange funds for construction of its projects. Besides discussing under-construction WAPDA projects, Diamer Basha Dam and Mohmand Dam Hydropower Project in particular, portfolio of the projects, which are ready for initiating construction work namely Thakot and Pattan, was also presented to the delegation for Projects Readiness Financing by the ADB. The delegation was also briefed about the excellent financing opportunities in WAPDA projects. ■

Coal deposits enough to generate 100,000MW: Dastgir

EU Report

Energy Minister Khurram Dastgir Khan has said that the country has coal deposits enough to generate 100,000-megawatt electricity.

He expressed gratitude to the chief minister of Sindh for cooperation adding that there will be lesser power load shedding in the summer compared to the previous year due to addition of 2,646MW electricity from Thar coal.

"We have sufficient resources to generate electricity with expensive fuel, but the government has opted minimum power generation with expensive fuel," Dastgir said.

"The former government committed criminal negligence during its four years tenure, by opting not to use Thar coal for power generation. "We have to create permanent new sources for power generation," he said. "Advance meters will be installed in the areas of excessive of power theft thus to curb theft with the use of the technology," Khurram Dastgir said.

New gas tariff
Hike is up to 12-112% in various gas tariff slabs

Syed Akhtar Ali

Finally, much-awaited new gas tariff has been announced by government under negotiations with the International Monetary Fund (IMF). The increase is up to 12-112% in various gas tariff slabs.

Earlier, Oil and Gas Regulatory Authority (Ogra) had recommended an increase of 74% in the average selling price of gas by SNGPL, increasing average price from Rs.545.89 per MMBtu to Rs 952.17 per MMBtu; similarly SSGC's average price had been recommended to increase by Rs.469.28/MMBtu increasing from last year price of Rs.692.63/MMBtu to Rs 1161.91/MMBtu.

The Economic Coordination Committee (ECC) of the Cabinet organises the average price into sector-wise and slab-wise tariffs. If this is done to match total revenue from Slabs to the total gas cost, there is no accumulation of arrears called circular debt. If matching of cost and revenue is not done, it continues to add up.

There are other complications such as LNG diversion to domestic sector which remain unpaid and remain as part of the circular debt. It may be noted that this gas pricing is based on locally produced gas. LNG accounts are separate.

Ogra monthly determines LNG price which is a weighted average of LNG term contract and spot prices. Large consumers such as power sector, industries and fertilizer sector buy its additional requirements from LNG imports.

There are foreign exchange price volatility issues, which often require throwing the cash flow forwards. And finally, the tariff accounts begin from 1st January 2023, while we are in middle of February, which creates the arrear issue.

This, among others, should pave the way for finalization of the agreement with the IMF. Gas circular debt (GCD) has increased to an unusually high level of Rs.1.64 trillion. The new gas tariff would stop the further build-up of gas sector circular debt. However, the already built up amount would remain on the books.

Earlier, circular debt used to be in power sector only. Power sector Circular debt (PSCD) has reached a level of Rs 2.467 trillion. Thus together, it is a big total of Rs 4.1 trillion. There has been some control of PSCD lately. New addition to PSCD had been largely controlled.

There is monthly fuel adjustment charge that is collected from the electricity consumers. Recently, the government has been preparing a plan to deal with the circular debt under negotiations with the IMF.

We will investigate in the following the change in gas prices and its impact on circular debt. We will also discuss Bangladesh's tariff, which has similar gas profile and circumstances and has undergone similar exercise with the IMF.

The issue of gas and electricity tariff adjustments in Pakistan is much more difficult than that of Bangladesh, as Pakistan suffered from an extra ordinarily high CAD (Current Account Deficit) which caused major currency depreciation and high inflation.

Gas prices have not increased in Pakistan for the last four years or more. There have been cosmetic changes. Special subsidized gas tariffs had been issued for export sectors such as textiles.

Inadequately low gas tariff, cross subsidies and increase in LNG prices have contributed to the accumulation of

circular debt.

Bangladesh, the star performer until recently, with highest growth rate and per capita income, had to go to the IMF as well. And as usual and typical, one of the conditionalities is upward adjustment of energy prices, most importantly of gas. Bangladesh had to increase gas and electricity tariffs as per the IMF dictates.

There are several plausible reasons to compare Pakistan's gas tariff with Bangladesh's. First, the tariff structure is almost similar to be comparable. Second, Bangladesh is a competitor of Pakistan in textile sector. And, thirdly, Bangladesh has a comparable gas profile with Pakistan's. It produces gas and imports LNG from Qatar.

It has two LNG terminals as Pakistan has. Bangladesh's gas demand is 3500 bcft/yr as against gas supply of 2670 Bcft/yr. Bangladesh has increased gas prices from 14 to 178%. In Pak rupee, average prescribed price is around Pk.Rs 1700/MMBtu (1 USD=230 Pk. Rs?).

A very remarkable change in Bangladesh's new gas tariff is that there is a near uniform tariff for all sectors of Rs 1850.32/MMBtu except power sector which has a lower tariff of Rs 863.48/MMBtu. Tariffs of Residential, Fertilizer and Tea garden sectors have not been increased.

Pakistan's exchange rate has been quite volatile lately. It has increased from Rs.230 per USD to Rs.275. Hopefully, the IMF agreement may help stabilize the exchange rate to a lower level, which many experts have estimated to be around Rs.250. For a variety of reasons, we have made comparison with Bangladesh at Rs.230 per USD which may not make much difference if the expected exchange rate in Pakistan stabilizes at Rs 250.

There are two possible measures that can be adopted to bring down GCD to a manageable level: 1. Suitable increase in gas tariff; 2.Reducing and parking of cross-subsidies to the end-use sector. For example, gas tariff for fertilizer sector is inordinately low.

It is meant to keep fertilizer's prices low and resultantly keep food prices low. Although, gas is sold to the fertilizer plants at varying prices, the selling price of fertilizer is the same for all plants. Admittedly, there is a level of undue profiteering in fertilizer sector.

Some reform is required in this. Also, the gas prices to fertilizer sector have to be adjusted upwards and the increase is to be charged to agricultural sector wherein the subsidies are more acceptable.

Fertilizer gas tariff of Bangladesh has almost been thrice of Pakistan's — Bangladesh Pk.Rs 992/MMBtu vs Pk.Rs 320/MMBtu. In the new gas tariff, fertilizer gas price has been increased from Pk.Rs 302 to Pk. Rs 510. Engro tariff has been kept untouched due to historical contractual reasons. Pakistan's fertilizer tariff is now 50% of the corresponding tariff in Bangladesh.

Fertilizer gas pricing is a complicated issue related with agricultural prices. Fertilizer is being sold at identical prices despite significant differences in their gas prices.

We have raised this question earlier in this space. Such a heavy cross-subsidy may be transferred to subsidy in agriculture sector to increase the viability of gas sector. In future, this issue will become even more serious with the fall in local gas production.

Major difference in gas tariffs in the two countries (Pakistan-Bangladesh) has been in power sector. In the old gas tariff, power sector gas rates in Bangladesh were a mere Pk. Rs. 337/MMBtu as opposed to Pk.Rs.1050 in Pakistan.

Under new gas tariffs in the two countries, the tariffs are almost comparable; Pakistan's tariff (Rs.1050) vs Bangladesh's of Rs 939, only 12% higher than that of Bangladesh. Although power tariff is not the subject of this piece, it is quite probable that power tariffs in the two countries may have become closer as well.

This is expected to positively impact the energy tariff difference in the two countries. In the case of captive power, Bangladesh has almost doubled it over the old tariff, trying to discourage inefficient captive power.

Industrial gas tariff in Bangladesh is now the same as that of industry (Pk. Rs 2011), eliminating the anomaly. Pakistan's captive power tariff is Rs 1200, only 60% of the corresponding gas tariff in Bangladesh. It appears that there is a scope of further adjustments in this respect in Pakistan.

The new industrial gas tariff in Pakistan has been enhanced from Rs 1054 to Pk.Rs 1200 — a minor increase of 14%. The corresponding tariff in Bangladesh has been increased by 88% to Pk. Rs 2011. Thus Pakistan's new industrial gas tariff is only 60% of Bangladesh's.

Gas tariff for residential sector in Pakistan is quite complicated and variegated. There are 8 slabs in residential sector and now two categories-protected and unprotected have been added to the new tariff, making the total number of slabs to 12.

For lifeline consumers (protected), gas tariff has not been increased and is kept at Rs 121. In the unprotected category, the same slab has been enhanced to Rs 200, an increase of 65%. In the medium (lower middle class) tariff, the increase is modest-8.5-33.3%. In the middle-class consumer category, there are two slabs: Rs 800 and Rs 1100. Increase in these slabs has been of 44.7-49.1%.

There are two tariff slabs in the large consumer category. The highest gas tariff for large residential consumers has been increased from Rs.1460 to Rs.3100; an increase of 112%. It may be compared with the alternative of LPG price which is Rs 4400.00 per MMBtu.

And in the other slab, there is an 80% increase, from Rs.1107 to Rs 2000. Thus there is a ratio of 26 times between highest and the lowest tariffs. It is amazing that in Bangladesh, there are fixed charges for small residential consumers; single burner Tk 990 (Pk. Rs 2168) and double burner Tk. 1080 (Pk.Rs 2365) per month.

How the IMF will deal with this strange rate is not known. Also what happens to gas wastage when there is a fixed charge is also a big question.

A lifeline consumer pays an average of Rs 500 per month. There are 4.3 million residential consumers out of which 0.4 million have prepaid meters. The Bangladesh government has reportedly provided a subsidy of Rs 131.4 billion (1.25 billion USD).

CNG tariff in Pakistan has been increased in the new tariff from 1371 to Pk.Rs 1805, an increase of 32%. CNG tariff in Bangladesh is Pk.Rs 2668. No change has been made in the new CNG tariff. At revised rates, CNG tariff in Pakistan is not different what is in Bangladesh. ■

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Solis has just won the National First Equipment Award for its S6-EH1P(7.6-11.4)K-H hybrid energy storage inverter, making this further proof of the S6 inverter's leadership in technology and innovation.

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The S6-EH1P(7.6-11.4)K-H independently developed and produced by Solis has been re-certified to the latest UL 1741 SB test standard and is qualified for installation across North America. Customers will be able to monitor their entire home via hybrid inverters, smart breakers, and an updated SolisCloud. Solis manufactures products (the Power Hub and new apps) to give customers more control and information about decisions they make for their own energy usage. These products will allow home owners to be independent of the grid so that they can power their entire home during a power outage.

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As the energy industry evolves, Solis is committed to driving sustainable development to the future with technological innovation backed by a strong R&D focus. The company is aligned with the global goal of carbon peaking and carbon neutrality, which will require the fast development of an energy storage market. This is especially true since the installed capacity of global energy storage is estimated to be 209 GWh in 2025, with demand for PV energy storage inverters up to 104 GW.

Solis plans to continue to increase investment in R&D, to continuously enhance the innovation and core competitiveness of its products and solutions. As a top global player , Solis remains committed to developing technology to power the world with clean energy.

About Solis:

Established in 2005, Ginlong Technology Corporation (Stock Code: 300763. SZ), under the brand name Solis, is one of the world's largest and most experienced solar inverter manufacturers. The company provides cost-effective solutions for homes, businesses, and large-scale power plants delivering value at every level of the solar supply chain and appealing to both homeowners and businesses, as well as electricity producers and renewable energy investors globally. Combining a global supply chain with world-class R&D and manufacturing capabilities, Solis optimizes inverters for each regional market, serving and supporting its customers with a team of local experts. The company aims to work with stakeholders to accelerate the world's journey towards a more sustainable future.

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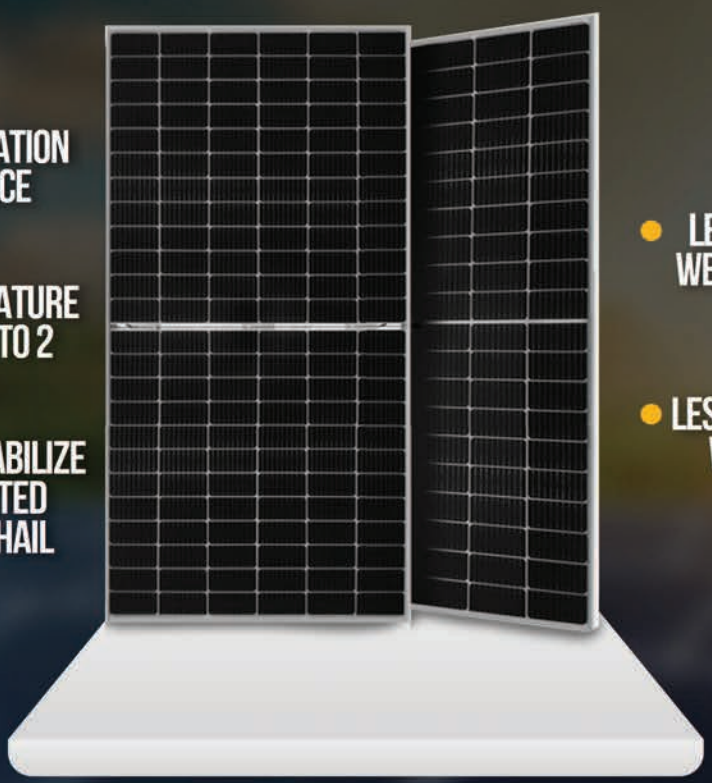

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Anatomy of a bailout

If IMF conditions are bitter, why do we want another programme?

Dr Abid Qaiyum Suleri

Like Sri Lanka, Zambia, Ghana, Egypt, and many other low and low-middle-income countries, Pakistan is again resorting to its last economic lifeline, i.e., the international monetary fund. The Prime Minister of Pakistan publicly complained about the harsh conditions of the IMF and resolved to save the interests of the "common man" while implementing those conditionalities. The question arises if the IMF program is that bad, then why opt for one? A secondary question arises why IMF is against the poor and low-income earners.

First thing first! IMF does not ask the countries to take loans from it. All of the countries mentioned above (and around 50 other low and low-income countries) went to IMF due to chronic self-inflicted economic woes. "Borrowing, overspending, falling short on revenue collection, balance of payment crisis, depreciation of the domestic currency, inflation, subsidies (overspending),and further borrowing," and the vicious cycle continues until they face the situation in which their debt becomes unsustainable, and they have to go to IMF. Depending on how sincere the countries are in implementing the IMF program, IMF's loan either prolongs this vicious cycle or helps to break it.

Second, the reason none of the governments in Pakistan politically own the IMF program despite approaching it twenty-three times is that all of them in their opposition days have opposed going to the IMF and carrying out policy and structural reforms. There are two political narratives on IMF in Pakistan. Any party/parties in opposition consider it the mother of all evils and vehemently criticize the government for causing inflation through IMF program implementation. Any party/parties on treasury benches, blaming IMF for its harsh conditionalities, try to convince the people that implementing the IMF program is the only way to rescue the economy.

Third, IMF does not propose conditions. It simply asks how the governments will balance their income with expenditures, how they will pay back their debts, and how they will address the chronic structural and policy issues haunting their economies. The recipient governments prepare a plan, often consisting of some politically non-popular measures, and commit to the IMF on its implementation.

Fourth, Pakistan only completed one program (2013 to 2016, and that too with a dozen waivers) and abandoned the other 21 programs halfway through because, in the "good old days," Pakistan was a recipient of western dollars for supporting the western forces in Afghanistan. First during the war against the Soviet Union and then the war against terror. An easy flow of dollars was taking care of any balance of payment crisis. Pakistan never needed the IMF that badly. During the last IMF program, Pakistan had good relations with the Obama administration and a comparatively easy flow of dollars for CPEC projects. Hence it could safely sail through the IMF program.

Fifth, the PTI government could manage its first year in power without going to IMF, while the PDM government could not benefit from China's and Gulf countries' debt diplomacy. It is because bilateral creditors don't oblige individuals. They oblige governments. The kind of political uncertainty that Pakistan has been passing through since last year has put our bilateral creditors in a "wait and see" policy. They would not come forward with unconditional help in these circumstances. Hence they have linked their rollouts with Pakistan being under IMF discipline.

The sixth fact is that IMF is a technical intergovernmental body that evaluates the country's financial health per its prescribed template. However, the largest shareholders of the IMF, dominating the decision-making of the IMF executive board, have their geo-political and geo-economic agendas.

To avail of an IMF bailout package, a country makes two types of commitments: quantitative targets (known as performance criteria and indicative targets) – mostly in domestic currency but some in US dollars, and structural benchmarks (structural reforms). Progress against these commitments is assessed during a review, and a report is presented to the IMF executive board, which decides whether to release the loan tranche. Unless the board approves a waiver, any missed commitment becomes a 'prior action' (mandatory measure) that a country has to take to

get its loan tranche released.

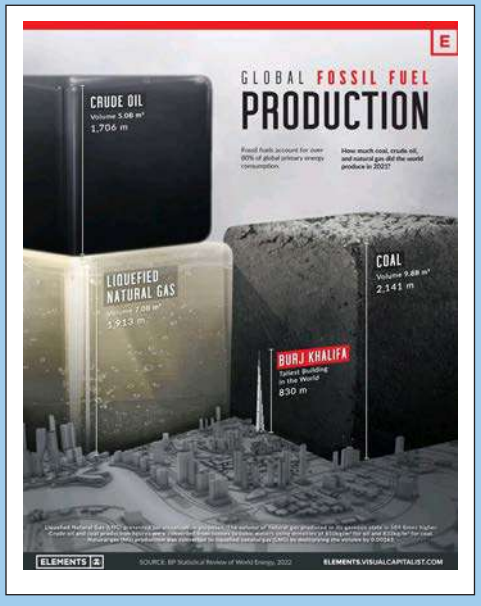
Reaching a staff-level agreement for assessing which performance criteria and structural benchmarks have been met or missed is relatively straightforward. Getting a waiver from IMF executive board for missed milestones depends on recipient countries' alignment on the global geopolitical chessboard.

The IMF board is composed of 24 Directors, elected by member countries or groups of countries as per their shareholding in the fund. The United States, Japan, France, Germany, Italy, and the United Kingdom are the largest contributors to the IMF fund (IMF has roughly US$1 trillion to lend). The US holds the maximum shares (16.5 percent) in the IMF. In other words, Pakistan cannot afford to be on the wrong side of the western bloc and expect a waiver from IMF.

During the last review (the seventh and eighth, which was completed in August 2022),the IMF staff, while accepting Pakistan's request to extend the program to June 2023 and augment it roughly by US$1 billion, alerted that risks to the program (both external and internal) remain exceptionally high.

IMF also suggested a consistent and decisive program implementation to improve economic prospects. Some measures Pakistan was expected to take include steadfast implementation of the approved budget for FY23 (read provincial surplus of Rs 750 billion and other revenue collection measures), adherence to a market-determined exchange rate, and a prudent monetary policy. Pakistan was also asked to expand social safety to protect the most vulnerable and accelerate structural reforms, including improving the performance of state-owned enterprises (SOEs) and governance.

Program implementation deteriorated shortly after the completion of the last review (August 2022).One can safely say that political tension led to grave fiscal slippages. Moving away from a market-determined exchange rate led to an abrupt and steep depreciation of rupee versus US dollar. ■



OIL EXPLORATION

Sindh allowed to sign deals with exploration firms

EU Report

In a new development, the prime minister may give his consent to extend the rights to the Sindh province from signing the PCA (Petroleum Concession Agreements) to exploring conventional oil and gas, including new oil and gases, shale, marginal and tight gases, shale oil and its sale to the national grid.

The prime minister has asked Dr Asim Hussain, former adviser to PM on petroleum and natural resources, to come up with a doable policy, particularly to explore new gases, a senior official sai. "In a meeting with Dr Asim Hussian, Shehbaz has shown his willingness in this regard. It happened after a presentation some weeks back on upstream petroleum policies, including shale gas and shale oil reserves in the country, particularly in Sindh."

Dr. Asim Hussain is the author of tight gas, flare gas policies, and the exploration and production 2012 policy as well. To this effect, the Sindh government has decided to activate the dormant Sindh Petroleum Company and a former managing director of PPL (Pakistan Petroleum Limited) has been assigned to act as its MD.

During the presentation, Dr Asim Hussain drew the attention of the prime minister towards the 400mmcfd stuck-up gas in various fields in the wake of some court stays or litigations. He also pointed out that some oil and gas reserves are explored but are not operational because of the non-availability of reason ble wellhead prices. Asim Hussain also pointed out the massive reserves of shale oil and shale gas the country has, particularly Sindh. When contacted, Dr Asim Hussain confirmed the development that the prime minister had agreed to extend the rights to the Sindh government, from signing Petroleum Concession Agreements for exploration of oil and gas to selling products to the national grid.

Under Article 58 of the Constitution, the prime minister would allow the rights to sign the PCA, explore oil and gas and sell it to the national grid to the Sindh government.

The Sindh Petroleum Company is being activated after legislation, structure, and paid-up capital to start work with foreign and local companies in the shape of JVs (Joint Ventures). But to make the company fully functional, it is imperative to initiate and get the approval of new oil and gas policy, including the shale gas policy with pricing incentives.

Ban announced on manufacturing, sale of traditional fans

EU Report

The government is going to ban manufacturing and marketing of traditional fans and bulbs from July 1, 2023. The announcement came when the government's energy efficiency plan through replacement of existing electric items has reportedly been finalised. No company in the country will be allowed to manufacture or market the existing traditional fans across the country after June this year as they have been asked to manufacture highly energy efficient fans from July 1.

There are approximately 41 million fans installed in houses and other buildings across the country. The ministry of energy will collaborate with power companies (DISCOs) to ensure installation of at least one new highly energy efficient fan in the premise of every consumer under an installment plan of its cost.

As per the approved plan, the price of a new fan may cost more than Rs12,000 to consumers. However, the price will be adjusted in monthly electricity bills in installments.

The fan manufacturing firms have been asked to prepare for producing new fans for which standards have been approved by Pakistan Standard and Quality Control Authority (PSQCA).

Jaywalking on the road to climate change

Climate diplomacy needs to deliver transfer of funds from international development partners

Dr Khalid Waleed

Most children are taught the importance of zebra-crossing in kindergarten. Jaywalking is walking on or crossing a road with traffic in places other than the zebra-crossing. In many countries, it is a penal offence. In case of jaywalking, the responsibility for any accidents lies with the pedestrian not using the designated road crossing point.

Climate change is a road on which Nature is in the driving seat. We, the humans, need to stop jaywalking on it and start using the crossings indicated by it. Here are some dos and don'ts:

First, don't interfere with the natural cycles of the Earth. There are three major natural cycles to respect: the carbon cycle, the water cycle and the nitrogen cycle. The carbon cycle is Nature's way of capturing carbon and storing it in the form of trees. Jaywalking in this context is exceeding the limits for carbon emissions. The designated crossing point is to either plant more trees or to cut carbon emissions.

The water cycle is the conversion of seawater to freshwater through vapourisation and rain. The conversion of seawater to snow and glaciers is paramount for the Earth's climate. Jaywalking in this context is again the carbon emissions that disrupt the water cycle. Consequently, the earth's temperature is rising and the glaciers are melting.

The cost of jaywalking is either too little rain, causing droughts, or touch rain, causing floods.

The Nature uses nitrogen as a natural fertiliser to produce food. Nitrogen deficiencies causes low yields; excessive nitrogen increases toxicity and creates water pollution. Jaywalking here is the growing population and mass farming which is causing a deficiency of nitrogen in many regions due to which fertilisers are needed for agriculture.

The Ukraine conflict has caused disruptions in provision of natural fertiliser to fertiliser manufacturers causing a cascade effect leading to low yields and concerns about food security. In the future, food availability might be a bigger problem than affordability. This brings us again to jaywalking on the carbon cycle to meet the energy demand. Coal-fired power plants are again being planned, constructed and commissioned.

Second, the underdeveloped and developing countries are adversely impacted due to climate change caused by jaywalking in the developed world. We are now facing events like droughts, floods, rising temperatures, seawater levels and food insecurity. There has been a renewed focus on mitigation and adaptation approaches to fight climate change.

These approaches need due diligence and financial assistance from the developed world to raise the level of energy efficiency and transition to renewables. The developing and underdeveloped countries cannot afford to import efficient energy appliances and expensive mechanisms to retire cheaper sources of energy.

This brings us to the economy over the environment argument. The way out and designated road crossing points are climate funds like the one established in COP27, transfers to affected countries and the transfer of renewable energy technology so that the affected countries can develop these mechanisms indigenously.

The Energy Transition Mechanism, recently implemented by the Asian Development Bank, is an actionable plan to achieve

energy transition. The ADB provided funds to the Indonesian government to retire a 600 megawatts coal-fired power plant and to replace it with renewable energy. The environment can be made a priority again by incentivising renewable and efficient energy measures for developing and underdeveloped countries.

Third, short-run and long-term gains. Sustainability requires planning for the long run. One generation enjoying an abundance of natural resources at the expense of future generations is not the right way to cross the climate road.

The macro-economic model of overlapping generations summarises it perfectly. The young need to work and save for their retirement phase, then use these savings so that sustainability can be achieved. Nature demands a similar approach; we need to conserve resources for the times when there is a shortage.

Pakistan's natural gas reserve depletion is an example of jaywalking on consumption. It is also a case of jaywalking on the climate change road. We have exhausted our natural gas reserves. We did not save anything for the time when we'd have a shortage. As a result, we are now left with the alternatives that are either expensive, i.e., imported LNG and oil, or environmentally unfriendly, i.e., use of firewood and coal.

The way out is to respect the Nature's carbon cycle and plant more trees so that the sustainability of biofuels (firewood) can be ensured without causing deforestation; add more renewables to the energy generation mix and adopt energy efficiency measures. Coal-fired power plants are cheaper but their long-run affordability is lower than the renewable alternatives. We need to build a case to attain energy transition backed by our international development partners and multilateral financial institutions, such as climate funds, energy transition mechanisms, green bonds, carbon credits and green financing.

What are the actionable options to avoid jaywalking? It requires dynamic and multi-pronged planning. We must understand the ways of the Nature, respect the natural cycles and use these for our collective advantage.

The actionable policy options are the use of renewable energy (solar and wind), efficient use of daylight to conserve electricity, effective water management, saving flood water for droughts and efficient use of nitrogen for high yield agriculture.

Climate diplomacy should deliver transfer of funds from international development partners. We should take advantage of the energy transition mechanism established by the ADB. Apart from funds, technology transfer is important so that renewable mechanisms can be manufactured locally and at a lower cost. We should also plan for a longer-run. Coal-fired power plants might bring some short-run relief but are not a sustainable option for future. Climate change is likely to occur faster in the future. We cannot afford any more jaywalking. ■

CHEAPER ENERGY

Nuclear power plants: **saviours of economy and energy**

Energy production through nuclear power plants is safer, cheaper, effective and supports self-reliance

Ever since the Russia-Ukraine war, global warming and the gradual depletion of non-renewable sources of energy such as oil, gas and coal are compelling nation-states including most of the European states to reconsider their energy policies. Many of them are opting for energy production through nuclear power plants, which is not only safer, cheaper and effective, but also supports self-reliance.

Given this backdrop, it is imperative that Pakistan too turns its focus on producing energy through its nuclear power plants (NPPs) — such as Karachi Nuclear Power Plants (having the capacity of 1100MW each), the Chasma-1 (325MW), the Chasma-2 (325MW), the Chasma-3 (350MW), and the Chasma-4 (350MW) — under the International Atomic Energy Agency (IAEA) safeguards. Since their inception, all of these NPPs have not only been producing safer, reliable, and cheaper electricity but more importantly, they have been timely and effectively contributing to the country's fragile economy by saving billions of US dollars compared to other sources for energy production.

According to reliable and credible sources, Pakistan through its six NPPs has saved $3.035 billion with reference to oil, $2.207 billion with reference to RLNG, and $1.586 billion with reference to imported coal during the fiscal year 2022. The same amount of electricity produced by NPPs when generated by other sources of energy production costs some $3billion extra in fuel charges alone, not including the amount of expenses on other related ingredients, further affecting the broader parameters of Pakistan's economy.

Energy plays a significant role in running the economic engine of a country. The more energy Pakistan produces and effectively uses, the more it protects its economy from fragility and the more it has the chances to prosper. Thus, with national awareness and consistent functioning of Pakistan's NPPs, the country can surely save more money and energy.

Recently, it has been reported that nuclear energy became Pakistan's top source of power generation for the first time, generating 27.15% (i.e. 2,284.8GWh) at Rs1.073/unit. Carbon-based energy production is not only getting extremely expensive for many external and internal factors, but they are also not environmentally friendly and play a huge part in exacerbating the consequences of global warming. Scientists argue that global warming is already occurring and it has surprisingly increased the earth's temperature by 2 degrees Fahrenheit in total since 1880. ■

Carbon trading prospect

Ali Tauqeer Sheikh

The world is losing the Race to Zero. Many governments and large companies that had committed to net zero are faltering. Since carbon trading is the central plank of emission-reduction policies of the EU, America, China and many other countries, carbon markets at the sub-national, national and international levels have grown phenomenally.

The agreement and approval of Article 6 of the Paris Agreement at Sharm El-Sheikh at the climate summit in November 2022 has renewed optimism of making carbon markets in developing countries like Pakistan robust and credible. The UAE, the host of the next climate summit in November, has taken it upon itself to proactively shape the global carbon market.

Carbon markets are trading systems in which carbon credits are bought and sold. They can be used to finance the implementation of Nationally Determined Contributions (NDC) or encourage investments in climate-mitigation projects such as regenerating forests and mangroves. Carbon credits are generally transacted in the Carbon Compliance Market (CCM) or the Voluntary Carbon Market (VCM).

The offsets are measured in tonnes of carbon dioxide equivalent (CO2e). They aim to deliver additional benefits such as biodiversity conservation, food security and more income to communities as well as socioeconomic benefits, including education, health and livelihood options. It involves investing in projects that reduce or remove greenhouse gas emissions, such as land restoration or planting trees.

While the VCM has grown immensely in recent years, CCMs, sometimes also known as the compliance market, has gained universal acceptance. A key difference between the two is that VCM is a decentralised market where private actors voluntarily buy and sell carbon credits that represent certified emissions reductions, while the CCM is regulated by mandatory carbon reduction regimes.

Voluntary reductions can also be verified under independent certification standards, often endorsed by the International Carbon Reduction and Offset Alliance. Finally, emissions reductions in VCM are not formally counted towards NDC targets.

Building upon the experience of the 1997 Kyoto Protocol that enabled trading under the Clean Development Mechanism (CDM), the main international carbon market scheme today is the Paris Agreement. Article 6 of the agreement enables countries to use market mechanisms.

The VCM is typically self-regulated as it helps companies and individuals voluntarily purchase carbon offsets. It plays a critical role even if not legally enforced or added to NDC targets. For instance, buyers of Pakistan's carbon credits from its Delta Blue Carbon Project that covers 350,000 hectares of degraded mangroves in Sindh included Trafigura, Climate Impact X, Respira International DBS Bank, Singapore Exchange known as the SGX Group, Microsoft and Standard Chartered Bank.

The reliance on market instruments to reduce carbon emissions will continue to grow.

The global carbon trading market has grown rapidly. Presently, it is estimated to have crossed $260 billion, representing 10.3 gigatonnes CO2e traded on compliance markets, covering both voluntary and compliance carbon markets.

The VCM is projected to increase by at least five times by 2030. This growth will be driven by more governmental policy measures such as coal phase-outs, renewable energy targets and efficiency standards with a value of $2.4 trillion in 2027. This lure has also attracted 'Carbon Cowboys' who are

locking developing countries in long-term, uneven contracts. They are tarnishing the reputation of legitimate carbon projects.

The reliance on market instruments to reduce carbon emissions will continue to grow and will touch all sectors and geographies. Pakistan's readiness will need to be fast-tracked to first develop the requisite ecosystem of policy instruments and guidelines at the national and provincial levels. Granting concessions in the provinces without national policy and regulatory frameworks will further weaken transparency and accountability.

Already, Pakistan has missed the benefits of CDM. Of the over 13,000 projects that were approved by the CDM Board, Pakistan secured less than one per cent of the total, compared to almost 70pc by India and China who developed dozens of projects dealing with forestry, renewable energy, urban transportation, waste-to-energy, solid waste management, methane gas capture in landfills, energy-efficient stoves, and other such activities that reduce GHG emissions. Pakistan undertook such projects mostly under loans, while China and India utilised the CDM financing window.

To benefit from carbon trading, Pakistan will now need to develop market-based climate policy instruments, including emissions trading schemes to tap into low-cost abatement opportunities and leverage low-carbon investments. Three steps are essential if we want to take advantage of the evolving carbon markets: a) draw lessons from the failure to benefit from CDM, b) encourage the private sector that is already in pursuit of carbon credits, and c) minimise the role of the bureaucracy by establishing policy and legislative cover.

The net-zero emissions debate has thus far been limited to the largest polluters, ie, the US, China, EU and India and some secondary polluters. It seems to have now reached the world's largest oil producers and exporters in the Middle East who are committing themselves to achieving carbon neutrality and also seeking to offset their emissions.

The UAE as the host of COP28 in November has begun with some initial steps that will deeply impact the global carbon trading market and create partnership opportunities with other developing countries. It has, for example, announced the world's first fully regulated voluntary trading exchange and clearing house.

Called the Abu Dhabi Global Market, it will allow companies to trade and finance carbon credits just like conventional financial assets. AirCarbon Exchange claims to offer customers regulated and transparent price discovery mechanisms as well as efficient trading plans in order to regulate carbon credits and offsets as emission instruments.

Finally, the UAE is proposing a framework to recognise carbon as an investment-grade commodities emissions instrument. This regulated spot and commodity derivative will promote the use of carbon offsets for businesses looking to reduce their environmental impact.

The UAE is forging long-term partnerships with several developing countries to help them trade their brown (pollution), green (forestry) and blue (mangroves) resources. Partnership opportunities in carbon trading await both the UAE and Pakistan in the run-up to COP28. ■

Courtesy Dawn

FINE RISK

IP gas pipeline delay may lead to $18b fine on Pakistan

Committee seeks records of perks given to retired judges, generals

EU Report

Pakistan risks a fine of $18 billion for not completing the Pakistan-Iran gas pipeline project in the timeframe stipulated in the agreement, the Public Accounts Committee (PAC) was informed.

The apex committee of the National Assembly (NA) met with Noor Alam Khan in the chair and deliberated on the non-utilisation of Rs332 billion in gas infrastructure development cess. Demanding progress on the publicly-funded projects, Bargees Tahir said that Rs325 billion were received, but only Rs2 billion were spent.

Syed Hussain Tariq said that the funds are lying idle, and the projects are stagnant. He warned that Pakistan faces fines if the gas pipeline project with Iran is not completed on time.

Secretary petroleum wondered how the figure of Rs325 billion came to the fore when the Petroleum Division received Rs2.8 billion. The secretary also highlighted the safety and security concerns in the Turkmenistan-Afghanistan-Pakistan-India (TAPI) pipeline project. He also told the meeting that Pakistan has spoken to the United States about the Iran gas pipeline project to ask for relief. He pointed out that there is a ban on importing gas from Iran, and Pakistan cannot buy it. He further said that there have been many meetings with Russia during the past three to four months.

Mohsin Aziz said that levy was collected for three projects, and it was regretful that there had been no progress on any of them. The members of the committee asked how much penalty could be imposed on Pakistan for not completing the Iran gas pipeline on time. The secretary petroleum responded that as per the agreement, the penalty could be $18 billion.

He also remarked that they have asked the US ambassador to either give them permission to go ahead with the project or give them money to pay the fine. The chairman then directed the Ministry of Foreign Affairs to call the US envoy and inform him about the gravity of the situation. He also reiterated the two options mentioned by the secretary petroleum. Moreover, during the meeting, the committee asked for records of perks given to retired judges and generals. He also said that bureaucrats and generals were asked for the records of plots, pensions, and perks.

The chairman said that the audit authorities should furnish all the records by next week. He remarked that while the country was sinking economically, these persons were enjoying thousands of litres of free oil among other facilities.

The committee was told that free fuel is being provided to 150,000 vehicles.

PAC then asked for the record of free petrol used by government vehicles. Sheikh Rohail Asghar said that the parliamentarians get it at the rate of Rs10 per kilometer.

Barjees Tahir said that there are 150,000 government vehicles in the country and their free fuel facility should be stopped. Mushahid Hussain Syed said that the salary should not exceed Rs0.5 million in government departments. The PAC chief said that 20 vehicles are used on average in a government protocol.

Asghar said that if someone's life is in danger, then a court should be established in their homes. He remarked that Justice Qazi Faez Isa, a senior judge of the Supreme Court (SC), comes to work on foot. The committee thus directed to write a letter to the federal cabinet to stop the public's suffering due to protocols. During the meeting, the PAC chief discussed the matter of the new gas connections. Barjees Tahir said that metres are not being installed, due to which gas is being stolen. Khan directed the gas companies to file cases against the people involved in gas theft. ■

SOCIAL ROUND UP

A group photo of members of PPDC Committee of PEC Islamabad

TV anchor Aneeq Ahmed hosted a dinner in honor of friends and their spouses

NFEH's delegates meets with Governor Sindh Kamran Tessori on CSR and tree plantation campaign

S M Tanveer Minister industry and energy inaugurated S.M Munir Hall in Karachi

Chief Minister Sindh Murad A Shah Inaugurated my Karachi expo in Karachi, Zubair Motiwala and Saleem Diwan, Faaz Diwan and others are seen in the Picture

Writer and poet Asma Jan Mohammad presenting her book to Minister of State Ashfaq Tola at women day event

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ENERGY UPDATE

For details, please scan

Economic dystopia incentivized

Pakistan's unbanked population performance is worse than Indonesia, Bangladesh, Egypt and Nigeria

Mosharraf Zaidi

Can you guess what country has the world's worst financial inclusion statistics? It is Pakistan. With 115 million unbanked adults (adults with neither a bank account, nor a mobile money wallet), Pakistan has the third highest absolute number of unbanked adults in the world after India and China, respectively.

As a proportion of its population, Pakistan's unbanked population performance is worse than Indonesia, Bangladesh, Egypt and Nigeria. These seven countries alone account for over half of all the unbanked human beings on the planet. Pakistan alone accounts for eight per cent of the global unbanked population. Unlike most other countries on this list however, Pakistan is the one that has the most profound fiscal and current account crisis. No country puts more of a burden of suffering on its poor in this list than Pakistan, especially its women. Mobile wallets and digital banking are the fastest way for a country to generate mass scale financial inclusion. In addition to having the world's worst financial inclusion, Pakistan also has the worst gender gap in mobile phone ownership in South Asia. Pakistani women are less likely to own a mobile phone than women in Afghanistan, Nepal, Bangladesh or India.

What does this unique exclusion from banking and from digitalization mean for Pakistan? It means that the economic and social ecosystem allows for this disconnection and lack of connectivity. Most crucially, the less people with bank accounts and the less people with mobile phones – the less documentation of the economy, the less revenue and the less likelihood that Pakistan's unsustainable fiscal gaps will ever be bridged.

Usual suspects cannot be expected to deliver anything but business as usual. It is now manifestly clear that none of the usual suspects – institutions or individuals – has much of a response to the country's complex, multi-layered and existential polycrisis. The reason the military, the judiciary, the bureaucracy, the religious elites, and the political class are so clueless is because – subject to business as usual – there is no actual path out of this cul de sac. A broad, deep, and meticulous process of institutional and cultural renewal is the way forward, but there are no firms, organizations, groups, or institutions that have the capability for such renewal.

The most urgent emergencies of nine months ago are now increasingly moot. Throughout the summer and autumn of 2022, the most important issue was to avoid default. Today it is clear that avoiding default is shorthand for something much more insidious: the sustenance of the status quo for this economic system. While it is heartening to note the very large increase in the coverage of economic issues, and the much deeper interest with which readers, ordinary citizens, the intelligentsia, and the public discourse at large engage with economic and financial policy – it is worrying to note how policy continues to be conceived in Islamabad.

As the government negotiations with the IMF continue, we learnt that the IMF mission had to steadfastly refuse a proposal by the Finance Division for a one-time levy on all bank deposits. This is not new territory for the all-star team of dinosaurs the PML-N has inserted in the Finance Division. On numerous past occasions, Finance Minister Ishaq Dar has sought to plug the fiscal gap by penalizing salaried individuals and those Pakistanis that

must helplessly continue to be part of the formal, documented Pakistani economic system.

It bears repetition exactly what the Finance Division had proposed, and where. In a country where the quantum of financial exclusion is between 70 per cent (according to the Karandaaz financial inclusion survey) and 79 per cent (according to the World Bank's Findex database), the cardinal finance and economics policy making body in the country proposed a levy on all bank deposits. Why? To help meet short-term revenue targets. Seriously. This mockery of reason and flaying of the national interest merits further deconstructing and disaggregation.

Fairness or progressiveness is an easy, very low hanging fruit in economic policy. The idea that a system should be fair, and one in which the most able do more than the least able is almost universally acceptable. On this metric, the idea that fiscal gaps or revenue targets should be met through penalising bank account holders – whilst continuing to allow millions of businesses and people to remain undocumented, or semi documented, where they can maintain substantial aspects of their work outside the formal banking system – is patently unfair. It is the very definition of regressive policy.

Such calls to action assume that there is even a marginal consensus about what ails Pakistan's economic system. In 2012, Ali Kemal of the Pakistan Institute for Development Economics estimated the informal economy to be at least as large as the formal economy. He continued his superb work and published another important paper on the underground economy in 2017, where he concluded that as of 2014 roughly 40 per cent of the value of the GDP was engaged in the "underground economy".

The bottom line from these numbers is that potentially several hundred billion dollars in value lies undocumented and unaccounted for. For example, 40 per cent of the GDP is roughly $140 billion. If even 10 per cent of this money was deposited in banks in US dollar denominated instruments, Pakistan's reserves situation would not be precariously at the edge of a sovereign default.

Of course, these calculations today seem to be of limited value in sustaining economic stability in Pakistan because from the individual to the firm, to the institution – no one wants to voluntarily be 'documented'. Becoming part of the formal system brings risks like dollar accounts being frozen (another Ishaq Dar special), and like the levy penalty that the geniuses at the Finance Division tried to dupe the IMF mission into two weeks ago.

Total financial inclusion in Pakistan was 10 per cent in 2011. It grew to 13 per cent in 2014, 21 percent in 2017, and remained stagnant at 21 per cent in 2021. In the decade of global digitalization, with the FATF breathing down Pakistan's neck and places like China and India investing in wholesale transformations to cashless transactions, Pakistan could manage only a 10 per cent improvement in financial inclusion. ■

KE INVESTMENT

KE files Rs484bn investment plan with NEPRA

EU Report

K-Electric (KE) has planned to invest Rs484 billion in its transmission and distribution system in the next seven years to add to the city's development, progress and sustainability, the power utility said in a statement.

The company has filed an investment plan FY 2024-2030 for transmission and distribution segments with the National Electric Power Regulatory Authority (NEPRA), with an aim to further improve network reliability. The plan should enhance the KE's aim of smooth and reliable supply of power, while accelerating Karachi's development, progress, and sustainability, the statement said.

The new plan envisaging Rs484 billion investment in the transmission and distribution system is set to cater the projected growth in power demand, loss reduction initiatives, targeted and technology driven investments in the network for improved reliability and safety, as well as initiatives to enable KE off-take additional power from external sources, including the National Grid. The goal at the end is to make power affordable, safe, reliable, and smooth.

At the same time, it seeks to invest in climate resilient and environmentally sustainable infrastructure for power supply, the company said. As per the plan, the company envisaged an investment of Rs280.915 billion in the projects for expansion/improvement of transmission system. For growth, an investment of Rs140.751 billion; for system, improvement/reliability Rs84.133 billion; NTDC and IPPs interconnection, Rs52.860 billion; and reactive power management and loss reduction, an investment of Rs3.171 billion have been proposed.

Regarding improvement/expansion of distribution system, the company plans to invest Rs184.650 billion within the next seven years. The loss reduction component of the distribution projects would cost Rs64.662 billion followed by Rs40.496 billion for maintenance, Rs37.105 billion for growth, Rs25.858 billion for safety and Rs16.529 billion for technology (AMR, ADMS, MDMS, etc).

KE plans to continue as non-exclusive power distributor

K-Electric (KE) has applied to the National Electric Power Regulatory Authority for a non-exclusive distribution license after the company's current distribution 'exclusivity' is going to end in June 2023, its CEO Syed Moonis Abdullah Alvi said on Wednesday. The fresh request of power distribution unbundling, if accepted by the regulator and more companies obtain the license, will end KE's monopoly in Karachi, and may attract other market players to invest. "KE itself wanted to operate in a competitive environment along with other power sector market players, rather than having monopolistic distribution license," Alvi said while addressing the sixth edition of The Future Summit. He was of the view that Pakistan has to shift towards indigenous sources of power production in future. "We must ensure that the next generation is transitioned to indigenous fuel as it is not in our interest to buy expensive oil, for which all partners must contribute. Before the summer of 2023, he continued, KE would have 900 megawatts of electricity available by the way of billions of rupees investment.Federal Minister for Climate Change, Sherry Rehman in her address stressed the need for corporate and business to make environmental, social, and corporate governance (ESG) an integral part of their vision for future. She further stated: "By 2030, Pakistan is going to be one of the worst-hit countries in the world due to prevailing wave of climate crisis." Pakistan was severely impacted by the floods, which displaced nearly 30 million citizens, along with an enormous financial cost and a huge dent to the national economy. Founder and CEO, Nutshell Group, Muhammad Azfar Ahsan said platforms like The Future Summit were important to build a pressure on concerned stakeholders to be united for the country. He stressed that Pakistan's foreign policy should be based on the economic interests of the country.

RETHINKING GB'S ENERGY
RAMPANT CORRUPTION, POLITICAL NEPOTISM HINDER PROGRESS: REPORT

Amir Hussain

The energy predicament in Gilgit-Baltistan (GB), characterized by frequent power outages and inadequate voltage supply, poses a significant challenge for its people. Rampant corruption and political nepotism, however, hinder progress towards harnessing the abundant hydroelectric potential of the region and exacerbate the crisis.

The correlation between contractors and political elites plays a crucial role in perpetuating the current issues as the allocation of energy-project contracts is influenced by political connections instead of expertise and proficiency. This results in insufficient energy infrastructure, poor administration and the misuse of public resources.

The lack of transparency in the contract awarding process, in conjunction with the absence of effective governance structures, provides ample opportunities for corruption to flourish, resulting in the collusion of officials and contractors to inflate project costs, skim funds and engage in other corrupt practices. The political elite, often benefactors of corruption in the energy sector, do not take meaningful action, perpetuating the crisis and impacting the local population, particularly those relying on electricity for their livelihoods.

Political regimes in GB have consistently demonstrated a parasitic tendency to extract subsidies for necessities such as wheat and other commodities. However, the omission of demands for investments in significant hydropower ventures is rooted in a complex web of relationships between the self-serving local political elite, their collusive contractors, and the complicit local administration.

The establishment of such a formidable alliance allows them to operate in secrecy and exploit the situation for their own financial gain. The presence of outside investment companies in the energy sector threatens to disrupt this entrenched system by shining light on the corrupt practices of these influential actors, ultimately putting an end to their unchecked avarice.

To effectively combat the nefarious tactic of perpetuating the energy crisis, a comprehensive strategy is essential, comprising reforms in the procurement process, enhanced governance frameworks and robust anti-corruption measures. By addressing corruption, the region can overcome the energy challenge and secure a brighter future for its citizens.

Also, the GB government should mirror the approach of Azad Jammu and Kashmir (AJK) by engaging the federal government to serve as a guarantor for potential hydropower investors in GB, thereby unlocking the full potential of its vast untapped renewable energy resources.

The federal government of Pakistan holds a vital role in the power sector, specifically in the generation and distribution of electricity to the provinces including GB and AJK. The federal government formulates policies and regulations to ensure the efficacy of the power sector and manages the allocation of electricity to various regions across the country. Pakistan's power generation sources are diverse, incorporating hydropower, coal, natural gas, and renewable energy sources such as wind and solar. Pakistan has the installed power generation capacity of 38,000MW, with the majority of power being generated from thermal sources such as coal and natural gas.

The federal government manages the energy mix, setting targets for the growth of renewable energy sources and allocating funds for power generation expansion. The federal government also plays a significant role in the distribution of electricity to the provinces and regions. The National Transmission and Dispatch Company (NTDC), which operates as the national power distribution company, is responsible for transmitting electricity from power generation plants to distribution companies in various regions, including AJK. The government regulates the tariffs charged by distribution companies to guarantee affordability and sustainability for consumers.

The federal government has implemented various measures to enhance the power sector in Pakistan, including establishing a regulatory framework, constructing new transmission lines and expanding the national power grid. The implementation of these initiatives has facilitated greater access to electricity, transcending the conventional objections related to the disputed nature in the case of AJK, thereby fostering investment in the hydropower sector and ensuring smooth transmission to the regional grid even in the most remote areas of AJK.

The Pakistan government has also strengthened its commitment to supporting the growth of the energy sector in AJK with an emphasis on hydropower. This has increased energy security, encouraged sustainability, and increased revenue generation through the use of clean and renewable energy sources, promoting self-reliance in AJK

According to the Ministry of Energy, the federal government has approved guarantees for 10 hydropower projects with a total capacity of over 1,000MW. These projects are expected to generate approximately 4,000GWh of electricity annually, significantly increasing energy availability in the region. The federal government has also provided support through tax incentives, subsidies, and low-interest loans to encourage hydropower development and

private investment. These efforts have led to the growth of new hydropower projects. The impact of these initiatives is evident in the substantial increase in hydropower generation in AJK, with hydropower now accounting for 44 per cent of the region's total electricity production in 2022, compared to only 25 per cent in 2015. This increase in hydropower generation strengthens energy security in AJK and reduces dependence on fossil fuels and greenhouse gas emissions

The AJK government has, in turn, implemented a range of measures to address energy challenges in the region and improve access to and distribution of energy. The ultimate goal of these policies is to increase electricity production and distribution, reduce transmission and distribution losses, and ensure energy access for all residents. A key initiative is the AJK Renewable Energy Policy of 2019, which aims to promote the use of sustainable energy sources such as hydro, wind, and solar. The policy encourages investment in renewable energy and provides tax incentives and subsidies for renewable energy developers. Another notable effort is the AJK Energy Efficiency and Conservation Policy of 2020, which aims to advance energy-efficient technologies and reduce energy waste. This policy incentivizes the adoption of energy-efficient appliances and technologies and requires new buildings to be constructed with energy-efficient materials and systems.

The power generation landscape in GB is characterized by significant deficiencies, owing to the corrupt practices of the political elite. This situation is perpetuated through the preservation of a rudimentary power generation system, which serves as a means to generate illicit financial gains. As per Ministry of Energy data, the power distribution network in GB had an installed capacity of 270MW, while the network in AJK had a capacity of 1,144MW in 2022.

It is imperative to depart from the age-old discourse that the contentious status of GB acts as an obstacle to the advancement of its hydropower sector, as this only serves as a guide for corrupt practices, insufficient institutional capabilities and calculated efforts to sustain the state of darkness for short-term personal gains by a select few. ■

THAR COAL

There is more to Thar coal than power

Dr Pervez Tahir

In the ongoing economic and political crises, it is heartening to see a few institutions thinking ahead. Thar Coal and Energy Board (TCEB) in Sindh is one of them. Within a decade or so, the myths that Thar coal is of inferior quality, that the sulphur content is too high and that the moisture is an insoluble problem have been exploded. Out of the 13 blocks identified for development, coal has been successfully mined in two, used in producing over about 1000 MW of power and supplied to the national grid as the third cheapest source.

At the end of this year, it is estimated to rise to 2600 MW. While the capacity of the two blocks has not exhausted, the TCEB brought together stakeholders and experts from all over the country on last Wednesday in Karachi to seek advice on opening up more blocks and explore new, non-power uses of coal. Other than the POL products, the big and unmanageable import bill includes $2-3 billion import of coal as well. In addition to the coal-based power projects, the major consumer is the cement industry.

This industry is suffering from increasing cost of imports. Interestingly, the cement industry has also been importing moisturised coal from Indonesia. Drying at mine mouth reduces cost of transport and producing cement at mine mouth saves transport cost and caters to its ashes needs almost free. Urea is another big ticket item.

All this information will help TCEB move away from the inefficient cost-plus pricing to more competitive pricing. This is necessary to avoid a re-play of the Sui gas story of a never-ending cheap source of energy, with people optimising the use of match sticks by keeping the heat on continuously. Mercifully, the neglect of the people of Sui is not being repeated in Thar as the rights and the needs of the locals, without any discrimination witnessed elsewhere in the Islamic Republic, seem to be receiving due attention. The people of Thar come first, declared the Sindh energy minister in his concluding remarks.

Transporting coal is a business that requires a fresh look. Diesel-using trucks are prohibitively costly. Rail links to transport coal from the minefields to other parts of the country do not exist. It is an open secret that the railways have been systematically destroyed in the unending process of the elite capture of the state. A promise by the federal government at the highest level to link Thar by rail has not gone past the PC-I preparation stage. With the austerity imposed by the IMF programme, there is little to hope for. The subject of railways is in Part II of the Federal List in the Constitution. The Government of Sindh could legitimately go ahead on its own or in the public-private mode. It will be surprised by the returns that would flow back. ■

Wind power status

EU Report

Starting in the next few days, the increase in the evacuation of wind power from 36 projects in Jhimpir and Gharo in Sindh, after nearly four months, should help somewhat reduce the overall average generation cost next month. Nonetheless, transmission constraints in evacuating electricity from the southern region — Sindh and Balochistan — to the northern areas — Punjab and beyond — mean that the wind power projects will still not be able to despatch more than 75pc of their installed capacity of 1,835 MW to the national grid in the immediate term.

The share of wind power in national despatches has thus remained nominal since November, because the transmission lines that evacuate electricity from these projects are currently 'choked' thanks to the preference given to coal and nuclear power due to their lower tariff rates. This is so despite the stipulation in the Policy for Development of Renewable Energy for Power Generation, 2006, that the sole state-backed buyer of electricity would evacuate the entire production of wind-power projects. Consequently, the share of wind power in the national energy mix in December was recorded by Nepra at 2.5pc, against its share of 4.5pc in the installed generation capacity.

Pakistan has tremendous potential to generate solar and wind power, according to a World Bank study. For example, the utilisation of just 0.071pc of the country's area for solar power generation would meet our current electricity demand. Likewise, wind is also an abundant resource. Pakistan has several well-known wind corridors. Yet the share of solar and wind power in its energy mix remains far below potential, in spite of the multiple benefits the economy could accrue. Instead, lower-than-required investment in renewable wind and solar power, due to policy inconsistencies and policymakers' bias towards fossil fuels, means that the incremental energy demand in the last two decades has mostly been met with expensive imports.

No wonder the share of imported fuels in the energy mix has swelled from 29pc in 2006 to 49pc in 2021, making electricity unaffordable for residential and industrial consumers, and leading to the accumulation of an unsustainable, massive power sector debt of close to Rs3tr. The elimination of imported fuels from the national energy mix is not possible immediately. But investment in solar, wind and other renewable energy sources can help us achieve energy security and make power affordable for consumers.

SM Muneer Conference Hall opened

EU Report

Punjab Minister for Energy, Industries, Commerce, Investment and Skill Development SM Tanveer inaugurated the SM Muneer (Bhaijan) Conference Hall at the head offices of Gohar Group of Companies. Speaking on the occasion, Chairman of UBG-SZ Khalid Tawab said that the large number of people gathered for the ceremony reflected the kind of relations the business community had with S M Muneer. Secretary General of the UBG Hanif Gohar said that the late business leader would always be remembered for his devotion, dedication and selfless service to the business community and for improving the image of Pakistan on the national and international levels. Prominent figures who attended the ceremony included Malik Khuda Buksh, Abdul Haseeb Khan, Mumtaz Ali Shaikh, Sheikh Arshad Farooq, Ikraam Rajput, Noor Ahmed Khan, Nasir Uddin Shaikh, Shakeel Ahmed Dhingra, Muslim Mohammedi, Mirza Ishtiaq Baig, Junaid Abdul Qadir, Ghazanfar Ali Khan, Shaheen Ilyas Sarwana, Shakeel Tanoli, Javed Iqbal, Zahid Numberdar, Humayon Laeeq, Irfan Sarwana, Marium Choudhary, Naheed Masud, and Farzana Burni.

Thar coal can meet energy needs: moot told

Speakers at a stakeholder consultation session on utilising indigenous coal resources underlined the need for converting Thar coal into petrochemical products as well as natural gas. The session was organised to discuss the avenues to utilise Thar coal reserves to not only solve energy problems for Pakistan but also drive industrial growth by the Thar Coal Energy Board (TCEB).

The session was attended by representatives from various industries, including textile, cement, power, and mining, such as Shanghai Electric, Sindh Engro Coal Mining Company, and Sino Sindh Resources Ltd. A number of prominent energy and economic experts, such as Akhtar Ali, Kaiser Bengali, and Pervez Tahir, among others, also attended the event. Addressing the stakeholders, Energy Minister Imtiaz Ahmed Sheikh said that the province had a complete, cheap and long-lasting solution to the energy problems of the country. He stated that the provincial government would go all out in enhancing energy security for the country, and was currently working on multiple projects to support macroeconomic stability of the country.

The energy minister said that Thar coal deposits and natural resources of the province were the best resources to meet the country's energy needs and save a lot of foreign exchange spent on export fuel to get out of the severe economic crisis. He said that currently about 2,600 megawatts of electricity are going to the National Grid from Thar coal reserves, which is a cheap source of energy.

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