

MONTHLY

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ENERGY UPDATE

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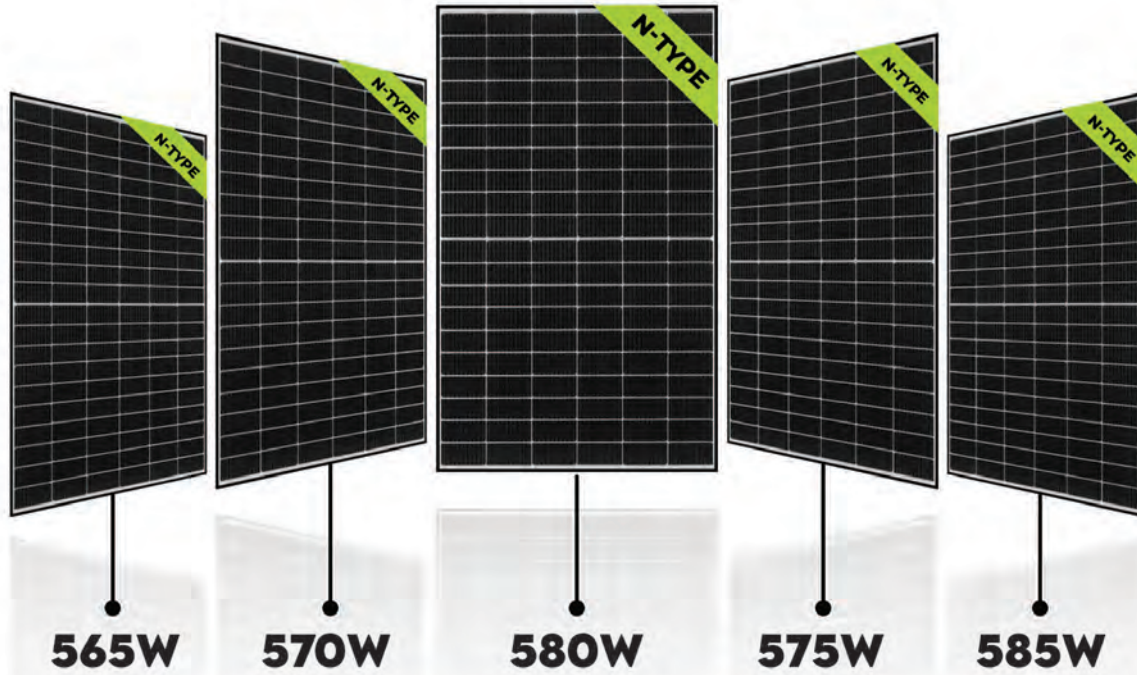
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SPECIFICATIONS

| Module Type | JKM565N-72HL4 | | JKM570N-72HL4 | | JKM575N-72HL4 | | JKM580N-72HL4 | | JKM585N-72HL4 | | |
|---|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------|
| | JKM565N-72HL4-V | JKM565N-72HL4-V | JKM570N-72HL4-V | JKM570N-72HL4-V | JKM575N-72HL4-V | JKM575N-72HL4-V | JKM580N-72HL4-V | JKM580N-72HL4-V | JKM585N-72HL4-V | JKM585N-72HL4-V | |
| STC | NOCT | STC | NOCT | STC | NOCT | STC | NOCT | STC | NOCT | STC | NOCT |
| Maximum Power (Pmax) | 565Wp | 425Wp | 570Wp | 429Wp | 575Wp | 432Wp | 580Wp | 436Wp | 585Wp | 440Wp | |
| Maximum Power Voltage (Vmp) | 41.92V | 39.38V | 42.07V | 39.51V | 42.22V | 39.60V | 42.37V | 39.69V | 42.52V | 39.81V | |
| Maximum Power Current (Imp) | 13.48A | 10.79A | 13.55A | 10.85A | 13.62A | 10.92A | 13.69A | 10.99A | 13.76A | 11.05A | |
| Open-circuit Voltage (Voc) | 50.60V | 48.06V | 50.74V | 48.20V | 50.88V | 48.33V | 51.02V | 48.46V | 51.16V | 48.60V | |
| Short-circuit Current (Isc) | 14.23A | 11.49A | 14.31A | 11.55A | 14.39A | 11.62A | 14.47A | 11.68A | 14.55A | 11.75A | |
| Module Efficiency STC (%) | 21.87% | | 22.07% | | 22.26% | | 22.45% | | 22.65% | | |
| Operating Temperature(°C) | -40°C~+85°C | | | | | | | | | | |
| Maximum system voltage | 1000/1500VDC (IEC) | | | | | | | | | | |
| Maximum series fuse rating | 25A | | | | | | | | | | |
| Power tolerance | 0~+3% | | | | | | | | | | |
| Temperature coefficients of Pmax | -0.29%/°C | | | | | | | | | | |
| Temperature coefficients of Voc | 0.25%/°C | | | | | | | | | | |
| Temperature coefficients of Isc | 0.045%/°C | | | | | | | | | | |
| Nominal operating cell temperature (NOCT) | 45±2°C | | | | | | | | | | |

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CONTENT

EXCLUSIVE INTERVIEW

16

ENERGY SUPPLY BOTTLENECKS
BECOME CHRONIC PROBLEM



20

ENERGY CRISIS: A LESSON
FROM ARAB SPRING



23

PAKISTAN UNDERGOING SEVERE
ENERGY CRISES, LNG EASY CEO
YASIR HAMEED OBSERVES LNG
AS A SAFE AND GREEN FUEL



24

A WELL-OILED MECHANISM
PAYING FOR IMPORTS IN CHINESE
YUAN CAN REDUCE RELIANCE ON
US DOLLAR



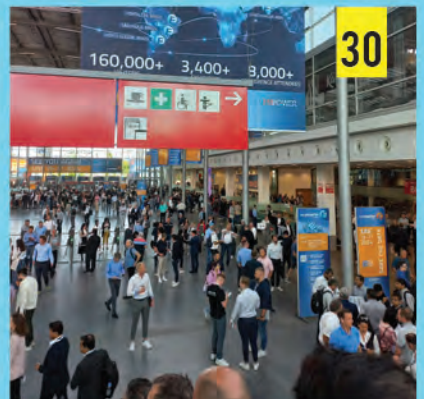
25

CPEC: TODAY AND TOMORROW



30

INTERSOLAR EUROPE 2023 HELD
IN MUNICH



32

CLIMATE CHANGE DEPRIVED
OF DESERVING ATTENTION

52

GOVT AWARDS 3 OIL AND GAS BLOCKS

52

PM LAUDS CHASMA NUKE PLANT MOU



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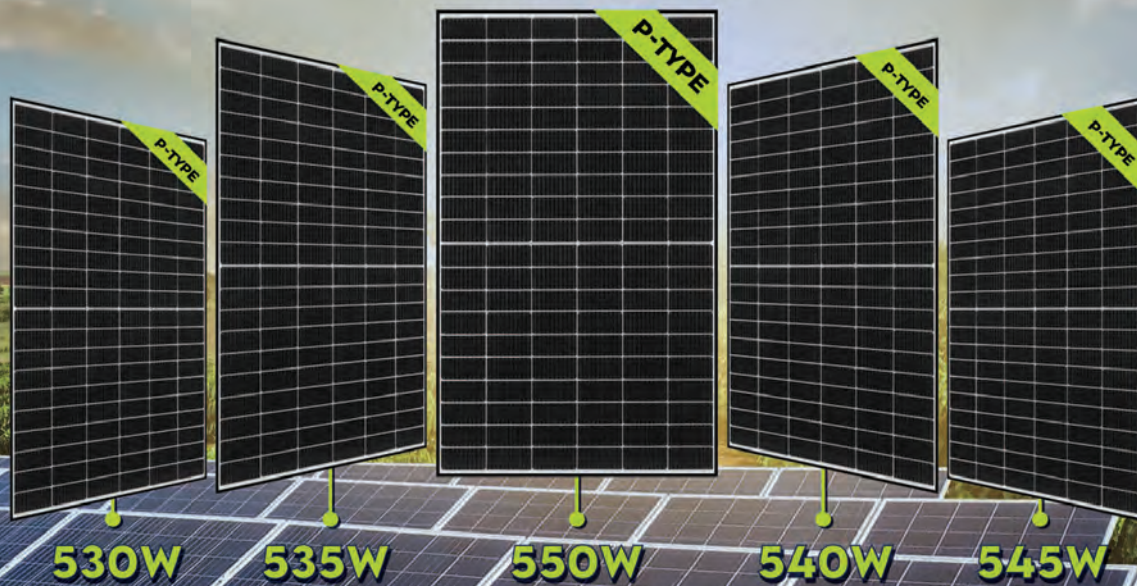
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|---|---|---------------------|---------------------|---------------------|---------------------|
| Rated Maximum Power(Pmax) [W] | 530 | 535 | 540 | 545 | 550 |
| Open Circuit Voltage(Voc) [V] | 49.30 | 49.45 | 49.60 | 49.75 | 49.90 |
| Maximum Power Voltage(Vmp) [V] | 41.31 | 41.47 | 41.64 | 41.80 | 41.96 |
| Short Circuit Current(Isc) [A] | 13.72 | 13.79 | 13.86 | 13.93 | 14.00 |
| Maximum Power Current(Imp) [A] | 12.83 | 12.90 | 12.97 | 13.04 | 13.11 |
| Module Efficiency [%] | 20.5 | 20.7 | 20.9 | 21.1 | 21.3 |
| Power Tolerance | 0~+5W | | | | |
| Temperature Coefficient of Isc(α_{Isc}) | +0.045%/°C | | | | |
| Temperature Coefficient of Voc(β_{Voc}) | -0.275%/°C | | | | |
| Temperature Coefficient of Pmax(γ_{Pmp}) | -0.350%/°C | | | | |
| STC | Irradiance 1000W/m ² , cell temperature 25°C, AM1.5G | | | | |

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Public needs IMF loan benefit

The International Monetary Fund (IMF) has reached a staff-level agreement with Pakistan to provide the latter with a \$3 billion loan as a stand-by arrangement. The deal seems to provide a short relief to the government but not the people who are undergoing skyrocketing inflation.

From this loan, the country can save itself from default, but at the same time, it is feared that people will continue to suffer from skyrocketing inflation as the international lender has put tough conditions of raising taxes and imports that will ultimately hit the public. PM Shehbaz has also indicated that the IMF loan is not a silver bullet.

The \$3 billion funding for over nine months is higher than expected for the country as it was awaiting the release of the remaining \$2.5 billion from a \$6.5 billion bailout package agreed in 2019, which expired on June 30. Hence, the government should provide relief to all segments of society from the loan as people have suffered too much from the highest-ever inflation.

Pakistan reportedly faces an overall foreign exchange financing gap of nearly \$24bn this year. Hence, this IMF loan, which will be provided in installments, is not enough to come out of a crippling economic crisis. The country needs to seek more and more investments from China and other friendly countries including Arab countries instead of seeking more loans.

It is unfortunate that Pakistan has announced Rs215 billion additional taxes to please IMF and has jacked up diesel price by Rs7.50 per litre effective from July 1, 2023. On July 1, the government also decided to raise the petroleum development levy (PDL) from Rs50 to Rs55 per litre. These steps are nothing but a bid to push people towards a quagmire of inflation.

The government needs to control the high inflation by ensuring a contractionary monetary policy which is a common method to contain inflation. This policy aims to reduce the supply of money within an economy by lowering the prices of bonds and rising interest rates. Thus, consumption falls and inflation slows down. The inflation could also be further reduced by decreasing imports and raising exports to a sufficient level. There is also need to abolish all luxuries being provided to ministers, advisors, and bureaucrats. The raise in salaries of private sector employees must be made at par with the salary raise of government employees.



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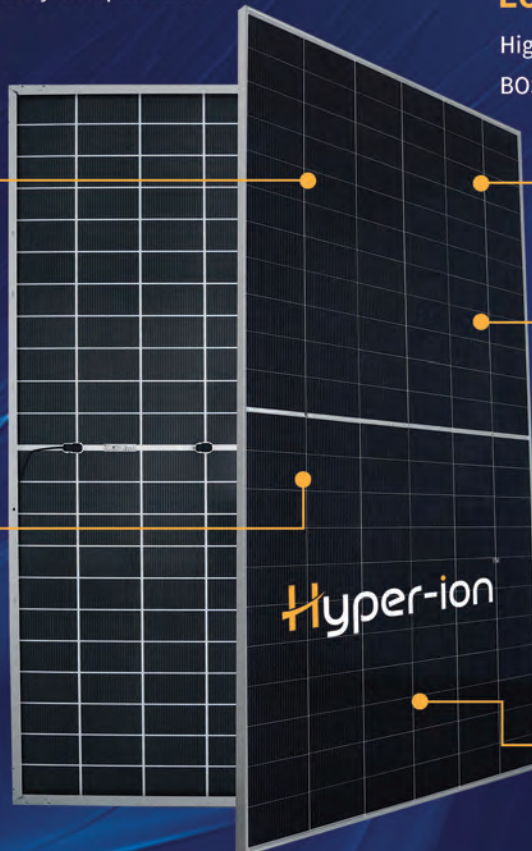
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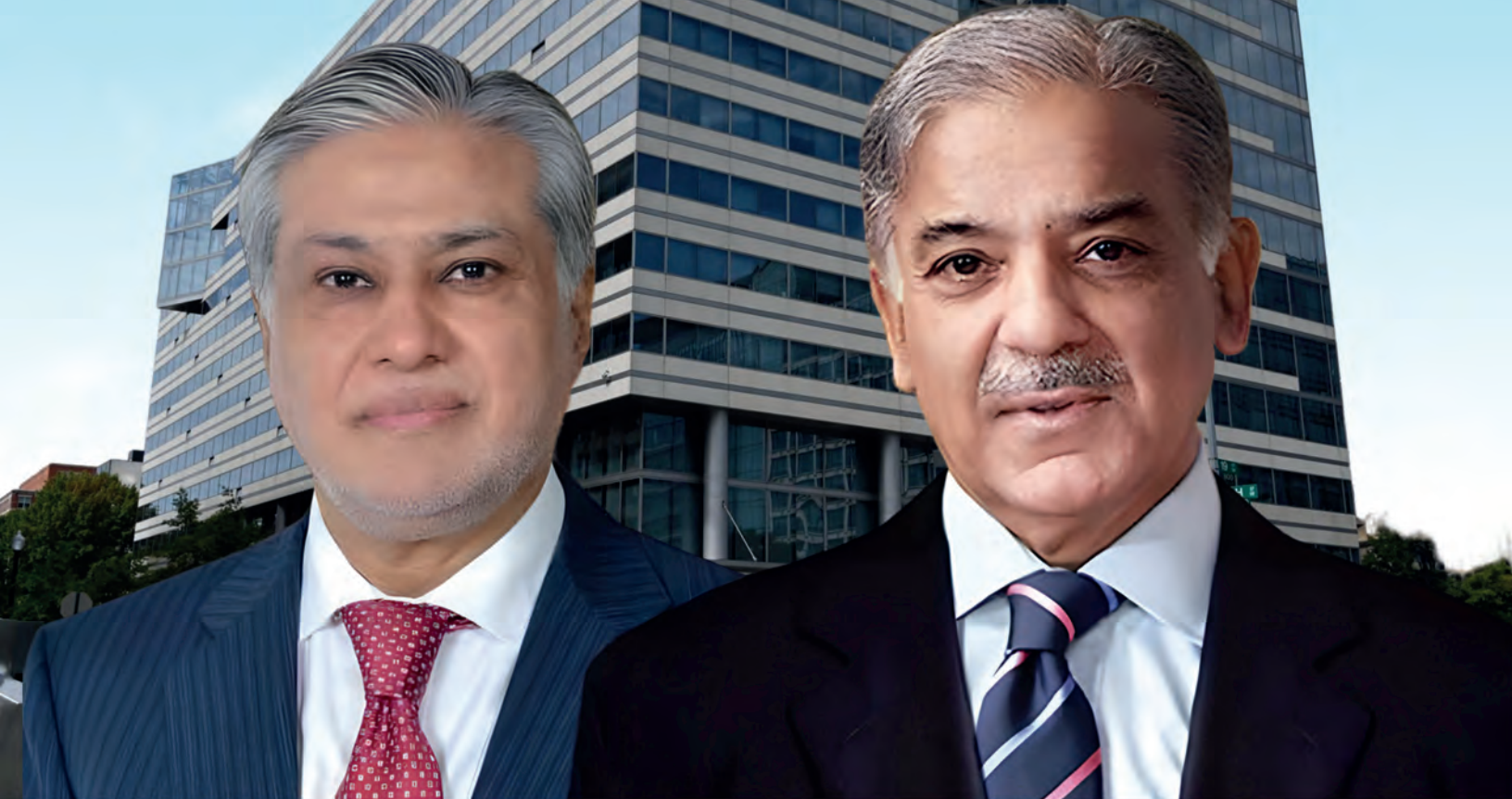
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What after IMF standby agreement?

IMF programmes are not a miraculous solution to Pakistan's economic challenges



◆ Dr Abid Qaiyum Suleri ◆

The recent standby agreement (SBA) with the IMF has created a wave of optimism among businesses and markets in Pakistan. The Pakistan Stock Exchange witnessed a remarkable milestone as the index soared by 1987 points, or 4.8 per cent, in a single session after the deal was announced.

International agencies have also recognized that the IMF deal has averted Pakistan's near-term default risk. For example, Barclays has upgraded its rating on Pakistan's sovereign bonds from "underweight" to "market weight".

The rupee is also expected to recover briefly against the dollar, as exporters who had withheld their export earnings will now bring them back to Pakistan. Moreover, investors who had hoarded dollars will likely sell them, reversing their previous buying spree.

Pakistan can also expect to receive the delayed inflow of dollars from bilateral and multilateral development partners, including those who pledged aid during the Geneva Conference for the superflood. This will be a direct reward for Pakistan's adherence to the fiscal discipline under the IMF programme. The IMF's endorsement of Pakistan's fiscal discipline is an assurance for development partners that their money will be spent effectively.

Prime Minister Shehbaz Sharif deserves

credit for realizing the importance of being in an IMF programme and making every effort to secure it. The IMF is the only option for economies facing situations like Pakistan's. As I have argued before in this space, the IMF is our only plan right now. Any other plan could have postponed a default by a few months, but could not have taken us out of the critical condition.

However, we should not forget that Pakistan's economy is still in trouble even after securing the SBA. The deal with the IMF has indeed enhanced the country's creditworthiness and boosted domestic and international confidence in it. But to maintain this confidence, a lot needs to be done in the next nine months, ideally by the three governments (current,

caretaker, and next elected), under the strict supervision of the IMF.

Pakistan has to address the structural weaknesses that have been plaguing its economy for a long time, and pushing it towards the IMF repeatedly. The country's failure to address those weaknesses resulted in the failure of previous IMF programmes, including the last Extended Fund Facility (EFF) programme that ended on June 30.

The only difference is that this time the 'twin deficits' turned Pakistan's medium-term balance of payment crisis into a 'balance of payments emergency'. The breathing space it has gained is conditional on certain commitments.

Pakistan will have to demonstrate its seriousness about reducing the fiscal deficit (the gap between income and expenditures). This does not mean merely revising the draft budget, imposing new taxes on existing taxpayers, or cutting some expenditures. It means adopting the spirit of fiscal discipline and fiscal consolidation, even in the run-up to the next elections, when governments are usually tempted to spend more than their means.

Pakistan has agreed with the IMF to adopt a market-determined exchange rate by removing import restrictions that were skewing the currency market. The rupee may depreciate briefly after an initial recovery, as Pakistan will have to clear a backlog of letters of credit (LCs) (some say around \$4-5 billion) for imports. However, a functional banking channel and a deliberate effort to curb the parallel currency market will support the inflow of dollars and thus stabilize the value of the rupee.

It also committed to increasing consumer electricity prices (revising the base tariff price) to cover costs and reduce the power sector's circular debt. This is a sensitive issue, and the current government, after taking a decision in principle, may delegate its backdated implementation to the caretakers after August 12.

Moreover, the government pledged to continue implementing structural reforms, especially in the energy sector, to enhance climate resilience and improve the business environment. Most of these measures will likely cause inflation, which means they will raise the cost of living for ordinary people. To protect low-income earners from this inflationary pressure and to create room for social and development spending, the government has promised to use the created fiscal space to expand the coverage and effectiveness of its social safety net programs, such as BISP. It has also committed to prioritize spending on health, education, and infrastructure.

Implementing these measures in nine months is not an easy task. Pakistan may face multiple challenges in meeting its obligations under the SBA. Especially since these commitments may be met by three different governments – current, interim, and next elected.

The critical factors for success are maintaining policy consistency and continuity and ensuring political ownership of SBA commitments by all three prime ministers and finance ministers.

One assumes that most of the difficult decisions will be left to the caretakers, as they don't have to worry about losing their constituencies. However, the next elected government will have to focus on securing the IMF's 24th programme as a top priority. The SBA is a short-term arrangement – a bridge financing at best. Pakistan will need to remain under the IMF's umbrella for another 3-5 years after the SBA to address its structural weaknesses and put its house in order.

It has a history of joining and quitting IMF programmes before completing them or achieving their intended goals. But this time around, Pakistan has an opportunity to break this cycle and use the next two IMF programmes to establish a stable and inclusive

economic growth path.

Finally, it is crucial to keep in mind that IMF programmes are not a miraculous solution to Pakistan's economic challenges. They do carry significance because, without strict IMF surveillance, our successive governments did not implement the course correction measures that they should have in any case regardless of whether the country has an IMF programme or not.

It can be argued that even with IMF oversight, these measures were not properly implemented. Nevertheless, the recent economic crisis served as a close call. The experience of narrowly avoiding economic collapse should have raised our awareness as a society; to what extent will become clearer in the coming months. ■

The writer heads the Sustainable Development Policy Institute.



Karachi gets road with recycled plastic

—◆— EU Report —◆—

Shell Pakistan has taken a significant step towards reducing plastic waste and promoting environmentally friendly practices by introducing a plastic-infused road in Karachi. In a statement released on Monday, Shell Pakistan announced its collaboration with start-up BRR Enterprises and the local authority District Municipal Corporation (DMC) South to construct this innovative road using recycled Shell lubricant bottles. Over 2.5 tonnes of discarded Shell lubricant bottles were successfully recycled for the construction of a 730 feet long and 60 feet wide road adjacent to Shell House in Karachi. By incorporating these plastic bottles into the asphalt road using the dry process method, the company effectively reduced plastic waste while contributing to a more sustainable and environmentally conscious solution. Plastic waste has long been a major concern due to its non-biodegradability and toxic nature. Studies have shown that a simple plastic bag can take up to 500 years to decompose, while a plastic bottle can persist for approximately 300 years. Recognising this threat, Shell Pakistan's initiative aims to address the issue of plastic waste and its impact on the environment.

Energy supply bottlenecks become chronic problem

Pakistan in transition phase to utilize renewable energy; alternative and renewable energy sources' share has increased from zero percent in FY2014 to 6.8 percent in FY2023; there is still potential for AREs to contribute more to national energy supply

—◆ Special Report by Mansoor —◆

Energy is an integral component of the economy and is considered necessary for nearly all human activities. Recent decades have witnessed a rapid increase in the global energy demand that is primarily derived from the expansion of economic activities, population growth, and rapid technological change. However, energy supply bottlenecks become a chronic problem for a country's economy. Pakistan also suffered from such a situation in the past.

According to a report by the Ministry of Finance, the government envisions focusing on indigenous energy sources, primarily hydel, solar, wind, and Thar coal. In this regard, it is paramount to note that the share of alternative and renewable energy sources (AREs) has also increased from zero percent in FY2014 to 6.8 percent of the electricity's installed capacity in the current fiscal year due to the right direction of policies.

However, there is still potential for AREs to contribute more to the national energy supply and ensure affordable and universal access to electricity. The government is also committed to protecting the national interest by producing low-cost indigenous power.

The government has approved the Framework Guidelines for Fast Track Solar Initiatives 2022 to promote and develop cost-effective local renewable energy sources and reduce the impact of high prices of imported fossil fuels in the glob-

al markets, resulting in high electricity tariffs and drainage of precious foreign exchange. The framework covers Solar PV Energy Substitution for Expensive Imported Fossil Fuels, Solar PV Generation on 11 kV Feeders, and Public Buildings Solarization.

The government aims to achieve a 60 percent share of electricity's generation capacity through indigenous clean energy technologies (ARE and hydro) by 2030, based on the Indicative Generation Capacity Expansion Plan (IGCEP). The draft of IGCEP 2022, prepared by the National Transmission and Despatch Company (NTDC) and currently under approval with the National Electric Power Regulatory Authority (NEPRA), projects the country's demand at 41,338 MW and an installed capacity of 69,372 MW by 2031 as the base case.

Nuclear power plants (NPPs) are a reliable source of electricity, as they can run for up to 18 months without refueling and store enough fuel for another 18 months on site. It makes them immune to short-term changes in fuel prices or availability and allows them to achieve very high-capacity factors. The nuclear fleet, comprising six NPPs with a total capacity of 3,530 MW, contributed about 27 percent of the total electricity generation in the national grid in December 2022.

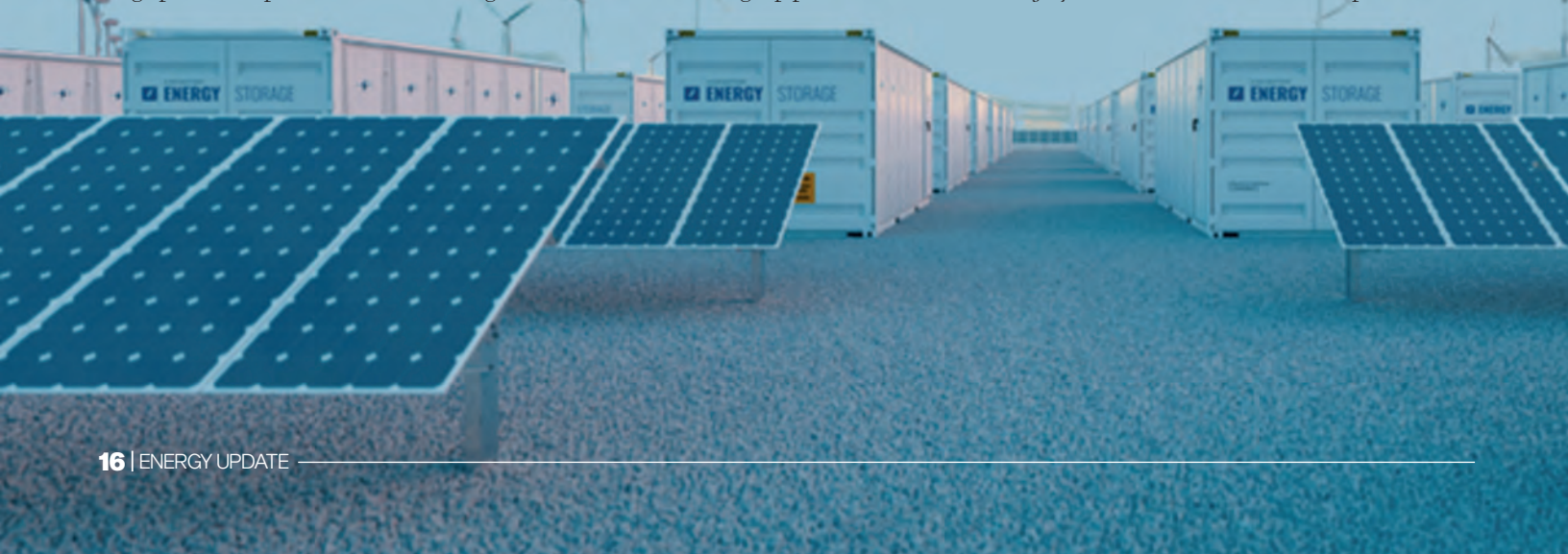
Natural Gas's indigenous supplies contribute about 29.3 percent (FY2021) of the country's total primary energy supply mix. Pakistan has an extensive gas network of over 13,775 Km Transmission, 157,395 Km Mains, and 41,352 Km Services gas pipelines to cater to the

requirement of more than 10.7 million consumers across the country. The government has been pursuing its policies for enhancing indigenous gas production and imported gas to meet the increasing energy demand in the country. Currently, the capacity of two FRSUs to RLNG is 1,200 MMCFD.

Accordingly, RLNG is being imported to mitigate the gas demand-supply shortfall. During July-March FY2023, the average natural gas consumption was about 3,258 MMCFD, including 631 MMCFD volume of RLNG. During the same period, the two Gas utility companies (SNGPL and SSGCL) laid a 225 Km gas transmission network, 1,170 Km Mains, and 63 Km service lines and connected 92 villages/towns to the gas network. Furthermore, 7,102 additional gas connections (including 5,068 domestic, 1,948 Commercial, and 86 Industrial) were provided nationwide.

Coal is an important energy source, and the power sector uses a significant share of coal for electricity generation. Domestic coal production is expected to increase in the coming years on the start of mining activity at Thar Coalfield Block-I and expansion of existing mine at Block-II.

Indigenous coal production is mainly consumed by power generation plants situated at Thar Coalfield, whereas production from other coalfields is utilized in brick kilns. Furthermore, imported coal was consumed by power plants, cement manufacturing units, and other steel-making industries. During July-March FY2023, domestic coal production



figured around 9,402.6 thousand tonnes, and about 6,576.6 thousand tonnes of coal were imported.

During July-March FY2023, coal consumption by the power sector is about 47.3 percent (7,295.3 thousand tonnes), whereas, in cement and other industries, it stands at 31.1 percent (4,800.0 thousand tonnes). On the other hand, the brick Kilns sector consumes 21.5 percent (3,321.2 thousand tonnes). Pakistan is in the transition phase to utilize indigenous and renewable energy sources (hydel, Thar coal, solar, wind) to meet the existing and growing energy needs. It can be supported by certain facts.

First, Pakistan decided not to allow more imported coal-based power plants in 2016 after it was on track to meet the demand-supply electricity gap. Second, blending local coal with imported coal has been initiated, which is expected to reduce coal imports.

Third, Thar coal is being utilized to generate 3,300 MW of electricity. Fourth, the share of AREs in the fuel mix of electricity generation has been increased to more than 6 percent. Fifth, many hydel power plants have been initiated. Sixth, Nuclear Power generation capacity is increased to 3,530 MW, whereas one more power plant is planned at Chashma. Furthermore, the government has approved the Framework Guidelines for Fast Track Solar Initiatives 2022 to promote and develop cost-effective local renewable energy sources.

It is expected to reduce domestic price volatility due to less reliance on the global market and ease the foreign exchange requirements. This framework covers three major aspects: Solar PV Energy Substitution for Expensive Imported Fossil Fuels, Solar PV Generation on 11 kV Feeders, and Public Buildings Solarization. To achieve a 60 percent electricity generation, share of indigenous clean energy technologies, IGCEP is prepared, whereas PPIB and AEDB are facilitating the execution of power projects in the right direction. ■

ECONOMIC SUPPORT

INTERNATIONAL MONETARY FUND

IMF agrees to provide \$3bn loan to Pakistan



—◆ EU Report —◆

Washington, DC: An International Monetary Fund (IMF) staff team led by Mr. Nathan Porter held in person and virtual meetings with the Pakistani Authorities to discuss a new financing engagement for Pakistan under an IMF Stand-by Arrangement (SBA).

At the conclusion of the mission, Mr. Porter issued the following statement:

“I am pleased to announce that the IMF team has reached a staff-level agreement with the Pakistani authorities on a nine-month Stand-by Arrangement (SBA) in the amount of SDR2,250 million (about \$3 billion or 111 percent of Pakistan’s IMF quota). The new SBA builds on the authorities’ efforts under Pakistan’s 2019 EFF-supported program which

expires end-June. This agreement is subject to approval by the IMF’s Executive Board, which is expected to consider this request by mid-July.

“Since the completion of the combined seventh and eight reviews under the 2019 Extended Fund Facility (EFF) in August 2022, the economy has faced several external shocks such as the catastrophic floods in 2022 that impacted the lives of millions of Pakistanis and an international commodity price spike in the wake of Russia’s war in Ukraine. As a result of these shocks as well as some policy missteps—including shortages from constraints on the functioning of the FX market—economic growth has stalled. Inflation, including for essential items, is very high. Despite the authorities’ efforts to reduce imports and the trade deficit, reserves have declined to very low levels. Liquidity conditions in the power sector also remain acute, with further buildup of arrears (circular debt) and frequent loadshedding.

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Power sector: debt relief and swaps

Money is there to pay in local currency but foreign exchange is missing

—◆— Syed Akhtar Ali —◆—

Chinese power plant investors and operators have been giving various kinds of ultimatums to the government of Pakistan for releasing due payments with respect to capacity charges, fuel charges and various operating costs.

Earlier, there used to be cash shortage due to low tariff and circular debt difficulties. Now, it is due to lack of foreign exchange. Money is there to pay in local currency but foreign exchange is not there.

The main issue is that most of energy sources in Pakistan are dollar-denominated. Even if it is a local resource, its production facility has been created with foreign investment or debt which has to be serviced.

The recent example is of Thar coal which is local but its production requires fixed and variable costs which are in foreign currency. Not to talk of imported fuel power plants wherein all costs are in foreign currency; investment or debt servicing and fuel cost

and other variable costs, all of it.

Most of the power plants were constructed when US dollar was around Rs100 and interest rate on foreign currency was at 5-6% and local interest rates were under 10%. Imported fuels were cheaper as well; coal at \$80/ton, LNG at \$8/mmBtu, Brent crude \$120/barrel or lesser, etc.

Oil increases transport cost of fuels. LNG prices until recently went three to four times high; coal was at \$350/ton and LNG at \$30-35/mmBtu. Now, these prices have come down to slightly above earlier averages.

A recent calamity is the hike in foreign currency interest rates; Libor has increased to 5.5% from 0.5% when most of the power plants were contracted.

Effective borrowing rates to finance capex of power plants have become around 10% (Libor + 4.5%). Thus, capacity payments have increased from 5% to 10%, almost or precisely double.

Combine it with currency depreciation, Rs100-110 to one US dollar having gone to Rs280-284, an increase of 2.7 times. In some cases, return on equity (RoE) is also

Libor-based. Thus, capacity payment should have quadrupled or even more.

Older solar power plants are selling electricity at Rs30 per kilowatt-hour (kWh), while new solar tariff was 4 US cents per kWh, which should have increased to 8 cents due to increase in Libor which should translate to Rs25 per kWh.

All of this has increased producer and consumer power tariff. Under IMF conditions, circular debt has to be reduced, although in such circumstances, circular debt cannot be decreased from financial tricks or tariff increase. Increase in DISCOs efficiency with or without privatisation is the solution. Privatisation has not happened. It will take five years to privatise; more on this later.

Reducing intensity of calamity

We would deal with some of the possible solutions; debt restructuring and swap of some type or a mix of the two. Debt restructuring means reduction of interest rates or increase in repayment period.

There is a case for some adjustment with respect to interest rates as Libor has increased phenomenally and Nepra-awarded Libor margin is rather excessively high.

It used to be 3% which was increased to 4.5% due to lower prevailing Libor. Libor has gone up, thus a case for reduction of this margin suitably.



Second solution is increase in repayment period. In the power sector, debt servicing is cash based and not cost based which brings the servicing load forward. An increase in repayment period combined with or without leasing-type constant total payment can bring down financial load. Currently, project debt is paid in 10-12 years. If loan period is extended to 20 years, financial servicing load would be pushed forward. In case of upfront tariff projects, where investor has acquired loan, this would translate to equalisation of tariff over 20 years. Reduction in financial servicing load would mean reduction in foreign exchange requirement as well.

Debt-equity swap

The debt which is in the form of energy tariff payables or loan is to be paid in foreign currency, US dollar mostly. In case of China, there may be possibility of payment in renminbi. How do you buy or procure this foreign currency. Debt-equity swap can be a useful approach. Where the project is owned by local equity holders or government, the lender can be paid in terms of equivalent share value; the latter though is not easy to determine and can be contentious.

The project may not be the same of which there are pending dues. It can be a different one. For example, for payables of coal power plant, LNG power plants or DISCOs can be sold in part or full. There can be other projects or assets which require to be paid in local currency. There can be many intermediary financing arrangements of debt swap schemes. Bonds may be issued to cover sales price or value of privatisation assets. There can be privatisation or swap bonds which can be traded in the market.

Debt-export swap

This is akin to barter trade or PL-480 of yester years. Foreign currency payments can be tied to exports. Export projects can be designed for such purposes, eg agricultural exports to China. Debt to climate change projects swap has been done and is being done. Pakistan can finance climate change projects in local currency which is paid for in foreign currency by project buyers or donors. This can be applicable to any sector and is not fixed to power sector only.

Will debtors agree?

These are not unknown in the financing world. There has to be sympathy and long-term economic and political interest. With Chinese and CPEC we have both. We, however, have to come up with feasible solutions and not just sit on overdue payments asking for extensions incessantly. CPEC can be used for increasing local production and exports. Proceeds can finance dues of various sectors.

China today is as sophisticated as the IMF and World Bank and is expanding its activities in financial domain. China would certainly accept reasonable proposals, concessions and adjustments.

In energy sector, the lowest hanging fruit would be to use local fuels at least in the power sector. We have installed power plants running on LNG and imported coal despite having Thar coal. The lowest hanging fruit is to use Thar coal both in power generation and in industry. ■

The writer is former member energy of the Planning Commission and author of several books on energy

Abu Dhabi introduces solar-powered rest areas

Abu Dhabi has introduced solar-powered rest areas for delivery riders. These rest areas stem from collaboration between the Joint Committee for Traffic Safety, the Ministry of Human Resources and Emiratisation, and Talabat. They have been built by Smart Energy Solutions. Moreover, they come equipped with amenities like air conditioning, seating, water dispensers, and charging facilities.



providing shaded bike parking and an air pump for checking tire pressure.

These rest areas operate round the clock and serve two purposes. First, they aim to reduce carbon emissions by utilizing rechargeable batteries. Second, they provide convenience to delivery riders by providing shaded bike parking and an air pump for checking tire pressure.

These rest areas operate round the clock and serve two purposes. First, they aim to reduce carbon emissions by utilizing rechargeable batteries. Second, they provide convenience to delivery riders by

providing shaded bike parking and an air pump for checking tire pressure. To further prioritize rider safety and well-being, air-conditioned mobile buses will offer transportation services. The head of the safety committee emphasizes the positive impact of these initiatives on traffic safety. Furthermore, he encourages everyone to be patient and kind towards delivery riders. Talabat's Vice President expresses gratitude for the partnership and highlights their commitment to sustainable practices. The rest areas and summer buses are accessible to all delivery riders.

Bonded Bulk Storage policy will end fuel hoarding

Policy will stop hoarding of oil because it will ensure ample supply of fuel: Malik

State Minister for Petroleum Musadik Malik has announced that the Bonded Bulk Storage Policy 2023, recently approved by the Economic Coordination Committee (ECC) of the cabinet, will end the hoarding of petroleum products, reduce pressure on foreign exchange reserves and eliminate the fear of oil dry out in Pakistan.

In a press conference, he said this policy will stop the hoarding of oil because it will ensure an ample supply of fuel in the country, and "millions of tons of oil will be available in Pakistan at all times". In case of a delay in receipt of the foreign cargo by oil marketing companies (OMCs), the government will instruct them to arrange fuel from local sources under this policy, he stated. He also stated that this policy will allow traders to choose whether they want to perform the transaction in rupees or dollars.



"Up till now, we could only buy oil in dollars but now this will no longer be the case. This policy will allow rupee transactions as well." The pressure on rupee and foreign exchange will fall, he said.

The minister also announced that the second shipment of Russian oil has also reached Pakistan. "The oil from first shipment is being processed in refineries and it has quashed rumours claiming that Russian oil was not suitable for local oil refineries," he stressed.

Energy crisis: A lesson from Arab Spring

◆ Dr. Engr. Basharat Hasan ◆
Bashir, Ph.D., P.E.

The Arab Spring, a series of uprisings and protests across the Arab world, serves as a reminder of the potential social and political repercussions that can arise from energy crises. The Arab Spring was fueled by various factors, including corruption, economic stagnation, and authoritarian regimes. Energy crises played a significant role in exacerbating these underlying issues, leading to widespread discontent and social unrest.

Pakistan, facing its own energy crisis, can draw valuable lessons from the Arab Spring. This paper explores the energy crisis in Pakistan and highlights the importance of appointing qualified and experienced alternative energy specialists to address the situation and prevent a similar uprising.

The Arab Spring was a series of an-

ti-government protests, uprisings, and armed rebellions that occurred in several countries across the Arab world. It started in Tunisia and quickly spread to other countries, including Libya, Egypt, Yemen, Syria, and Bahrain. The protests were driven by a range of factors, including dissatisfaction with local governments, political corruption, economic decline, high unemployment rates, extreme poverty, and a large population of educated but dissatisfied youth. The protests aimed to bring about political reform, greater democracy, and economic equity.

Social media played a significant role during the Arab Spring, allowing activists to organize, spread awareness, and coordinate protests. Platforms like Facebook and Twitter were used to mobilize protesters and share information, particularly in countries like Egypt and Tunisia. However, the impact of social media in the Arab Spring is still debated, and some argue that its role has been overstated.

The outcomes of the Arab Spring varied across countries. Tunisia is the only country

where a successful transition to constitutional democratic governance occurred. In other countries, the uprisings led to different outcomes, including regime changes, civil wars, insurgency, and ongoing conflicts. The conflicts in Syria, Iraq, Libya, and Yemen have had devastating humanitarian consequences and have contributed to political instability in the region.

The term "Arab Spring" was coined to draw parallels with other historical movements, such as the Revolutions of 1848 and the Prague Spring. It was initially used by commentators and bloggers who anticipated a major movement towards democratization in the Arab world. However, some critics argue that the term was used by foreign actors to shape the narrative and direct the movement towards Western-style liberal democracy.

Conflicts resulting from the Arab Spring are still ongoing in countries like Syria, Libya, and Yemen. Recent uprisings and protest movements in Algeria, Sudan, Iraq, Lebanon,



crisis promptly to avoid further exacerbation of underlying issues and potential social unrest.

Energy Crisis in Pakistan:

Pakistan has been grappling with a severe energy crisis for years, resulting in massive power outages, economic setbacks, and public frustration. The country's energy sector suffers from a wide range of challenges, including inadequate infrastructure, outdated power plants, mismanagement, and a heavy reliance on fossil fuels. Insufficient energy supply has led to rolling blackouts, adversely affecting industries, businesses, and daily life for ordinary citizens.

Similarities to the Arab Spring

One of the striking similarities between Pakistan's energy crisis and the Arab Spring is the immense social and economic burden they impose on the population. In both cases, citizens face chronic electricity shortages, hindering economic growth and development. The lack of reliable energy supply has also fueled public discontent, as people struggle to meet their basic needs, endure discomfort during extreme weather conditions, and suffer from the negative impact on healthcare, education, and other essential services.

Lessons from the Arab Spring

The Arab Spring demonstrated the need for governments to proactively address energy crises and mitigate their social and political implications. In countries where energy crises were among the catalysts for uprisings, citizens demanded greater accountability, transparency, and a comprehensive approach to energy planning. The failure to respond adequately to energy-related challenges ultimately led to the downfall of regimes.

Appointing Alternative Energy Specialists

To avoid a similar fate, Pakistan must recognize the significance of alternative energy sources and appoint qualified and experienced specialists to head critical energy departments. The Power Policy 2019 envisions a shift towards renewable and clean energy, highlighting the importance of sustainable solutions to meet the country's growing energy demands. However, the absence of specialists in the Alternative Energy Development Board (AEDB), Private Power and Infrastructure Board (PPIB), and other relevant departments hampers progress in this direction.

By appointing alternative energy specialists as heads of these departments, Pakistan can pave the way for a more sustainable and resilient energy sector. These specialists would bring expertise in renewable energy technologies, energy efficiency, and the development of clean energy projects. Their vision and experience would help shape policies, foster innovation, attract investments, and establish strategic partnerships to accelerate the adop-

tion of alternative energy sources.

Preventing Social Unrest

Addressing the energy crisis in Pakistan is not only vital for sustainable development but also crucial to prevent potential social unrest. By ensuring reliable and affordable energy access, the government can alleviate public frustration and foster economic growth. Additionally, embracing alternative energy sources can enhance energy security, reduce dependence on imported fossil fuels, and mitigate the adverse environmental impacts associated with traditional energy generation.

The Arab Spring serves as a cautionary tale for countries facing energy crises, including Pakistan. The energy crisis in Pakistan has already burdened its citizens, hampered economic growth, and highlighted the urgent need for change. Appointing qualified and experienced alternative energy specialists as heads of crucial energy departments, such as AEDB and PPIB, is a crucial step towards addressing the energy crisis and preventing potential social unrest. By embracing sustainable energy solutions, Pakistan can lay the foundation for a more resilient and prosperous future. It is imperative for the government to recognize the significance of this issue, take proactive measures, and work towards a sustainable energy transition.

SWOT Analysis: Appointing Alternative Energy Specialists at PPIB, NEPRA, and AEDB

Strengths:

Expertise in alternative energy: Appointing alternative energy specialists would bring a strong knowledge base and expertise in renewable energy technologies, enabling the organizations to develop and implement effective policies and strategies in this sector.

Technological innovation: These specialists would have the necessary skills to identify and harness emerging technologies, leading to the adoption of innovative and sustainable energy solutions. Addressing energy crisis: By focusing on alternative energy, the organizations can help address the energy crisis by diversifying the energy mix and reducing dependence on conventional fossil fuels.

Weaknesses:

Limited talent pool: Finding qualified alternative energy specialists may be challenging due to the limited availability of experts in this field, potentially leading to a shortage of suitable candidates for key positions.

Resistance to change: Existing stakeholders or employees within the organizations may resist the shift towards alternative energy, posing challenges in the implementation of new policies and strategies.

Higher costs: Appointing specialized professionals may require higher salary pack-

and Egypt have been seen as a continuation of the Arab Spring, indicating that the conditions that sparked the initial protests have not disappeared.

Overall, the Arab Spring represents a complex and multifaceted series of events with long-lasting consequences for the Arab world. It brought both hopes for political reform and democratic change, as well as challenges and conflicts that continue to shape the region's political landscape.

The energy crisis in Pakistan has had a detrimental impact on various sectors, particularly the industry, as it struggles to operate under the burden of high energy tariffs. This situation has resulted in the imminent threat of job losses for millions of workers. Much like the Arab Spring, where energy crises intensified pre-existing problems and contributed to widespread discontent and social unrest, Pakistan can learn valuable lessons from this experience. The country must address its energy

ages or additional investments in training and development, potentially straining the organizations' financial resources.

Opportunities:

Sustainable energy development: The presence of alternative energy specialists would enable PPIB, NEPRA, and AEDB to actively promote sustainable energy development, supporting the country's transition to cleaner and more renewable sources of energy. **Public perception and trust:** Appointing experts in alternative energy can enhance public perception and trust in these organizations, as it demonstrates a commitment to addressing environmental concerns and reducing carbon emissions. **Partnerships and collaborations:** Having alternative energy specialists can facilitate partnerships and collaborations with international organizations, research institutions, and private sector entities, leading to knowledge exchange and access to new technologies and funding opportunities.

Threats:

Resistance from vested interests: The existing fossil fuel industry and associated stakeholders may resist the emphasis on alternative energy, potentially creating obstacles and hindering progress in the implementation of alternative energy projects.

Limited policy support: The absence of comprehensive and supportive policies or regulations for alternative energy could hamper the work of alternative energy specialists and limit the potential impact of their expertise.

Uncertain investment climate: A volatile investment climate or limited financial resources may pose challenges in attracting necessary investments for alternative energy projects, impacting the organizations' ability to execute their strategies effectively.

Conclusion:

Appointing alternative energy specialists at PPIB, NEPRA, and AEDB offers significant strengths and opportunities, including their expertise in alternative energy, potential for technological innovation, and addressing the energy crisis through sustainable development. However, challenges such as a limited talent pool, resistance to change, and higher costs need to be addressed. The potential benefits, such as sustainable energy development, improved public perception, and enhanced partnerships, outweigh the threats.

It is crucial for the government to provide policy support and create a favourable investment climate to maximize the impact of alternative energy specialists in advancing Pakistan's renewable energy sector. By doing so, the organizations can play a pivotal role in driving the country's energy transition and achieving a more sustainable and environmentally friendly future. ■

Writer is an Alternative Energy and Climate Change Mitigation Specialist

13 energy projects cleared amid poor bidding response

—◆ Khaleeq Kiani ◆—

The federal government has cleared for implementation 13 old renewable energy (RE) projects of about 700 megawatts — commonly called Category-III projects — and has referred the matter to the Council of Common Interests (CCI) for formal approval as bidding for a lot of 600MW solar project at Muzaffargarh received poor investor response.

Informed sources said a special cabinet committee led by Defence Minister Khawaja Asif recommended that the sponsors of 13 proposed RE plants in solar and wind technologies in Cat-III whose tariffs had been approved by the National Electric Power Regulatory Authority (Neptra) be given the go-ahead to start developing their projects. The committee also comprised Power Minister Khurram Dastgir Khan, Commerce Minister Syed Naveed Qamar and Human Rights Minister Riaz Hussain Pirzada. Based on these recommendations, these sources said, a meeting of the Cabinet Committee on Energy (CCOE) led by PM Shehbaz Sharif last week also supported the move and decided to refer the matter to the CCI, given the inter-provincial nature of the scheme. Mr Dastgir, who as power minister had been supportive of Category-III projects, confirmed to Dawn that the projects had been cleared. He had

requested the prime minister last year as well to push the projects which could immediately go into construction phase. "An inter-ministerial committee formed by PM Shehbaz Sharif on stalled renewable energy projects has submitted its report to the prime minister, with the recommendation that the report be put before the Council of Common Interests," he said.

Matter referred to CCI for final approval

Neptra had approved the tariffs of these 13 solar and wind power projects of Category-III with total power generation capacity of 680MW in 2017-18, but work has yet to start amid red tape. Interestingly, the Alternative Energy Development Board (AEDB) had been claiming as one of its responsibilities the development of alternative and renewable energy (ARE) projects listed under Category-III of the decisions of the cabinet committee on energy which have been upheld by the CCI while approving the ARE policy 2019. In three separate presentations earlier to the prime minister, the energy minister, minister for human rights Riaz Hussain Pirzada and chairman of the Senate standing committee on IT and Telecom Kauda Babar had suggested that these projects were given all approvals including tariffs in a range of 3.2 to 3.7 cents per kwh (unit) in 2020 but were not allowed to proceed owing to changing government policies.

Seminar on Karachi's water issue

'In addition to K-IV project Karachi should explore options for wastewater treatment for tackling acute water crisis'

In addition to ensuring the swift completion of the K-IV project, legislation should also be adopted to enforce systems of wastewater treatment and build reverse-osmosis filtration plants for overcoming acute water shortage in Karachi.

The suggestion to this effect was given by senior water expert and Director Techno consultant Dr Muhammad Bashir Lakhani while speaking at a seminar on the acute water crisis and way forward in Karachi and its possible solutions. Seminar was organized by Bazme Fikro Amal at Faran Club Karachi

Chief guest Justice (R) Wajihuddin, Arif Mustafa President BFA, Engr Aftabuddin Qureshi, President National Forum for Environment and Health Mohammed Naeem Qureshi, Shafiq Ismail, and Masood Wasi were also addressed on the occasion

Dr Lakhani said the construction of the K-IV project with a new design had started in July 2022 and now going on at full pace. He was of the view that the first phase of the K-IV project could be completed by 2025 given the constant availability of funds and fast-track execution of the augmentation component of the bulk water supply scheme.

Interview with LNG expert

PAKISTAN UNDERGOING SEVERE ENERGY CRISES

LNG Easy CEO Yasir Hameed observes LNG as a safe and green fuel as it does not catch fire in a liquid; says requisite training for handling LNG will be provided to technical staff



—◆ M, Naeem Qureshi —◆

Q.1 What role the LNG Easy could perform in overcoming the energy crises in Pakistan?

Ans: Pakistan is undergoing severe energy crises due to the non-availability of natural gas to the residential, commercial, and industrial sectors of the country. Wherever pipeline gas is available, there is an acute problem of pressure drops and leakages which make the use of natural gas very uneconomical and commercially unviable.

LNG Easy can perform a critical role in the revival of industries in Pakistan in addition to providing clean natural gas to residential and commercial sectors. LNG in liquefied form will be supplied to the end user's premises thereby eliminating the losses due to leakages and pressure drops. Additionally, about 35% of the country is connected with the pipeline network while the rest of the country is forced to use LPG and wood for their domestic needs. The LNG virtual pipeline will be able to provide natural gas to the deprived population of

the country at their door steps at very competitive rates.

Q2. Once granted permission and licence by the government, in how much time the Virtual LNG Pipeline network could be established in Pakistan?

Ans: After the successful public hearing conducted by OGRA on June 26, 2023, the Construction Licence for the Integrated Virtual Pipeline Project will be issued in a week's time. We plan to bring in the first gas by the end of this year as all the required activities for implementation of the Virtual Pipeline Project had been initiated well in advance and are already at various stages of completion.

Q3. What are the main benefits of the LNG Virtual Pipeline network in comparison with the traditional system of LNG supply to gas consumers?

Ans: Gas supplied through the LNG Virtual Pipeline will be of higher calorific value and will be provided to consumers not connected to the pipeline network. There will be no pressure drops and leakages during the supply of natural gas through the pipeline network.

Q4. Does Pakistan have the necessary road infrastructure and trained human resources required for operating the LNG Virtual Pipeline network?

Ans: Yes, Pakistan has a large network of good metalled roads and highways which are being currently used for the transportation of LPG and other liquefied gases like Argon, Oxygen, etc. besides other heavy industrial machinery and equipment.

Pakistan is currently operating two LNG Import and Regasification Terminals at Port Qasim since 2015 and 2017, respectively. As

such large pool of trained power for the handling of LNG is available. Additionally, trained personnel from our Singapore operation will initially impart training to the local technical personnel. There are plans to send local Master Trainers to Singapore for training so that they can impart training to local technical manpower on a regular basis.

Q5. What measures the LNG Easy will take to ensure that the Virtual Pipeline causes the least harm to the environment and also ensure the safety of the personnel involved in its operations?

Ans: LNG Easy will follow all international Regulations and Safety Codes prevalent in the LNG Industry. LNG is a safe and green fuel as it does not catch fire in the liquid state. Requisite training for handling LNG will be provided to the technical staff.

Arrangements have been made with NLC for the transportation of LNG across the country. NLC drivers are well-trained and follow all safety regulations, checks, and protocols.

Q6. What would be the main benefits of the Virtual Pipeline for domestic and industrial gas consumers in Pakistan who face serious natural gas shortages during winter?

Ans: The domestic and industrial consumers of LNG through Virtual Pipeline will be able to get an uninterrupted supply of natural gas at the required pressure. Additionally, consumers not connected to the pipeline network will be able to get natural gas at their doorsteps. There will be no leakages which are associated with the supply of gas through pipeline networks as a high calorific value gas will be provided to domestic and industrial consumers. Additionally, Rural Gasification will become a reality with the LNG supply through mini-grids which will benefit a large poor section of the country residing in villages. ■

A well-oiled mechanism

Paying for imports in Chinese yuan can reduce reliance on US dollar

◆ Dr Rafi Amir-Ud-Din ◆

Pakistanis have long cherished a kind of independence in their trade with the world that has remained elusive since liberation from the British rule in 1947.

They have looked for the elusive freedom in some strange places. The spotlight currently is on a Russian oil tanker. Discounted oil from Russia and barter trade with Iran have been heralded as harbingers of the elusive freedom.

However, a gentle reality check is in order. The world is not a stage set for dra-

matic power shifts dictated by oil deals. True freedom is not to be gained by chasing some oil tankers or currency upheavals but through a commitment to build a robust, self-reliant nation.

and a testament to the country's ability to engage in strategic diplomacy.

Pakistan has also approved a barter trade agreement with Iran, Afghanistan and Russia in a move intended to bolster its struggling economy. The new strategy, proposed by the Ministry of Commerce, could help stabilise Pakistan's economy and reduce its dependence on the US dollars. Under the new barter trade mechanism, both public and private entities in Pakistan will be permitted to trade with the three nations in a business to business (B2B) mode. By utilising this system for its transactions with Iran, Pakistan can directly access the goods and services it requires, circumventing the need for US dollar transactions.

For Pakistan, the Russian oil deal represents a significant achievement. It is a testament to the country's ability to engage in

economic structures, widespread confidence in the alternative currency's stability and liquidity, and acceptance from multinational institutions and businesses. Thus, it would take more than a few country's switch to destabilise the dollar's position significantly.

A shift away from the US dollar has long been speculated about. One of the proposed alternatives has been an Islamic dinar. The inception of an Islamic dinar as a reserve currency to be used for trade among OIC countries, though theoretically advantageous, will face substantial challenges. Key among those will be consensus building among Islamic countries



strategic diplomacy.

Paying for imports in the Chinese yuan rather than the American dollar can reduce Pakistan's reliance on the US dollar and mitigate exchange rate volatility. This could stabilise the cost of imports as long as yuan remains steady against the Pakistani rupee. However, given the yuan's limited global acceptance there is also the risk of its potential depreciation and conversion issues.

For now the move to making transactions in the Chinese yuan instead of the US dollar appears to be mostly symbolic. However, this could potentially encourage other nations to explore similar arrangements, although it is unlikely to be a mortal blow to the dollar's supremacy as the global reserve currency. Currently, the US dollar accounts for 40-50 percent of international transactions. Despite recent decline, it holds a vast share of global foreign exchange reserves (59 percent). Although the use of the yuan in international trade is increasing, compared to the dollar and the euro, its global share remains small.

Even with geopolitical changes and increased use of digital payments, shifting away from the dollar as the leading global currency would require significant changes in global

and an agreement on the exchange rate. The global financial system's acceptance of the new currency is another considerable hurdle.

Coordination and consensus among the participating countries, establishing robust financial and regulatory frameworks, gaining international market acceptance, and ensuring the stability of the economies involved will all be vital for its success. Importantly, maintaining trust in the new currency will be essential.

It is important to recognise that sustainable development stems from domestic reform; fostering diverse economic sectors; investing in education, healthcare and technology; and creating a conducive environment for domestic and foreign investments. Shifting the focus inward to address these foundational economic challenges can be a more beneficial strategy for long-term prosperity and stability. ■

The writer is an associate professor in the Department of Economics at COMSATS University Islamabad, Lahore Campus



TODAY AND TOMORROW

Several development projects completed during the CPEC decade are helping change lives in the region

—◆ Reema Shaukat —◆

The China-Pakistan Economic Corridor (CPEC) is completing 10 years since its inception in 2013. The government of Pakistan is celebrating the CPEC decade. A variety of activities is planned to acknowledge the achievements and highlight the hopes for the future.

The CPEC is a flagship project of China's economic initiative, the Belt and Road Initiative (BRI), which entails collective development via regional connectivity. The CPEC was envisaged to benefit not only China and Pakistan but also to have a positive impact on Iran, Afghanistan, the Central Asian Republics and the region in general.

When the CPEC was conceived initially, China committed \$46 billion investment. The amount was later increased to more than \$60 billion. So far, around \$30 billion has been spent on the projects that have been completed and some that are under way.

The CPEC focused development in a variety of areas. These included energy, road infrastructure, Special Economic Zones and social sector. Besides, special projects were conceived and executed for Gwadar.

In the energy sector, projects for generating 8,620 MW of electricity have been completed so far in various parts of Pakistan. It is noteworthy that these projects include coal-fired, solar, hydel and wind-powered generating systems. Projects yielding another 5,088 MW have been planned for the future and are currently at various stages of completion.

So far, 809 kilometres of road network have been added to the national highways and motorways. Another more than 1,700 kilo-

metres is to be added. Once completed, these networks will improve connectivity throughout the country.

Special Economic Zones (SEZ) play an important role in encouraging business in the country as well as smooth flow of trade. Under the CPEC four SEZs located at Rashakai, Dhabeji, Allama Iqbal Industrial City in Faisalabad and Bostan at Pishin, are either near completion or are in various phases of development.

For Gwadar, there have been concerted efforts by China and Pakistan. The development projects undertaken in this regard include operationalisation of the port and its free zones; dredging of the port; construction of East Bay Express Way; linking the port with the Makran Coastal Highway; New Gwadar International Airport facilitating operation of aircraft as big as A380; upgrade of the water distribution system; Pak China Friendship Hospital; water desalination plants of 1.2 and 5 MGD and provision of 100 MW electricity from Iran.

Comprehensive master plans have been approved separately for the city and for the port to ensure advancement. The Gwadar Smart Port City Master Plan includes facilities and commodities required by any modern city. Work on Gwadar Safe City project is also under way to make the city more investor-friendly.

A wholesome development plan for the port is in place according to which the Gwadar port will have 88 berths by the year 2050. It will be able to handle more cargo than the other Pakistani ports. To facilitate port development and operations, construction of a breakwater is being planned. The construction of a fish landing jetty and support for boat-making industry are also in the pipeline.

Socio-economic uplift of the people in regions where CPEC projects are being built has also been a concern for both Pakistani and Chinese authorities. In this context, projects related to poverty alleviation, such as vocational training, provision of technical laboratories, equipment and tools for agriculture, renovation of schools, smart classroom systems, distribution of solar-powered lighting systems and basic health facilities have been undertaken.

It appears that there is a need to chart a people-inclusive plan for the next decade of the CPEC which must cater for the involvement of people of Pakistan in the projects. The academia, think tanks and media houses should be encouraged to highlight the CPEC on a regular basis to keep the discourse alive. Capacity building workshops and youth engagement programmes across Pakistan can play a pivotal role in producing technical experts required for running these projects.

An effective communication strategy should be devised for the projection of the achievements during the past decade and future outlook of the CPEC, while engaging social media influencers, bloggers, vloggers and writers. Competitions among media influencers hailing from respective areas can help improve the projection of the CPEC.

Pakistan must endeavour to seek benefits from the Digital Silk Route concept. It is the future; the earlier it materialises, the better.

The CPEC decade (2013 to 2023) has been far from disappointing. Several mega projects have been completed and are now playing a role in our lives. There is a need to garner public support for the CPEC. ■

The writer is a communication strategist at the Institute of Regional Studies, Islamabad.

Curtailment of wind power projects

—◆— Irfan Ahmad —◆—

The curtailment of Wind Power Projects (WPPs) has become a serious issue as the WPPs were forewarned to face increasing curtailments in near future with the integration of larger conventional power in the NTDC network in Sindh. The basic philosophy governing the EPAs of WPPs is not to lose a single Watt generated by the environment-friendly and fuel-free RE Power Plants.

This can be seen from the 100% redundancy demanded for the major equipment of the Electrical Balance of Plant (EBoP) of the WPPs and the requirement of N-1 criterion for NTDC/DISCOs evacuation network. This redundancy has been achieved at a huge cost which has made the tariff intrinsically higher than it should have been, yet unfortunately, the curtailment of WPPs seems to have become a basic business strategy of the Power Purchaser creating a loss-loss situation for the WPPs despite the compensation which has to be paid to the WPPs for not drawing power from these must run plants with priority dispatch.

With the integration of additional conventional power located in Sindh, the diminishing industrial load, limited capacity of the network to accept intermittent energy, and scores of other reasons, the short-term commercial thinking alone of the Power Purchaser seems to be the major driver behind the excessive curtailment of WPPs now and in future, announced recently. Perhaps the power purchaser forgot its obligations clearly mentioned in the EPAs.

The 28 days of no evacuation from the three Gharo Wind Power Projects (WPPs) – the Gharo Cluster in May 2023 on account of damage to about a dozen 220kV T/L towers of NTDC's evacuation network near Jhimpir resulted in a huge Non-Project Missed Volume (NPMV). The WPPs will be to some extent get compensated according to the annual average wind speed but are destined to suffer a net revenue loss. Moreover, a Wind Power Plant which is under standstill for a long period in a corrosive atmosphere like Gharo is expected to have some equipment failure which can only be found out at start-up.

While the towers fell due to high wind as claimed by the power purchaser, the proper and

timely maintenance of its evacuation network for the entire project term is the purchaser's responsibility. Since the non-evacuation resulted from the non-fulfillment of the purchaser's consent clearly mentioned in the EPA, the WPPs should be compensated for their genuine loss. Since we have not been able to utilize more than 0.5% of the country's wind power potential over the last 15 years, we need to rethink our approach towards this energy resource of the future.

With local EBoP and civil works, more than 70% of local value addition is possible if the wind turbine towers are made from concrete. Their biggest advantage is that they would double the project life thereby reducing the tariff by about half. For the existing WPPs, it will be better if they are allowed to use their curtailed power elsewhere; eg. for making green hydrogen. If the GoP agencies and the relevant ministries can think on the same lines, a win-win situation can be created. ■

Delay in Gharo transmission line irks IPPs

Three Wind Independent Power Producers (IPPs) have expressed concern at the delay in completion of transmission line, from Gharo Cluster, which is creating hurdles in their smooth operation and consequently inflicting financial loss. These concerns were conveyed by three wind power projects, i.e., Hydrochina Dawood Power (Pvt) Limited, Zephyr Power Limited and Tenaga Generasi Limited, in a joint letter to National Electric Power Regulatory Authority (Nepra) - the concerns related to obstacles in smooth operations of wind power generation facilities set up by them in Gharo, Sindh. The Wind Independent Power Projects (IPPs) sector represents over \$3.5 billion capital investment in Pakistan, which is now expected to increase as the country moves towards further investment in the renewable energy sector to reduce dependence on fuel imports. However, the three "annoyed" wind IPPs believe that Pakistan's renewable energy sector is no longer bankable due to insufficient, stable and maintained transmission infrastructure.

Growatt hosts corporate lunch-training session



—◆— EU Report —◆—

Growatt, one of the leading global inverter suppliers, organized 'Corporate Lunch and Training Session about Vision for a More Sustainable World'



in Karachi. Speaking at this event, the Country Head of Growatt, Mian Fahad, said, "To ensure efficient customer service and technical support, Growatt has established an extensive network consisting of 43 offices and warehouses worldwide. This network enables them to provide fast product delivery and effective after-sales support. The inclusion of Islamabad in this network highlights Growatt's commitment to serving the Pakistani market."

Technical Manager, Hassam Aziz, delivered a training session about the C&I and Utility Solutions of Growatt. Growatt offers a

comprehensive range of products for commercial and industrial (C&I) as well as utility-scale applications.

Their C&I lineup includes the MID series (15-50kW), MAC series (30-70kW), and MAX series (50-150kW) inverters. These inverters cater to various C&I needs. For utility-scale plants, Growatt offers powerful MAX series string inverters (185-253kW) specifically designed to meet the demands of larger installations. With this diverse product range, Growatt provides efficient and reliable solutions for a wide range of solar energy projects.

The World Leading PV and Smart Energy Total Solution Provider

We are proud to be recognised as 'Top Bankable
Module Supplier' by BloombergNEF since 2016.



25 World Records
2011 - 2023



150+
Worldwide Customers



100GW+
Cumulative Shipments



20000+
Employees



9.5GW+
Grid-Connected

Vertex S

reddot winner 2022



Vertex

Vertex N

Wide range of 210mm ultra-high power modules designed for all applications.

Intersolar Europe-2023 attracts over 100,000 clean energy enthusiasts from all over world



Group pictures of Pakistani delegation has taken at Inter Solar Europe with host and organizer

The latest Intersolar Europe event 2023, held in Messe Munich attracted more than 100,000 visitors from across the globe highlighting the latest innovations in the solar industry. The event was also attended by a 15-member delegation from Pakistan, comprising energy experts from the government, public and private sectors.

The study tour was organized by the Pakistan German Renewable Energy Forum (PGREF) including the Energy Update magazine. The three-day Intersolar Expo was visited by over 106,000 visitors, while the international event was attended by 2,469 ex-

hibitors from 57 countries. In addition, there were 2,000 attendees at the Smarter E Europe Conferences and side events.

The major theme of the event was geared around the latest trends, innovations and technological advancements for effective and efficient use of solar power particularly for people in underprivileged off-grid areas. Over the years, the Intersolar Expo has emerged as the common global forum for the exchange of ideas, knowledge and matchmaking amongst energy experts.

Intersolar Europe 2023 was a resounding success, attracting a diverse array of stakeholders within the solar industry. The

trade fair served as a perfect B2B platform for innovation within the renewable energy sector. The key product areas of the fair included Photovoltaics, Solar Thermal Technologies, Solar Power Plants, Products and Solutions for the Integration of Renewable Energy. Furthermore, there were various side events such as conferences, seminars and forums.

In addition, the Smarter E Europe, of which Intersolar is a part, took place on a record area covering 180,000 square meters in 17 exhibition halls. The innovation platform holistically showed what is needed for the new energy and mobility world and how renewable energy supply can succeed around the clock.

Germany's technological advancement could massively help Pakistan in renewable energy sector

The members of the Pakistani delegation that recently attended the Intersolar Europe 2023 in Munich, the leading global solar industry event, said that Germany's technological advancement could help a lot Pakistan's drive to maximally exploit its renewable power sources for overcoming the prevailing energy crisis.

The delegation members also invited prospective foreign investors present at the expo to actively explore the opportunity of investing in the clean energy sector of Pakistan which is rapidly expanding.

The Pakistan Germany Renewable Energy Forum (PGREF) arranged the visit of the Pakistani delegation comprising energy

experts from the government, public, and private sectors. The PGREF sponsored the visit in line with its charter to promote collaboration between Germany and Pakistan for promoting greater use of alternative energy sources in our country. The valuable comments of the Pakistani delegation members after attending the Intersolar Europe 2023 are following: Dr Khaid Umar, who is the Director-General of the Private Power Infrastructure Board and was part of the delegation, said that this exhibition was no doubt beneficial for those who want to promote clean energy in Pakistan.

The delegation members came to know about latest the technological advancements

in the field of renewable energy, especially solar power, said Mr Umar. He said that Pakistan had been aggressively pursuing the agenda of solarization. The plan to generate 10,000 MWs on the basis of solar power is going to be a huge renewable energy project, he said. Rana Abbas, CEO of AE Power, who was also part of the Pakistani delegation, said that Germany was way ahead in the field of technology than many developed countries.

He said that once you attended an international expo like Intersolar Europe you came to know about the current direction of the market, about latest technological innovations, and prices of renewable energy equipment. Mr Abbas said that while representing



Pakistani delegation visiting exhibition hall and watching advance solar technology

The Smarter E Europe combined the four exhibitions Intersolar Europe, ees Europe, Power2Drive Europe, and EM-Power Europe. Europe's largest platform for the energy industry thus covers the entire spectrum of innovative solutions for the sustainable energy world.

After three exhibition days and inspiring conferences and forums, Europe's largest platform for the energy industry published record numbers: 2,469 exhibitors from 57 countries showcased products and solutions across 180,000 square meters in 17 exhibition halls and an outdoor area. More than 106,000 visitors from 166 countries made their way to Munich to be part of the event this year, and with over 2,000 participants from all over the world, the conferences and side events of the 2023 edition were a resounding success.

Both the energy and mobility worlds have been undergoing fundamental change. Whether for electricity, heat or transportation

– the demand for renewable energy to provide a sustainable energy supply around the clock is skyrocketing. The smarter E Europe's integrated approach captured the spirit of the times, and this was reflected in this year's impressive figures: 2,469 exhibitors from 57 countries, more than 106,000 visitors from 166 nations and over 2,000 attendees at the conferences and side events. This made the Smarter E Europe 2023 the largest and most international event in its history to date.

Whether in the exhibition halls, at the conferences or at the forums, the programme focused on innovations, business models and trends in the renewable energy and electro-mobility industries. The conferences were up to a flying start with a high-calibre line-up, followed by companies presenting their innovative products and solutions for the new energy and mobility world to an international expert audience. The focus was on solutions for the smart connection of the electricity, heat and mobility sectors – for example, through possible combinations of photo-

voltaics, storage and e-mobility – and their integration into a smart power grid.

In 2023, The smarter E Europe proved that solutions, products and business models for a secure, 24/7 renewable energy supply exist across all sectors. "I was impressed by the valuable international exchange, the wealth of inspiration and the tangible dynamism. Stakeholders from all sectors took the opportunity to have a dialogue across industries and sectors in order to accelerate the transformation of the energy and mobility world," said Markus Elsässer, CEO of Solar Promotion GmbH, who organizes The smarter E Europe together with Freiburg Wirtschaft Touristik und Messe GmbH & Co. KG (FWTM).

Hanna Böhme, CEO of FWTM, added: "This year's The smarter E Europe in Munich was a resounding success and increases my excitement for the upcoming The smarter E South America in Sao Paulo. I am proud to be able to follow this dynamic market beyond Europe."

The smarter E Europe 2024, which

the Pakistan Solar Association (PSA), as the PSA's former chairman, at the exhibition he informed the international participants about issues Pakistan had been facing in promoting solar energy Bashir Ahmed Bazai, the Secretary of Balochistan Government's Energy Department, said that after attending the conference he had learned a lot about the latest technological trends in the developed world for the greater usage of renewable energy.

He said that big power companies participating in such expos would be motivated to invest in Balochistan for resolving its energy crisis with maximum reliance on clean electricity sources abundantly available in the province. Dr Naveed Arshad, from LUMS Lahore, said the exhibition provided the opportunity of networking with the right persons having the right expertise in the field of renewable energy.



A group picture with Ms. Barbel Hohn on the BSW stall, she is former Parliamentarian & and now is working as special representative of BMZ on energy.



Group pictures of Pakistani delegation and delegates from different countries

encompasses four individual exhibitions (Intersolar Europe, ees Europe, Power2Drive Europe and EM-Power), will take place from June 19–21, 2024, at Messe München.

Germany’s technological advancement could massively help Pakistan in renewable energy sector

The members of the Pakistani delegation that recently attended the Intersolar Europe 2023 in Munich, the leading global solar industry event, said that Germany’s technological advancement could help a lot Pakistan’s drive to maximally exploit its renewable power sources for overcoming the prevailing energy crisis.

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The Pakistan Germany Renewable Energy Forum (PGREF) arranged the visit of the Pakistani delegation comprising energy experts from the government, public, and private sectors. The PGREF sponsored the visit in line with its charter to promote collaboration between Germany and Pakistan for promoting greater use of alternative energy sources in our country. The valuable comments of the Pakistani delegation members after attending the Intersolar Europe 2023 are following:

Dr Khaid Umar, who is the Director-General of the Private Power Infrastructure Board and was part of the delegation, said that this exhibition was no doubt beneficial for those who want to promote clean energy in Pakistan.

He noted that the delegation from Pakistan comprised representatives of both the public and private sectors. The delegation members came to know about latest the technological advancements in the field of renewable energy, especially solar power, said Mr Umar.

He said that Pakistan had been aggres-

sively pursuing the agenda of solarization. The plan to generate 10,000 MWs on the basis of solar power is going to be a huge renewable energy project, he said. Then there is the plan to install solar panels using the rooftops of the public sector buildings in the country.

He said the government had given much attention to the promotion of solar energy in the country. “While attending such international events you get the chance of meeting project developers, prospective investors, and technical experts. This gives you an idea of what is happening around the world as such an opportunity is highly beneficial for Pakistan,” he said.

He said the prospective investors from all over the world who attended the exhibition were clearly given the message that there were ideal circumstances in Pakistan for investment in the alternative energy sector because of the most suitable incentives, guarantees, presence of a friendly regime, and assurance by the government about handsome profits. “God willing the interactions we had at the exhibition will go a long way in promoting renewable energy in Pakistan,” he added.

Rana Abbas, CEO of AE Power, who was also part of the Pakistani delegation, said that Germany was way ahead in the field of technology than many developed countries. The Germans have also plenty of knowledge. A number of countries from around the world have made progress in the technological fields with German support.

“I try my best to attend all such large international exhibitions related to renewable energy so as to learn about the latest global trends for maximum utilization of green energy sources,” he said.

He said that once you attended an international expo like Intersolar Europe you came to know about the current direction of the market, about latest technological innovations, and prices of renewable energy

equipment.

Abbas said that while representing the Pakistan Solar Association (PSA), as the PSA’s former chairman, at the exhibition he informed the international participants about issues Pakistan had been facing in promoting solar energy

He said the Pakistani delegation members while interacting with the prospective foreign investors invited them to come to Pakistan to check the possibility to invest in the Pakistani renewable energy sector which is expanding very rapidly. The solar energy option is also being adopted in Pakistan at a fast pace, he said.

The invitations in this connection were extended to the producers of solar panels, batteries, and inverters, with the request to explore the Pakistani market that has ideal conditions if someone wants to invest in the clean energy sector. Bashir Ahmed Bazai, the Secretary of Balochistan Government’s Energy Department, said that after attending the conference he had learned a lot about the latest technological trends in the developed world for the greater usage of renewable energy.

He said that exhibition was a big international event on solar energy attended by thousands of companies from 60 countries around the world.

He said that big power companies participating in such expos would be motivated to invest in Balochistan for resolving its energy crisis with maximum reliance on clean electricity sources abundantly available in the province.

Dr Naveed Arshad, from LUMS Lahore, said the exhibition provided the opportunity of networking with the right persons having the right expertise in the field of renewable energy. He said the exhibition in Germany was highly beneficial for Pakistani researchers and startups working in the field of clean energy as they frequently interacted with relevant foreign experts and companies. ■

A TRIBUTE TO

Air Marshal (retd)

Shahid Hamid

Air Marshal Shahid Hamid was a born leader, a tremendous personality ready to venture immediately in unknown fields. Extremely quick in pick up and forceful orator who could sell anything to anyone. People who came across him would agree that he was a wonderful company ready with jokes and stories of the occasion. His convincing power was so unique that he could have brought all industries of the world in Pakistan. He will be remembered for AEDB and AWC.



I still remember his very composed and compelling speech at Husum in Sep 2007, a few months after the launch of RE Policy 2006. That was the first time he declared himself as Wind Marshall instead of Air Marshall.

A jam-packed crowd eagerly listened to him, laughing at his jokes, noting the information he shared and clapping with a standing ovation to him. It was simply brilliant.

Together with Lt Gen Munir Hafiez, then MD FFC, we made a very strong pitch to the world wind industry gathered at the birthplace of the global wind industry.

Starting from there, after 5 years of struggle, we created the birth-

place of Pakistan's Wind Industry at Jhampir. It would not have been possible without his support.

He was a witty man, always focused on his objectives, but at the same time entertained the audience during his numerous speeches on various occasions.

He often referred us as "Worthy Investor" and, in the same breath, said. He will always be remembered as the torch bearer of Pakistan's Wind Industry.

May Allah forgive his sins, accept his good deeds, and place him high in the Jannah.

Aameen



It is with profound sadness that we bid farewell to Air Marshal (retd) Shahid Hamid, a true visionary and an exceptional leader in the realm of renewable energy. Being the founding Chairman of Alternative Energy Development Board, he pioneered the establishment of a solid foundation for renewable energy in Pakistan, leaving an indelible mark on the country's energy landscape. Having had the privilege of knowing him since 2014 and working closely under his guidance, I witnessed firsthand his charismatic personality and unwavering dedication to his cause. His forward-thinking approach and unwavering commitment to a greener future inspired us all, igniting a passion for renewable energy that will continue to shape our country's path. Air Marshal (retd) Shahid Hamid will be deeply missed, but his vision and impact will live on, transforming the lives of countless generations to come. Rest in power, renewable energy pioneer.

Zeeshan Ashfaq, Managing Director
Pakistan, SOWITEC Group

New Economic Survey of Pakistan

Climate change deprived of deserving attention

Chapter on agriculture also shies away from any reference to climate adaptation; no priority areas of investment identified; except for chapter on energy, none of the remaining chapters has mentioned climate change

— Ali Tauqeer Sheikh —

The Pakistan Economic Survey is a flagship report on the state of the economy. The latest for 2022-2023 was issued last week by the Ministry of Finance. It provides the most authoritative information and commentary on the overall performance of the country's economy, macroeconomic trends, and such indicators as GDP growth rate and the rate of inflation. The Economic Survey has recognised climate change as a cross-cutting subject. How well is it integrated into the country's development goals? This is an important question, particularly since the national economy is still bleeding from the big hit of \$30.13 billion it took in July last year, owing to the flooding triggered by the erratic monsoons.

The Economic Survey measures the degree of integration of climate change into the country's development planning. Climate change has emerged as the foremost development challenge. It goes beyond humanitarian and relief services, spearheaded by the National Disaster Management Authority and its provincial counterparts. It is no longer just about the speedy disbursement of cash that the Benazir Income Support Programme (BISP) has been charged to undertake. It is now certainly more than a task of rehabilitation and reconstruction

under the failed rubric of 'build back better', for which the nation still has no risk transfer or insurance mechanisms in place. Clearly, climate change now takes centre stage when it comes to proactively planning for resilience development — to build climate-smart communities, infrastructure, ecosystems and economy.

This year's Survey has 17 chapters, including one on climate change. Except for the chapter on 'Energy', none of the remaining chapters has mentioned climate change, let alone engaged in such issues as adaptation and mitigation, technology transfer, or climate financing. None of the chapters has highlighted how climate risks are adding to the cost of development, reducing productivity, stunting the GDP growth rate and raising commodity prices and inflationary trends, while pushing people below the poverty line. In fact, except for Chapter 10 on 'Education', there were hardly any efforts to link other sectors with the Sustainable Development Goals.

The very first chapter on 'Growth and Investment' records climate change as a "threat to future global economic growth", but this pedagogical statement is not translated into action points for the national economy in this or any subsequent chapter. Climate change indeed poses several threats, but it also offers many opportunities for growth and investments. The chapter has, however, not acknowledged how it has stunted economic growth or what oppor-

tunities it offers for investment if the country decides to follow a low-emissions and resilient development pathway. The chapter has not only set the direction for the Economic Survey, but has also failed to capture the heartbeat of the global development discourse and national vulnerabilities and investment priorities.

Climate change has not been given the attention it deserves in the 'Economic Survey'.

The second chapter on 'Agriculture' also shies away from any reference to climate adaptation, even if the sector suffered a loss of \$12.9bn in last year's massive floods. Food security hinges on following what is called climate-smart agriculture. The changing weather is impacting cropping patterns, yields and even the suitability of certain crops, but the chapter has not referred to it. No lessons from the recent flood losses have been drawn, no recommendations made, no future direction set and no priority areas of investment identified. Ironically, in analysing the challenges to agriculture and livestock, the chapter did not even mention the role that women play and how acutely their vulnerabilities have increased because of climate-triggered disasters.

The chapters on 'Manufacturing and Mining', 'Fiscal Development' and 'Capital Markets and Corporate Sector' are central to planning growth, mobilising the private sector, and accessing the international climate finance. Yet, they missed an opportunity of mentioning

the costs of mitigation, alternative technologies and energy transitions. Collectively, they failed to build Pakistan's business case for climate-compatible development. The chapter on 'Trade and Payments' narrowed its interest to "investment climate" but without factoring in the emerging threats from some of Pakistan's trading partners in the shape of carbon tariffs or carbon intensity per unit of production.

Frequent disasters have begun to affect the affordability as well as the availability of domestic and international finance. In discussing the Pakistan Investment Bonds, the chapter on 'Public Debt' did not provide any guidance on how to mobilise private capital or forge public private partnerships to build upon Wapda's experience with green bonds for wastewater management or urban rejuvenation.

The chapters on social sectors, 'Education', 'Health & Nutrition' and 'Population, Labour Force and Employment' have maintained their siloed approach and not explained how their delivery is impacted by climate-induced migration, urbanisation, and demographic trends. The chapter on 'Transport and Communication', oddly, makes no references to the need for investments in public or mass transit systems, cleaner fuels to reduce emissions, or how to improve air quality for human health.

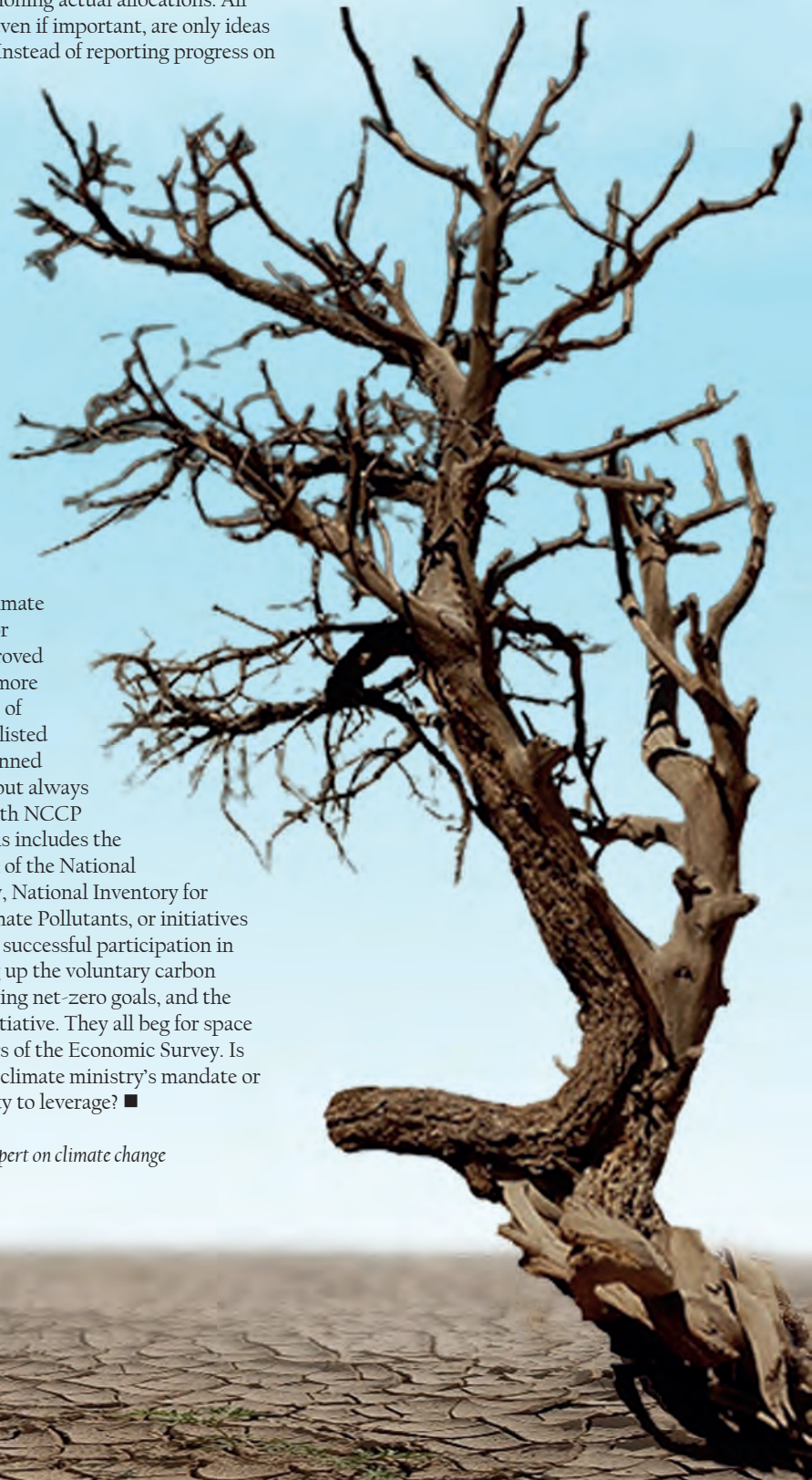
The chapter on 'Information Technology and Telecommunication' draws attention to cybersecurity but not on how to enable a better, safer, more sustainable future through the use of innovative technologies. The chapter on 'Social Protection' has shown how the delivery institutions needed for climate disasters are still absent at the local level and how the role is given to the BISP that was not designed to support natural disaster relief.

The chapter on 'Energy' is the only chapter that has specifically referred to the commitments made by Pakistan in its Nationally Determined Contributions (NDC). It claims to adhere to the environmental guidelines of multilateral development banks that have invested heavily in the sector and have spurred action through lists of prior actions and Disbursement Linked Indicators.

Finally, the chapter on 'Climate Change', presents a long list of 20-plus initiatives, but only three mentioning actual allocations. All other projects, even if important, are only ideas in the pipeline. Instead of reporting progress on

the National Climate Change Policy or NDC, both approved by the cabinet, more than two-thirds of the chapter has listed a long list of planned initiatives without always linking them with NCCP or the NDC. This includes the implementation of the National Clean Air Policy, National Inventory for Short-lived Climate Pollutants, or initiatives emanating from successful participation in COP-27, setting up the voluntary carbon market, developing net-zero goals, and the Living Indus Initiative. They all beg for space in other chapters of the Economic Survey. Is this beyond the climate ministry's mandate or beyond its ability to leverage? ■

The writer is an expert on climate change and development.



Why is Shell leaving Pakistan?

In the recent past, company has attempted to divest from Nigeria and exited home energy retail market

— Uzair Younus —

On June 14, 2023, global energy giant Shell made a significant announcement that cast more doubts on Pakistan's economic prospects. The multinational corporation, which has been operating in Pakistan for 75 years, stated its intent to exit the country, marking a major turning point for Pakistan's energy sector. While this decision may come as a surprise to some, a closer examination reveals that Shell's exit is not just about the bleak economic prospects in the country.

Global multinationals frequently go through periods of global expansion and retrenchment. Sectoral booms and cheap availability of capital fuels expansion, while shifting technological, environmental, and financial winds force strategic retrenchment across business units and geographies.

Shell is currently going through such a shift and it has been actively divesting from various markets. In the recent past, the company has attempted to divest from Nigeria, exited the home energy retail market in parts of Europe, and even sold its Permian basin business. As part of its announcements on June 14, the company also announced that it is conducting a strategic review of its assets in Singapore. These strategic moves indicate a consistent pattern of divestment in line with the company's global strategy, which aims to cut costs by "\$2-3 billion by end 2025," per a recent release by Shell. All of this to say that Shell's decision to exit Pakistan is definitely part of a broader global shift the company is undergoing.

However, this does not mean that the deteriorating economic situation in Pakistan has not played a role in Shell's decision-making process. In recent months, many companies have announced a retrenchment or divestment of their operations in Pakistan. This includes Lotte Chemical, which announced in January 2023 that it was selling its entire 75 per cent stake in the Pakistan business, and Puma Holdings, which sold its 57 per cent stake in Pakistan in January 2023 as well.

As companies assess their global footprint due to tightening economic conditions, a worsening economic outlook for Pakistan increases the likelihood of these companies exiting from Pakistan. A few weeks ago, the

Overseas Investors Chamber of Commerce and Industry (OICCI) said that "multinational companies (MNCs) are faced with serious foreign exchange remittance issues."

This trend has been seen even among venture capitalists, who arguably have a higher risk appetite and longer time horizon as compared to publicly listed companies that face more short-term pressures from their shareholders. Based on this evidence, it is clear that the economic situation in Pakistan has become a deterrent for foreign companies, influencing their decisions to exit the market.

Finally, the prospects for Pakistan's energy sector are also bleak at best. The energy value chain faces a whole host of issues and the lack of reforms exacerbates the disincentives for companies like Shell to continue investing. The 2020 inquiry report is a must-read for those wanting to dive deeper into the myriad issues facing this sector, which at one point was overseen by a director-general who was trained as a veterinary doctor!

Ongoing issues such as the rampant growth of smuggling in the market – an open secret in the country – and liquidity problems stemming from the government's liquidity crunch are only creating additional headwinds. These obstacles not only impact the profitability of energy companies but also introduce considerable reputational and legal risks for multinationals given their exposure to anti-corruption laws in western countries. Consequently, Shell's exit from Pakistan can be attributed, in part, to the sector-specific issues that have remained unresolved.

It is essential to recognize that the decision of companies to exit or invest in countries stems from a variety of factors, including exchange rate risk, economic risk, and political risk. In the case of Shell, these factors have evidently played a significant role in their

departure from Pakistan. Exchange rate risk, for instance, can pose substantial challenges to multinational corporations operating in countries with volatile currency markets – recent quarterly earnings released by Shell Pakistan point to this issue. Economic risk refers to the overall stability and growth prospects of a country's economy, and when these factors deteriorate, it can impact investment decisions – we are all familiar with how growing economic uncertainty is forcing businesses to shut down across the country. Finally, political risk, including government policies, regulations, and growth of informal markets, also influences companies' strategies and willingness to operate in a particular country.

Some argue that Shell's exit is evidence of the failures of the PDM government – and they are right. Others argue that this exit is part of Shell's evolving global strategy – and they are also right. In a polarized environment, things are often viewed as binaries and through a particular lens. But reality is far more complex and nuanced. While Shell's exit from Pakistan is undoubtedly noteworthy, it reflects a complex interplay of these factors and the company's own strategic considerations. ■

The writer is director of the Pakistan Initiative at the Atlantic Council, a think tank based in Washington DC.





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A MULTI-FACETED TRADE DEAL

Recent oil import from Russia has opened an avenue for energy security and affordability in short term

— Ahad Nazir —

Revolutionising any sector of an economy, especially a developing economy, requires significant efforts on the part of the policy-making community.

The recent oil import from Russia has opened an avenue for energy security and affordability in the short term. However, we need to analyse its long-term implications and integration into Pakistan's strategic agenda. To enable long-term economic success, emerging economies should try to build as much flexibility in their trade relations as possible in order to protect themselves from shocks like the Covid or the Ukraine war.

Russia is re-emerging as an important player in Asia. It has great potential for trade with Pakistan. The recent crude oil shipment that reached Pakistan on June 12, will hopefully open up doors for import of other essentials from Russia, too. On the diplomatic front, a positive aspect of this deal is that it has created precedence for similar trade deals for Pakistan, including but not limited to importing wheat from Russia and natural gas from Iran.

On the other hand, this could jeopardize the prospects of arrangements such as the EU GSP+ and exports to the US, thereby further aggravating the balance of payment problem that Pakistan is facing.

One of the core issues in Pakistan's economy is energy supply. The procurement of Russian oil and its incorporation in Pakistan's energy mix can, a) diversify our options and enhance our energy security, and b) have a positive effect on energy prices. In the short to medium term, this transformation can result in a lower cost of living and a lower cost of doing business in Pakistan.

Some of the operational bottlenecks include the transport and logistics of the crude oil and the refinement of the crude oil. Most of Pakistan's oil imports take place through the UAE. The freight distance is 1,300 kilometres; in Russia's case, it is nearly 8,000 kilometres. The transportation cost, according to experts may be up to threefold.

The refinement requirements for oil are the second potential bottleneck. The refineries in Pakistan are currently set up for the light crude imported from the Arab countries. The resultant refined output is around 45 percent diesel and 25 percent furnace oil. The heavy crude being imported from Russia, according to experts, will require significant adjustments in the refinery process that might add a \$4 per barrel cost.

Additionally, the refined outputs are expected to have more than 50 percent furnace oil and 32 percent diesel. This might not reflect Pakistan's needs in the energy sector as only about 15 percent furnace oil is required.

Another experiment the government of Pakistan has carried out with this deal was the use of the yuan as a transaction currency. This was a result of a currency swap agreement between the central banks of Pakistan and China. The letter of

credit instruction was given by the Pakistan government to the Bank of China for taking up with the Russian authorities. Moscow offered the option of making payments in three currencies, including the UAE dirham, Chinese yuan and Russian ruble.

The decision to pay in yuan came in the wake of US sanctions on Russia. Although in the short term, Pakistan had to buy yuan from the open market against US dollars, in the future the currency flexibility in cross-border trade can add a degree of freedom.

From a diplomatic angle, the US State Department has shown a realisation that countries are sovereign in their decisions related to energy security. This is primarily due to similar precedence being set by India.

Given an international economic recession on account of the Ukraine war, the oil import will be a function of diplomatic relations, national priorities, long-term planning and energy transition policies. For this project to turn into long-term policy and be beneficial in the long term, a strategic reform-based agenda is required.

This may include integration of long-term plans for Pakistan's energy sector through bilateral and multilateral schemes, including programmes like China Pakistan Economic Corridor (CPEC) and Central Asia Regional Economic Corridor (CAREC). Focus on sustainable development goals and the clean energy transition agenda will authenticate the actual way forward.

The Russian oil import is a pilot project. It could open several modes of economic sovereignty for Pakistan. The trade deal involves several experiments that may have long-term implications. The operational success of the deal will be dependent on the reports that come out of the Pakistan Refinery Limited (PRL) in a few days. These will state the quality, yields and commercial viability of the oil. However, the long-term implications can only be reviewed through in-depth analysis and better coordination between relevant departments. ■

The writer is associated with Sustainable Development Policy Institute (SDPI) Centre for Private Sector Engagement and tweets @ahadnazir783. The article doesn't necessarily represent the views of the organization

ENERGY SECTOR

HVACR Expo and Conference mark success



The 28th Pakistan HVACR International Expo & Conference 2023 concluded with a success at Expo Centre Karachi.

The three-day Pakistan's largest HVACR Exhibition and Conference was organized by the Karachi Chapter of Pakistan Heating, Ventilation, Air-Conditioning and Refrigeration (PHVACR) Society in collaboration with ASHRAE Pakistan Chapter of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE).

The event showcased the latest technology and developments in the local and international HVACR sector. At the closing ceremony, the Chairperson of the Organizing Committee said: "We are thankful to all of our participants, specially the foreign delegates who have shown their interest and trust in the 28th HVACR

Expo and Conference. Their presence at the expo provided a great opportunity to local participants to network with international exhibitors.

More than 15,000 professional visitors visited the event, whereas, more than 150 companies participated through their stalls in the expo, and displayed their products through more than 13,300 square meters of exhibiting space in four halls in which one hall was dedicated to international conferences with this year theme "Sustainability through Energy Efficient Approaches". A mix of international and local participants will be there to showcase the latest technology and innovations in the field of HVACR.

International participation came from China, Turkey, Germany, and some other countries.

OGDCL onlines Wali gas field

Oil and Gas Development Company Limited (OGDCL) has said that it had started production at its Wali gas field in the district of LakkiMarwat, Khyber Pakhtunkhwa province.

The company said it would initially produce 10 million standard cubic feet per day (mmscfd) of gas and 1,000 barrels per day (bpd) of oil from the field.

"The operator of the Wali (Bettani) Exploration License with a 100 percent working interest, is delighted to announce commencement of production from the Wali (Bettani) Oil & Gas Field situated in District LakkiMarwat, Khyber Pakhtunkhwa Province," the company said in filing to Pakistan Stock Exchange. OGDCL said it planned to drill two additional wells at the field, which would increase gas production to 50 mmscfd.

The company said the start of production at the Wali gas field was a major milestone for OGDCL and would help to meet Pakistan's growing energy needs. OGDCL is the largest exploration

and production (E&P) company in Pakistan. It has the most extensive exploration acreage in the country, covering over 40% of the total acreage awarded with net hydrocarbons of oil and gas.



Finance: Time to rethink strategies

Foreign exchange crisis deepening day by day; Will the country be able to get additional forex inflows of 11bn in the next two quarters?

◆ Mohiuddin Aazim ◆

Pakistan has made every effort to secure the last tranche worth \$1.1 billion of a \$6.5bn International Monetary Fund (IMF) loan stalled since November last year. It hopes to get the tranche by the end of June, when the loan programme is due to expire.

However, Finance Minister Ishaq Dar is confident that the country will not default even if the IMF money does not come in. He has told the nation that a plan B is in place. Mr Dar also reiterated this during a recent meeting with the US Ambassador Donald Blome without sharing the details.

Making an Eastward-looking economic policy is one thing. But being able to implement it and endure transitional pains is another. How political transitions in the near and distant future will affect an Eastward-looking economic policy is a million-dollar question.

The foreign exchange crisis is deepening day by day. On June 16, the State Bank of Pakistan's (SBP) forex reserves fell to \$3.54bn, which is insufficient to cover goods' import bill for even a month. Banks are reluctant to open new import letters of credit (LCs), even for food imports. Obtaining foreign exchange from banks for clearing previously opened LCs has also become too difficult.

Will the country be able to get additional forex inflows of 11bn in the next two quarters without the revival of the current IMF programme before June?

The temporary halting of industrial operations for want of imported raw materials due to import restrictions also continues. People complain that arranging foreign exchange from banks to finance their children's foreign education or pay their loved ones' foreign medical bills has also become extremely difficult. Multinational companies in Pakistan say it has become more cumbersome to repatriate profits and dividends abroad.

The short-term part of the government's plan B designed to remain "afloat" even without the IMF lending, relies chiefly on (1) constant rollovers of Chinese state/commercial funds placed with the SBP, (2) continued fuel oil imports from Saudia Arabia on de-

ferred payment, (3) rollovers of funds earlier provided to Pakistan by Saudi Arabia and the UAE and (4) fuel oil imports from Russia against payment in Chinese yuan instead of US dollars.

How well this may work in the short run will become evident as early as the end of September or as late as the end of December. During each quarter of the next fiscal year starting from July 1, Pakistan must arrange \$5.5bn on average for external debt servicing.

Will the country be able to get an additional forex inflow of \$5.5bn in the next quarter or \$11bn in the next two quarters without the revival of the current IMF programme before June? Or without securing a new,

larger IMF loan afterwards?

And will China, Saudi Arabia and the UAE continue to provide forex

That said, let's not be deceived by the recent monthly Current Account surpluses. They lack quality. They are products of import contraction rather than expansion in exports or remittances. The fact is, despite all sorts of restrictions on imports, the current account deficit in eleven months of FY23 (July 2022-May 2023) still stands at \$2.94bn.

Import restrictions cannot remain in place forever. They need to be eased — if not during this month, most likely during July-September or October-December. What will happen then?

We'll see the return of large current account deficits of the past, consequent run on the US dollar and massive depreciation in the rupee value. Won't we? The current government, the caretakers to be appointed for holding elections, as well as the next government, must focus on enhancing



support even when it becomes clear that Pakistan has no hope of unblocking the IMF funding?

Perhaps the answer is "no". These friendly countries have advised Pakistan not to break up its relationship with the IMF.

Shifting away from the West and closer towards the East is possible only under a forward-looking, geopolitically justifiable, geo-strategically viable, long-term, pragmatic and inclusive policy framework. Let elections be held on time, let a new government come into power, and let all political stakeholders agree on a National Economic Agenda with inputs from the "establishment", businesses, think tanks and academia before making such a policy framework. A move made in haste is bound to end up in regrets.

exports and remittances.

In eleven months of FY23, exports of food and textile groups that together account for 77.7 per cent of total goods' export earnings have fallen by 5.2pc and 14.7pc year-on-year. Withdrawal of energy subsidies and other incentives makes it difficult to boost exports, particularly amidst record high domestic inflation (38pc in May) and record high-interest rates (SBP policy rate at 21pc).

The government and the private sector need to work hard to find out-of-the-box solutions for problems facing the export sector, and both will have to make sacrifices. The government and the private sector need to join hands also in framing a remittances policy to ensure steady inflows in future. ■

Courtesy Dawn

Forests, trees as carbon offsets

World temperature suddenly started rising with fossil fuel-based economic expansion

— Aijaz A. Nizamani —

Ecologists and environmentalists have, for many decades, advocated for sustainable forms of economic development. The world has been on an expansive yet destructive development path over the last century. While there can be no denying the benefits to humanity of this rapid development and economic expansion — particularly after 1850 and the discovery of oil — environmentalists have been rightly arguing that improving humanity's living standards need not be at the cost of the planet.

The most glaring manifestation of unsustainable development is the carbon dioxide emissions of nearly 40 billion tonnes a year which countries and companies have been pumping into the atmosphere. These make for cumulative emissions of over 2.5 trillion tonnes from 1850 to 2021. Finally, there now seems to be some hope, as both global policymakers and business leaders are a little more prepared to respond to existential risks associated with carbon dioxide emissions.

There can be no denying that rich people

in rich countries have brought the world to the brink of climate disaster. It is the poor people in poor countries who have borne the brunt of their unsustainable development. The rains in Pakistan in 2022 were attributable to climate change. Over a third of the country at one stage was under water, resulting in several hundred casualties and the displacement of millions of poor. Similarly, villagers beneath the glaciers in Pakistan's north remain at increased risk solely due to anthropocentric reasons. We hear stories of entire villages being decimated by a moving glacier, the risk of which has increased in a warmer world.

Human civilisations have used fossil fuels for over a millennium, starting with coal. Still, the Industrial Revolution and the discovery of oil changed the scenario rapidly. The world temperature, which had been stable for hundreds of years, suddenly started rising with fossil fuel-based economic expansion, creating an existential threat to humanity. There has been a 1.28 degrees Celsius increase in average global temperatures, and scientists have warned that parts of the globe, including South Asia, will become uninhabitable over the coming few decades. In Pakistan, areas like Mehar and Kachho along the right bank areas of the Indus, which were flooded last year, are already routinely above 50°C in summer.

Led by climate science, policymakers and businesses are responding to the emissions issue. The good news is the world at last seems to be grappling with the challenge. Led by climate science, policymakers and businesses are responding to the emissions issue. Voters in the democratic world are pressuring their leaders for concrete action. The world is on the path of zero emissions over the next 50 years. OECD members like the US and EU have pledged to

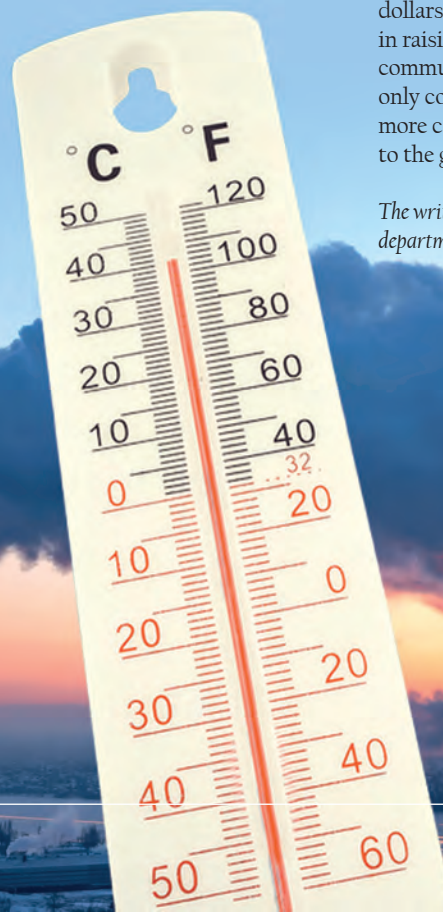
be net zero by 2050, China by 2060 and India by 2070. Similarly, businesses are strategising net-zero plans whereby their emissions would be progressively reduced to zero, corresponding to host country pledges.

Global leaders are currently grappling with the question that, even in a net-zero world, trillions of tonnes of greenhouse gases will still be in the atmosphere. There has to be a policy and business case to take these emissions back from the atmosphere and store them in trees or the geological locations where they were taken from.

The world is looking at nature-based solutions. What we learned in primary school is that trees and plants, while growing, absorb carbon dioxide and emit oxygen into the atmosphere. There is a major rush of businesses investing in raising forests which would sequester carbon dioxide and allow investing companies to offset their emissions (or trade them) against forest-based carbon offsets. This new science and economics model places a monetary value on a tree in the form of the carbon stored in it while it is alive and which can be traded as a carbon offset in the international market. The price of a carbon offset can vary — as low as \$10 a tonne to over \$100, considering the offset's quality (which is basically documentation and transparency).

The Sindh government has completed one such transaction through Sindh forest department, whereby a carbon offset from a mangrove forest in the Indus delta has been sold to international buyers. This is such a novel approach that some of Pakistan's generalist policymakers initially thought the companies would cut and remove the forest to take carbon out of it and complete the transaction! The reality is the amount raised, which runs into millions of dollars each year, will ensure more investment in raising forests and for the betterment of local communities. The transacted forest will not only continue to stand and grow but also give more carbon offset revenue for the next 60 years to the government. ■

The writer is a retired secretary of the forest & wildlife department and ex-chief conservator of forests.



Dialogue for the economy

◆ Dr Abid Qaiyum ◆

The PTI government made various efforts to attract foreign investment in Pakistan during its first two years in power. High-level delegations and dignitaries from Saudi Arabia, China, Turkey, Malaysia, the UAE and Qatar visited Pakistan from 2018 to 2019. These countries signed multiple memorandums of understanding (MOUs) and agreements worth billions of dollars with Pakistan to invest in petrochemical, agriculture, infrastructure development, tourism, renewable energy, and many other sectors.

For instance, Saudi Arabia agreed to invest \$20 billion in various projects, including a \$10 billion oil refinery and petrochemical complex in Gwadar. China pledged to enhance its cooperation under the China-Pakistan Economic Corridor (CPEC) and support Pakistan's industrialization and social-sector development. Turkey expressed its interest in investing in Pakistan's automobile and tourism sectors. Malaysia signed five MOUs with Pakistan to expand bilateral trade and investment in diverse areas such as telecommunication, technology, and halal food.

The UAE announced a \$6.2 billion package for Pakistan, including \$3 billion in balance of payments support and \$3.2 billion in deferred oil payments. Qatar promised to invest \$3 billion in various sectors and increase its liquefied natural gas (LNG) exports to Pakistan.

However, despite political support from the highest level, those MOUs never materialized. Experts attribute this situation to weak follow-up, bureaucratic hurdles, procedural delays, and lack of coordination among different government agencies and ministries. For example, the Saudi oil refinery project in Gwadar faced multiple challenges, such as security issues, land acquisition, environmental concerns, and feasibility studies. The CPEC projects also slowed down due to disagreements over financ-

ing terms, power tariffs, tax exemptions, and security situation.

Turkish investment in the automobile sector was hampered by

the lack of a clear policy framework and incentives for new entrants. Malaysian investment in the telecommunication sector was stalled by regulatory hurdles and legal disputes faced by the existing Malaysian companies operating in Pakistan. The UAE package for Pakistan was partially delivered as only \$2 billion out of \$3 billion was disbursed as a balance of payment support. The deferred oil payments facility was suspended after eight months due to falling oil prices. Qatari investment in various sectors was also delayed due to the Covid-19 pandemic and the changing regional dynamics.

Another factor that irks friends of Pakistan is the lack of policy consistency and continuity. For instance, Saudi Arabia asked Pakistan to repay \$1 billion from the \$3 billion loan it had given earlier. Reportedly, Saudi Arabia was displeased with some inappropriate remarks made by a high-ranking individual in Pakistan. China also paused some of the projects in Pakistan as it was concerned about the security situation. The UAE also had some reservations about Pakistan's stance on regional issues such as Yemen and Iran. Qatar also had some diplomatic tensions with Pakistan over the Afghan peace process and the recognition of the Taliban regime. The situation got further aggravated when, amidst political instability in Pakistan, its friends adopted a 'wait and see' approach. Their reluctance to give financial assurances to Pakistan until they get clarity on what would happen next on its political front had in turn stalled Pakistan's IMF programme. The thinking has been that the IMF will not release the next loan tranche until it receives specific financial assurances from these countries. The examples above show how procedural barriers, lack of coordination, and perceived inconsistencies in policies can adversely affect Pakistani interests. However, the initiatives that addressed these issues were successful. Here are some examples. One example is Pakistan's response to Covid-19.

The delta variant of the coronavirus created havoc in India, but Pakistan was able to contain the losses to the economy and human lives. This was largely due

to the mechanism of the National

Command and Operation Centre (NCOC) which was jointly steered by the civil and military leadership. It monitored the situation, made decisions, and implemented policies to control the spread of the virus.

The NCOC also coordinated with provincial governments to ensure the availability of resources such as hospital beds, ventilators, and personal protective equipment (PPE) where they were needed most. Moreover, it oversaw the implementation of measures that proved vital to slow down the spread of the virus, such as lockdowns, social distancing, mask-wearing, and most importantly, vaccination.

Keeping that in mind, in July 2022, the Sustainable Development Policy Institute (SDPI) proposed to form an economic security council (ESC) comprising civil and military leadership to address the economic challenges and complexities faced by Pakistan. The SDPI's recommendation was that all stakeholders in the council should formulate and facilitate the implementation of a five-year economic roadmap (a charter of economy) that covers key economic challenges facing Pakistan. While establishing the SIFC is a welcome initiative that can help Pakistan attract and facilitate investment from friendly countries and boost its economic growth, the success of this mechanism will depend on its effective functioning and implementation. The SIFC alone cannot solve all the economic problems of Pakistan. It needs to be complemented by a broader and deeper dialogue and agreement on the economic roadmap and reforms that are necessary for Pakistan's sustainable and inclusive development. Hope all stakeholders are ready for such dialogue. ■

The writer heads the Sustainable Development Policy Institute.



X3-FORTH awarded a prestigious certificate

—◆— EU Report —◆—

Intersolar Europe 2023 Expo witnessed a momentous occasion as SolaX Power X3-FORTH commercial inverter (80-150kW) was awarded the prestigious VDE-AR-N 4110 & 4120 certificate by TÜV Rheinland. This esteemed recognition underscores the exceptional quality and reliability of SolaX Power products, solidifying its position as a leading provider of cutting-edge solar solutions in the European market.

The VDE-AR-N 4110 & 4120 certificate is widely regarded as one of the most stringent standards for commercial PV inverters in Europe. It serves as an assurance of the highest level of quality, performance, and compliance with European grid codes. The certification process entails rigorous testing and evaluation, ensuring that the awarded products meet or exceed the stringent technical requirements and safety regulations set forth by the industry.

TÜV Rheinland is a globally renowned independent testing and certification organization. With over 150 years of expertise, TÜV Rheinland has been instrumental in ensuring the safety, reliability, and quality of various products and services across numerous industries worldwide. Their meticulous evaluation process makes their certifications highly esteemed and trusted by manufacturers, installers, and consumers alike.

The SolaX Power X3-FORTH inverter (80-150kW) is a cutting-edge commercial solar inverter designed to optimize energy conversion and enable efficient power management. Its robust construction, comprehensive protection mechanisms, and high conversion efficiency make it an ideal choice for commercial applications, providing businesses with reliable and sustainable energy solutions.

Established in 2012, SolaX Power envisions a clean and sustainable future powered by solar energy. As a global leading solar solutions provider and Asia's first hybrid inverter manufacturer, SolaX has grown into a multinational corporation with over 2,000 employees worldwide in a decade. With headquarter in Hangzhou, China and branches in Netherlands, Germany, UK, Australia, Japan and US, SolaX sells products to more than 80 countries.

SolaX PV inverters ranging from 0.6-150kW, are equipped with strong efficiency,



high reliability, superb adaptability and smart control. The VDE-AR-N 4110 & 4120 certificate awarded to the X3-FORTH commercial

inverter further solidifies SolaX Power's commitment to product excellence and customer satisfaction. ■

Energy measures in budget

◆ Abida Naurin ◆

The demand for energy is on the rise due to economic expansion, population growth, and rapid technological advancements. However, the reliance on imported fossil fuels and energy supply limitations poses significant challenges to the country's economic prospects.

In response, the government aims to optimise the utilisation of local energy sources such as hydel, solar, wind, and Thar coal. The government recently approved the Framework Guidelines for Fast Track Solar Initiatives 2022 to promote and develop cost-effective renewable energy.

This framework primarily focuses on substituting expensive imported fossil fuels with solar photovoltaic (PV) energy, implementing solar PV generation on 11kV feeders, and solarising public buildings.

During the current fiscal year (2022-23), the addition of three Thar coal-based power plants has increased the total installed capacity to 3,300MW. Additionally, there are six nuclear power plants with a combined installed capacity of 3,560MW.

A critical review is required to evaluate the effectiveness of government policies and explore potential challenges and opportunities.

As of July-March FY23, the total installed capacity and electricity gen-

eration reached 41,050MW and 94,121GWh, respectively. The distribution of installed capacity among hydel, nuclear, renewable, and thermal sources is 25.8 per cent, 8.7pc, 6.8pc, and 58.7pc, respectively.

Likewise, electricity generation shares were 28.6pc, 21pc, 4.2pc, and 46.2pc for hydel, nuclear, renewables, and thermal sources, respectively. (Pakistan Economic Survey, 2022-23).

In terms of electricity consumption, the household sector accounted for 47.2pc of the total, followed by the industrial sector at 28pc, agriculture at 8.1pc, and commercial at 7.8pc. The total demand for petroleum products saw a decline of 21.9pc, reaching 13.1 million tonnes in July-March FY23.

The transport sector alone consumed about 78.5pc of petroleum products. Notably, there was a notable decrease in the demand for motor spirit, high-speed diesel, and furnace oil, which accounted for approximately 95pc of the total demand.

To meet this demand, petroleum products and crude oil imports amounted to 6,118.3 thousand metric tonnes and 5,858.4 thousand tonnes, respectively.

Furthermore, natural gas consumption during July-March FY23 was around 3,267m cubic feet per day (MMCFD), including 626 MMCFD of re-gasified liquefied natural gas (RLNG). Lastly, the power, brick kilns, and cement/other sectors consumed 47.3pc, 21.5pc, and 31.1pc of the total coal consumption, amounting to 15,416.5 thousand tonnes.

A budget of Rs30 billion has been set out for the solar energy conversion of 50,000 solar tube wells

under this framework. The government also aims to reduce reliance on energy imports by enhancing dependency on renewable sources.

Batteries, solar panels, and inverters' raw materials will be free from customs taxes (Budget document 2023-24). As Pakistan's electricity generating capacity surpasses 41,000MW, Rs107bn has been set aside to improve the effectiveness of power transmission.

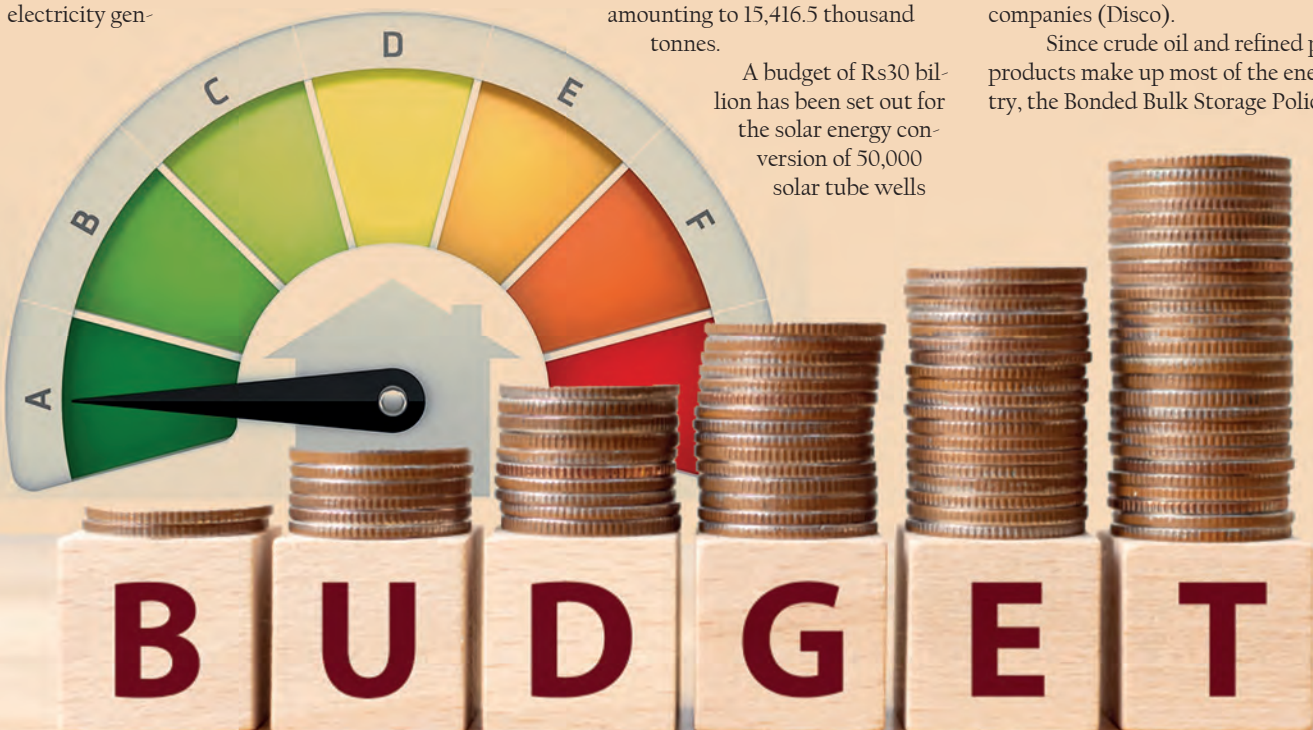
To support the Pakistan-Tajikistan 500kV power project, Rs16bn has been allocated to expand bilateral energy cooperation and Rs12bn for the Jamshoro coal project.

During the fiscal year 2023-24, mega transmission projects like CASA-1000 (Rs16.1bn) and the transmission sector is anticipated to have 3,750 MVA additional capacity on the 500kV grid and 6,900 MVA more capacity on the 220kV grid by the end of June 2024.

The transmission lines will be extended by 522km, and on the 220kV level, by 668km. Dasu Evacuation (Rs5.67bn) and Suki Kinari Evacuation (Rs13.8bn) are allocated in the current budget. In addition, Rs7.27bn has been allotted for eight projects to deliver electricity to Special Economic Zones.

The Public Sector Development Programme 2023-24 includes major distribution projects like Advanced Metering Infrastructure for Islamabad Electric Supply Company, which is worth Rs3bn. The distribution sector investments will electrify 6,985 villages, creating 1.4m new customers for distribution companies (Disco).

Since crude oil and refined petroleum products make up most of the energy industry, the Bonded Bulk Storage Policy for POL



(petroleum) Products will be implemented to address the problem of supply chain disruption.

Mohmand Dam, the Diamer Bhasha Dam, and the Dasu Hydropower Project will have a budget of Rs10.5bn, Rs20bn and Rs59bn, respectively, in FY24. These initiatives seek to produce power at a reasonable price while also supplying water to the agriculture sector.

However, nothing in the budget addressed ways to reduce theft, line loss, or circular debt. Diversification of energy sources, reduction of reliance on imported fuels, and investment in renewable energy infrastructure are key to ensuring long-term energy security and economic stability.

A research report on “PIDE’s Charter of Economy” by the Pakistan Institute of Development Economics (PIDE) stated that smart metering technologies should be used to transition the power supply to a pre-paid basis.

While contracts should be issued based on best achievements, the government should also carefully consider leasing out the challenging retail districts to the private sector for a certain length of time. Reduce the role of the government in setting tariffs and state-owned discos.

Further, to reduce theft, first off, retail management should be outsourced. Next, high-quality measuring tools should be installed to address the problem of Unaccounted for Gas (UFG). Second, term profitability should be eliminated since it allows gas distribution corporations to make money when operational efficiency should be the source of such profits.

Thirdly, it is necessary to create a single consumer tariff based on cost-of-service. Fourth, review long-term LNG contracts to release some of the gas volumes and allow third parties (third-party access) to acquire the gas on a short-term basis or the open market.

Lastly, attain price convergence between RLNG and piped indigenous gas. A more critical review should delve into the implications of the figures, evaluate the effectiveness of government policies, and explore the potential challenges and opportunities in the energy sector. ■

The writer is a Research Fellow at PIDE, Islamabad.



ENERGY NEWS



Parliamentary delegation visits Karot Hydropower

A parliamentary delegation visited Karot Hydropower Project to commemorate its 1st anniversary and celebrate the 10 years of the China-Pakistan Economic Corridor (CPEC) and the 10 years of BRI. The delegation was led by Senator Mushahid Hussain Syed, Chairman of Pakistan-China Institute, and Mustafa Hyder Sayed, Executive Director of Pakistan-China Institute. This was the first Cross Party Parliamentary delegation that visited the Karot Hydropower Project, including Senator Waleed Iqbal, Senator Taj Haider, Senator Sadia Abbasi, Senator Palwasha Mohammad Zai Khan, and Senator Muhammad Asad Ali Khan Junejo. Moreover, journalists, bloggers, and students were also a part of this delegation. The delegation was warmly welcomed by Wang Minsheng, CEO of CSAIL, who emphasized the significance of the Karot project and the operations underway to boost Pakistan’s energy sector. Explaining the project benefits, he said, “With an annual generating capacity of about 3.2 billion kWh, the project is expected to save about 1.4 million tons of standard coal and reduce carbon dioxide emissions by 3.5 million tons each year, meeting the electricity needs of 5 million people in Pakistan”. He further said that the Karot Hydropower Project is the flagship project of CPEC, featuring sincere cooperation and mutual benefit between China and Pakistan.

OGDCL Enhances Energy Production

—◆ EU Report —◆

In a significant move towards meeting the country’s growing energy demands, Oil and Gas Development Company Limited (OGDCL), the leading exploration and production company in Pakistan, has revived Jhal Magsi Gas project. The state-of-the-art gas processing plant, with a daily capacity to produce 13.7 MMSCF process gas and 45 BBL/day condensate, will mitigate escalating energy needs of Pakistan. The installation of this plant is a testament to OGDCL’s commitment to furthering the exploration and production of oil and gas resources in the region. Besides the commercial operations, the company has underscored its dedication to transforming the lives of the local community in Jhal Magsi through a series of social welfare initiatives in the areas of education, health, water, and infrastructure. As part of its efforts to enhance healthcare facilities, OGDCL has provided ambulances to the District Headquarter Hospital (DHQ) in Jhal Magsi. Additionally, OGDCL has installed a Reverse Osmosis (RO) plant, recognizing the importance of clean drinking water. Oil and Gas Development Company Limited (OGDCL) is actively contributing to the socioeconomic development of Jhal Magsi district by combining their commitment to meeting the country’s energy requirements with community-focused initiatives. Their multifaceted approach, dedicated to securing a reliable energy supply and enhancing the quality of life for residents, is a significant milestone in Pakistan’s pursuit of energy security and sustainable progress. OGDCL’s installation of the gas processing plant, along with their community development endeavors, showcases their dedication to the welfare of the local population and sets an example of responsible corporate citizenship in the country.



'Pakistani elites should mend their ways before it's too late'

— EU Report —

In a scathing criticism of the Pakistani elite, the former director of the United Nations Development Programme (UNDP) for Pakistan Marc-André Franche said the only way a critical change could happen in the country was when the influential, the politicians and the wealthy would sacrifice short term, individual and family interests for the benefit of the nation.

"You cannot have an elite that takes advantage of very cheap and uneducated labour when it comes to making money, and when it is time to party it is found in London, and when it's time to buy things it is in Dubai, and when it's time to buy the property it invests in Dubai or Europe or New York. The elite needs to decide do they want a country or not," Franche said.

The former director, who spent four years in Pakistan, was also critical of the landowners. "I have visited some very large landowners, who have exploited the land for centuries, paid nearly zero money for the water, and how they almost sometimes hold people in bondage. And then they come to the United Nations or other agencies and ask us to invest in water, sanitation, and education for the people in their district. I find that quite embarrassing."

Having visited Karachi this month, Franche was appalled to see the condition of the city. "It's at a breaking point. If Karachi is at all to continue being the engine of growth in this country, something needs to be done about public utilities. You cannot live in Karachi and grow your business anymore with the state of disrepair of public institutions."

Further, he expressed

his frustration that Pakistan was not making more progress in terms of poverty reduction, inequality, modernising the state, and functioning institutions. "The fact that even in 2016, Pakistan has 38 per cent poverty; it has districts that live like sub-Saharan Africa; that the basic human rights of minorities, women, and the people of FATA are not respected; that this country has not been able to get its act together and hold a census; or that it has not been able to push for reforms in FATA, an area that is institutionally living in the 17th century. It is extremely preoccupying."

Bribery incidence in Pakistan is much higher than rest of South Asia

"Pakistan will not be able to survive with gated communities where you are completely isolated from the societies, where you are creating ghettos at one end and big huge malls for the rich at the other end. It is not the kind of society you want your kids to live in," he added.

Franche shared that he was disappointed with the quality of local government laws that each province had developed. "Only KP has a decent law that gives real power and real money to the local government. Local government does not mean that you just elect them and deny them fiscal resources or power. We have been advocating for a review of those laws. In KP, because they put in place a decent local government law, we are currently finalising the agreement with the provincial government to support them in local governance, focusing

first on seven districts, one per each division."

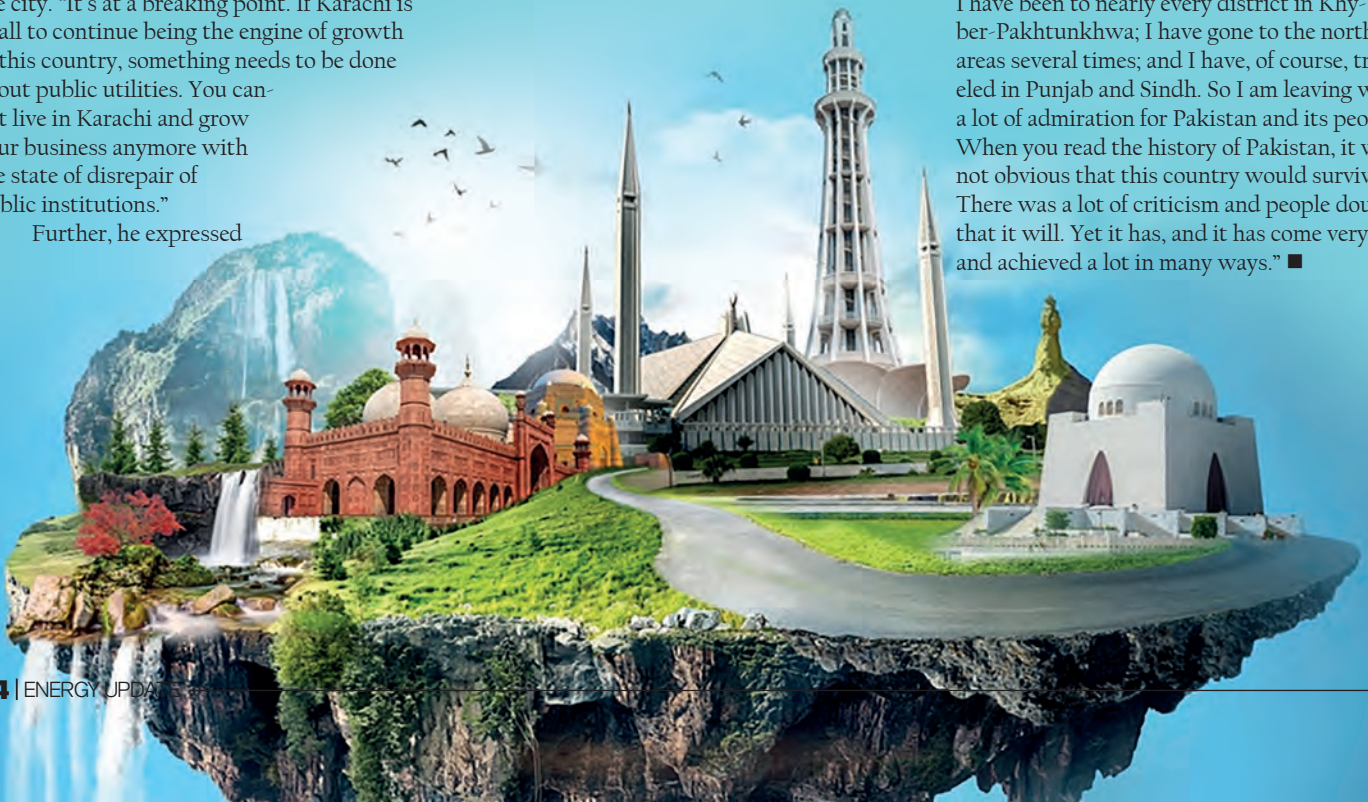
The ex-director of UNDP Pakistan was also critical of the media, adding that there was a deficit of media literacy. "The media is one of the pillars of democracy and the media has to educate the public. Unfortunately, the level of dependence of the government by which a lot of media in this country is manipulated, are of erosion of democracy the foundations of this country."

He added that he was concerned about the inequality of rights and opportunities in Pakistan. "The apartheid of opportunities in Pakistan is horrible, which is why so many young people are trying to leave the country. This is one of the issues that UNDP will continue to work on in Pakistan for sure - investing in both improving the quality of data and the quality of analysis of inequality."

Cities in Pakistan planned for rich housing

Although he didn't think there was an imminent threat of a revolt by the poor, he did see it happening eventually. "I don't see those circumstances emerging in Pakistan at the moment. But it will eventually happen in one way or the other. You cannot have a country, where nearly 40 percent of the people live in poverty."

As he leaves Pakistan, he spoke about his love for the country. "When you spend four years in a country, you learn to appreciate its complexity. I do not even remember how many times I have been to Balochistan; I believe I have been to nearly every district in Khyber-Pakhtunkhwa; I have gone to the northern areas several times; and I have, of course, traveled in Punjab and Sindh. So I am leaving with a lot of admiration for Pakistan and its people. When you read the history of Pakistan, it was not obvious that this country would survive. There was a lot of criticism and people doubt that it will. Yet it has, and it has come very far and achieved a lot in many ways." ■



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Power plant retirement policy

Plans afoot to retire 19 power plants of an aggregate capacity of 7339 MW

—◆ Syed Akhtar Ali ◆—

There are plans to retire 19 power plants of an aggregate capacity of 7339 MW as per IGCEP (Integrated Generation Capacity Expansion Plan) in the period 2021-2031. Due to the ongoing Current Account Deficit (CAD) crisis, current policy is to use as little imported fuel as possible and make do with local energy sources.

Current load shedding despite having ample capacity is mostly due to the fuel issue. Plants' retirement may not be as simple issue as it may appear to be on the surface. There are a variety of reasons, which force the buyers or sellers to delay the plant retirements.

There is usually confusion or controversy as to who the loser is and who is the gainer? Can there be a power plant retirement policy or a set of criteria in this respect or things have to be decided on a case-to-case basis? We

will examine the subject in this space at some detail and make use of some actual cases to elucidate the nature of issues and problems.

While plans provide for plants retirement at the end of useful life of 25-30 years, plant owners often lobby for extension of 5 or more years with the help and support of the user organizations. It has happened earlier and it is happening now.

The case of KAPCO (Kot Addu) power plants extension is under consideration. Earlier, KE successfully sought extension of two oil-fired power plants, despite opposition of other stake-holders. Hubco, which is to retire on 2027, has been trying for some form of extension: conversion to coal or otherwise.

Power plant retirement has to be planned ahead. It is not sufficient to announce retirement date and expiry of generation license. Retiring plants by last day of retirement often provides useful services.

It is a part of regional power generation and transmission system. It may have some

parts which are still useful and due to lack of replacement planning, may be badly needed.

There are ancillary services such as peak powering, frequency regulation, transmission and black-start management facilities. There may be a tussle or cooperation regarding the continuing use of these services and plant parts. Power producer may want to offer all parts of the plant and earn revenue while buyer/user may want to acquire only the needed services.

Perhaps the most important aspect may be the fuel cost in these days when fuel cost has gone high, although recently, energy prices have come down. New power plants have higher efficiency. Older power plants have typical efficiency of 40% or even less. New power plants such as combined cycle power plants have efficiency of more than 60%.

Environmental issues may also be a determinant. KAPCO uses Low Sulfur Furnace Oil (LSFO), while most refineries in Pakistan produce HSFO. The choice of LSFO may be based on the liking for imports or may have genuine environmental policy issues. Foreign investors are usually more sensitive in this regard.

Another option is conversion or replacement. In the West, coal plants have been converted to biomass, gas and even solar or wind; that is more due to environmental and climate reasons.

The core parts of the power plants are engines or turbines/generators which may have a cost share of 50-60% and the auxiliary equipment and land and infrastructural cost may be the remaining 40-50%. Also the imple-



mentation time for conversion or replacement may be less than half of installing a green field power plant.

The case of KAPCO

KAPCO gas/oil/Diesel combined cycle power plant is of 1600 MW. KAPCO plant has some useful ancillary equipment which has enhanced its case of renewal. It has a switchgear plant, a black-start facility, transmission infrastructure and others.

The plant has been working at a load factor of 47% and the petitioner has applied for a load factor of 30% (500 MW out of 1600 MW). Its LSFO power plant component has an advantage for environmental reasons but has a disadvantage from cost and foreign exchange point of view, as local refineries, except ARL, produce HSFO.

Its generation license expired in 2021, which has been renewed by Nepra (National Electric Power Regulatory Authority) recently for three years as against the petitioner's request of 5 years. There has been a controversy about it. Senate of Pakistan has opposed the renewal and has asked for its cancellation. Senate's jurisdiction has, however, been contested.

NTDC (National Transmission and Dispatch Company), NPCC (National Power Construction Corporation) and MEPCO (Multan Electric Power Company) have supported the renewal application for their respective relevance. It is contested if full plant renewal was necessary or ancillaries only could have been renewed. Plant owners would definitely like to get full renewal in order to maximize revenue.

There appears to be emergent reasons for renewal as alternative arrangements have not been made, as is the case usually in the system. It is hoped that some amicable and equitable solution can be found with mutual and public consultation process.

For future, retirement planning, renewal or closure should be done well in advance so as to avoid emergencies and unnecessary pressure on the decision-makers causing controversies of various kind. A combination of policy and case-to-case considerations may be an adequate approach. Keeping in view the ongoing economic crises, new investment may not be forthcoming or may be expensive. ■

The writer is former Member Energy, Planning Commission and author of several books on the energy sector

DEVELOPING COUNTRIES

Green transition won't happen without financing

◆ Martin Wolf ◆

Last week, I discussed the dire financial situation of the poorest countries. This week's "summit for a new global financing pact" in Paris offers an opportunity to deal with this challenge. It also offers a chance of making the investments needed for a transition to a low-emissions economy.

This is the central point of a new paper by Avinash Persaud, who advised Prime Minister Mia Mottley of Barbados on the influential Bridgetown Agenda for the Reform of the Global Financial Architecture. In "Unblocking the green transformation in developing countries with a partial foreign exchange guarantee", he analyses how to make sufficient affordable finance available for renewable energy projects in emerging and developing countries, an issue also considered in last year's expert group report, *Finance for Climate Action*.

Over the past 270 years, Europe and North America have contributed more than 70 per cent of the stock of anthropogenic greenhouse gases. This has also exhausted almost all of the planet's carbon budget. But today emerging and developing countries generate some 63 per cent of emissions, a share that is bound to grow. It follows that there must not only be huge cuts in emissions, but a huge part of those cuts, particularly relative to trend, must be made by emerging and developing countries. To achieve this, investment in the green transition in these countries (other than China) needs to reach some \$2.4tn a year (6.5 per cent of gross domestic product) by 2030.

In high-income countries, 81 per cent of green investment is funded by the private sector. In emerging and developing countries, the private share is a mere 14 per cent. It is highly unlikely, even with a successful outcome to this week's summit, that official external assistance will fill it either. As Persaud

notes, "global expenditure on aid is less than one-tenth of the cost of the green transformation". Moreover, "developing countries do not have the space on their balance sheets for the debt required even if they wished to finance it themselves".

The solution is to secure private finance for potentially profitable projects, which represent about 60 per cent of the needed investments, the rest being for such things as adaptation. The latter will not yield direct financial returns and so must be financed by official assistance. But, notes Persaud, even where projects are financeable, in theory, punitively high interest costs for private lending to emerging and developing countries are forbidding obstacles. Thus, for a similar solar farm, the average interest cost in leading emerging countries is a prohibitive 10.6 per cent per annum, against only 4 per cent in the EU.

Yet, argues Persaud, the cause of this huge spread is not project-specific risk. A solar farm, qua solar farm, is no riskier in India than Germany. More than all of the risk premium represents market estimates of macroeconomic (specifically, currency and default) risks. He also argues that these risks are not just exaggerated, but cyclically so: in "risk on" periods, overpayment for insurance is smaller than in "risk off" ones.

The paper calculates this by looking at the cost of hedging foreign currency risk. That is expressed in terms of the difference between the price of buying foreign currency with local currency in future (the forward rate) and today (the spot rate). This gap can then be turned into an annual percentage rate.

The conclusion from the evidence is that markets are too risk averse: the risks are not as great as they fear. This is particularly true when the markets are at their most risk averse: on average, "overpayment" for hedges has been 2.2 percentage points when their cost is below the three-year moving average, but 4.7 percentage points when the cost is above its moving average. ■

Courtesy Financial Times

Managing energy imports to save forex reserves

Pakistan's total debt-liabilities by March were US\$ 125.7bn; Country needs to repay over US\$ 77bn in three years; July 2022-April 2023 energy import bill for petroleum products was nearly US\$ 14bn; US\$1.2 billion spent on coal imports between July and Dec 2022

—◆ Afia Malik —◆

Pakistan relies on imports for 49 percent of its primary energy supplies, which strains its already limited foreign exchange reserves.

As of April 2023, Pakistan's total net reserves were US\$ 11.5 billion, with the State Bank of Pakistan holding US\$ 4.6 billion and the remaining reserves held by scheduled banks. Furthermore, the cumulative trade balance as of April 2023 amounted to US\$ 21.99 billion.

As of March 2023, Pakistan has a total debt and liabilities amounting to US\$ 125.7 billion, with almost 77 percent of it (US\$ 96.3 billion) owed directly by the government to different multilateral and bilateral creditors, which puts pressure on repayment. Within the next three years, Pakistan needs to repay over US\$ 77 billion.

Given that Pakistan is an economy worth US\$ 376 billion with a population of around 230 million, the burden of this debt is significant. Due to the high level of debt and limited foreign exchange reserves, managing and redirecting imports to more productive use is necessary.

Energy products comprise the largest portion of imports, accounting for about 30 percent of the country's total imports.

From July 2022 to April 2023, the energy import bill for petroleum products, including LNG and LPG, amounted to nearly US\$ 14 billion, 18 percent lower than in the previous fiscal year. However, this reduction was not due to efficiency or demand management but due to

less economic activity.

When it comes to petroleum usage, transport is the biggest consumer of oil products, accounting for 78 percent of the 11.3 million tons used from July 2022 to April 2023. Within this total, road transport made up 96 percent.

Despite the approval of an Electric Vehicles (EV) policy, the high cost of EVs and the absence of widespread and reliable charging infrastructure has made its adoption extremely difficult.

The transport sector mainly relies on two petroleum products, petrol and diesel. According to research conducted at the Pakistan Institute of Development Economics (PIDE), the demand for these products in the transport sector is not greatly affected by changes in incomes or prices; demand elasticity is less than 0.36 in all cases.

Diesel demand is even less elastic, with a price elasticity of less than 0.2. Increasing prices may not help manage the demand for these products, but other conservation policies may help.

One such policy is the strict rationing of petrol quota for all government officials, which can help reduce consumption.

Back in 2004, the Philippines government implemented measures to reduce petrol consumption. These included halting the purchase



of official government cars, limiting unnecessary trips by government officials, and minimizing all activities that involved petroleum products.

Ministries and government agencies were also encouraged to maintain their vehicles properly, and a mandatory 10% reduction in petrol consumption was enforced for official purposes.

Additionally, official vehicles were only permitted for official business, and government vehicles were prohibited on Sundays, official holidays, and outside regular office hours. By setting an example for the rest of the country, the government decreased the consumption of petroleum products by 8 percent in almost two years.

On the other hand, Pakistan has yet to implement comparable measures. Even though a transport monetization policy was introduced in 2011, according to the report "Cash Poor, Perk Rich" by PIDE, government vehicles are still being utilized for personal purposes.

The announcement of a 30 to 50 percent cut in the petrol quota by the Federal and Provincial governments last year was insufficient and did not seem to have been implemented.

Getting the exact number of government vehicles in the country is challenging. Reports suggest that Sindh alone has around

12000 official usable cars. Furthermore, media reports from last year indicate that new vehicles were purchased for officials in their respective provinces and ministries despite the announced austerity measures.

Moreover, transport policy can have a significant impact on reducing oil dependency. Decisions regarding road infrastructure investments, urban transportation systems, vehicle taxation, and user costs will all influence the demand for and reliance on oil.

Implementing cost-reflective road pricing and parking fees can prevent the unnecessary use of private cars and save fuel. PIDE research, Why Pakistan Needs a Car Policy? suggests a need to alter city development policies and have a broader approach towards urban planning. This will also help in reducing the demand for petroleum products.

Another leading source of energy imports is LNG, which accounted for US\$ 745.9 million in our import bill from July to April FY2023. Over 60% of this is used in power plants with long-term agreements and capacity payments, making it unviable to shut down those plants.

However, we can reduce LNG imports by managing the gas allocation and minimizing losses, such as unaccounted-for-gas (UFGs).

In households, gas is mainly used for cooking and heating, accounting for about 50% of total gas consumption. During winter, demand for electricity drops significantly, while household demand for gas more than doubles.

By rationalizing gas pricing, electrifying household heating and cooking demand, and diverting indigenous gas resources to power plants, we can significantly reduce our LNG imports in the short to medium term.

The latest SNGPL annual report (2021) on their official website shows that they lost about 33162 MMCF as UFGs (8.6%). Similarly, SSGCL reports losses of 54779 MMCF (15.31%) as UFGs. To ensure efficiency, monitoring the supply chain closely and holding distribution companies accountable for the cost of these losses is essential, which can help reduce UFGs and release more gas for productive activities.

Likewise, Pakistan spent US\$1.2 billion on coal imports between July and December 2022, with half of this amount used in power plants. PIDE research suggests that blending local coal with imported coal in a 20:80 ratio could save up to 10% of this import cost.

While renewable energy is the future, it cannot be implemented immediately, as over 90% of power plants require capacity payments regardless of whether they generate electricity or not. In FY2022, these payments exceeded Rs 1.77 trillion and are projected to reach Rs 2.24 trillion by FY2030 due to existing projects and those in the pipeline. To avoid adding this amount to circular debt, utilising this capacity in productive activities is necessary. ■

WB okays \$200m for climate-resilient infrastructure

◆ EU Report ◆

The World Bank's Board of Executive Directors on Tuesday approved \$200 million to strengthen the state capacities to deliver basic services and climate-resilient rural infrastructure in tribal districts of Khyber Pakhtunkhwa.

The amount also includes investments for post-flood rehabilitation and reconstruction, and as part of the programme agreed with Pakistani government to respond to the devastating floods that hit the country in the summer of 2022, and build a climate-resilient Pakistan, according to a news release issued by the World Bank's resident mission in Islamabad.

It said the Khyber Pakhtunkhwa Rural Investment and Institutional Support Project was the first phase of a multi-phase approach to increase access to resilient and reliable basic services for rural households in KP's tribal districts. Representative says project to address development gaps in rural areas

Under this first phase, investments will focus on strengthening state responsiveness and facilitating citizen-driven service delivery, as well as rehabilitate infrastructure affected by the 2023 summer devastating floods.

"KPRIISP aims to address development gaps in rural areas that are among the poorest in the country, directly benefiting around 5.5 million people by extending public service delivery systems, investing in basic infrastructure like water supply and sanitation, and boosting agricultural productivity and livelihood opportunities," said World Bank country director for Pakistan NajyBenhassine. "It will also support post-floods reconstruction and rehabilitation, while strengthening resilience to such climate-related shocks, particularly in KP's newly-merged districts," he said.

He said the project would support the extension of state systems to deliver public services in tribal districts as well as investments in critical and basic rural infrastructure, besides supporting emergency reconstruction and rehabilitation of flood protection infrastructure damaged by the 2022 floods.

Infrastructure investments in water supply and sanitation, rural roads, agriculture, and irrigation will be done in a way to strengthen climate-resilience, in the face of increasing frequency and severity of extreme weather events in Pakistan.



Will it succeed? **Pakistan wants to conserve energy, save money**

— Atika Rehman & Qamar uz-Zaman —

Pakistan announced last week that from July 1, commercial centres and markets must close at 8pm, as part of a government-led national plan to save energy.

Officially titled the ‘Strategic Plan’ by the country’s National Energy Efficiency and Conservation Authority (NEECA), established under the Ministry of Energy, the policy was first discussed in mid-2022. It was then approved by senior ministers in December 2022.

At that time, Pakistan’s Federal Minister for Climate Change Sherry Rehman highlighted a reduction in fossil fuel use as a benefit of the plan, while the official policy brief also mentions an “associated benefit of reduction in GHG [greenhouse gas] emission to the tune of 35 MTCO₂e [metric tonnes of carbon dioxide equivalent]”.

But remarks from key government representatives and Prime Minister Shehbaz Sharif have indicated that the policy has one key objective: to spend less of the country’s dwindling foreign exchange reserves on imported fuel at a time when the Pakistan economy is on the verge of bankruptcy.

Ahsan Iqbal, Pakistan’s minister for planning and development, whose ministry is spearheading the energy conservation policy, told *The Third Pole*: “Our current account deficit is growing. We have to save every single dollar and this plan is one solution.”

Pakistan’s rising fuel bills

The Pakistan government’s anxiety around energy costs stems from its increased spending on imported fuel. According to the government’s annual economic survey, Pakistan’s oil import bill increased by 95.9 per cent to \$17.03 billion for the period July 2021 to April 2022, compared to \$8.69bn for the corresponding period in the previous year. The survey attributed the staggering increase to “higher oil prices in the global market ... [and] massive depreciation of the Pakistani rupee [which] is making oil more expensive, triggering external sector pressure and widening the trade deficit of the country.”

In May this year, inflation in Pakistan reached highs not seen since the 1950s. It is in this context of rising import bills, high do-

mestic inflation and fears of economic collapse that the energy conservation plan has been introduced.

“Pakistan can save up to 15pc of energy under this plan and curtail its ballooning import bill,” Sardar Mohazzam, managing director of the NEECA, told *The Third Pole*.

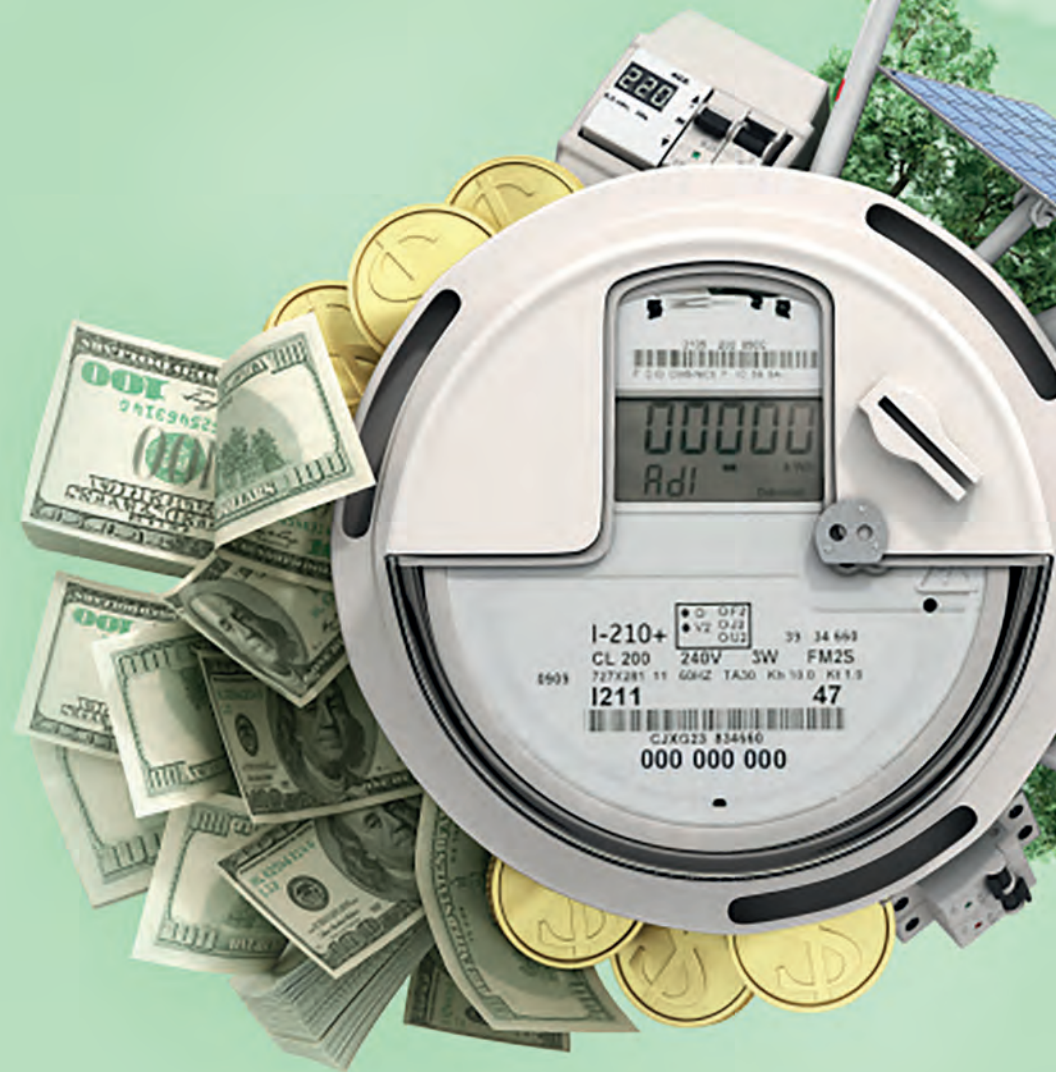
“The government is serious about the plan and its implementation is in full swing,” Mohazzam added.

Mohazzam said that taking these steps ahead of Pakistan’s peak electricity demand in the summer months — which typically more than doubles to 29,000 megawatt (MW) in the summer months compared to 12,000 MW in

winter, largely due to use of fans in the heat — will have a “substantial impact”.

But as the government sets out its stall on energy conservation, questions of implementation and market resistance persist, while experts question what the government is doing to end Pakistan’s long-term reliance on fossil fuels.

Though Pakistan’s energy efficiency plan was first announced six months ago, no clear deadline was issued for actions to be enforced, and implementation has been a major challenge for the federal government. For instance, from the policy’s announcement to date, markets have remained open as per normal timings. The government’s recent announcement of the



July 1 deadline, in a press conference, indicates that the policy measures announced six months earlier remain on paper only.

Pakistan's Defence Minister Khawaja Asif told The Third Pole that the delay between the initial policy announcement and that of the July deadline was due to the challenge of getting all the provincial governments on board with the energy conservation plan. "We had a policy, and a particularly comprehensive one when it comes to power, but some provinces were not on board and actually mocked the policy," he said.

Since the 2010 passage of the 18th



Amendment to Pakistan's constitution, significant powers, including legislative and financial autonomy, have been devolved from the central government to the provinces.

"We suggested implementation [of the energy conservation policy] last year, when Parvez Elahi was chief minister [of Punjab province]. But there was huge resistance in Punjab," said Asif.

Parvez Elahi is an ally of former prime minister Imran Khan's party. A political crisis in Pakistan, which was triggered in April 2022 with the ousting of Imran Khan, is still ongoing, with the incumbent government and Imran's party at loggerheads.

When asked how the central government will get provincial governments on board with the energy conservation plan, Minister

Ahsan Iqbal replied: "It is for this reason that we have taken the cabinet's decision [on the energy plan] to the National Economic Council. The Council also includes the chief ministers of the provinces so now they are a party to the decision."

"None of us can afford to continue down this path anymore. We have the buy-in of the provinces, and hope they take a step in the right direction," he added.

Criticism and resistance to the energy conservation plan

Sardar Mohazzam of the NEECA explained to The Third Pole that asking people to change their behaviour remains a challenge. Commercial markets in Pakistan often open late in the day and remain open late into the evening, making the government's decision to mandate 8pm closures a bitter pill for traders to swallow.

"Implementation of such measures requires careful analysis of the current political economy and social circumstances," said Mohazzam.

Atiq Mir, chairman of the All Karachi Traders Alliance (All Karachi Tajir Ittehad), said that early market closures is a "flawed approach". "We will not accept proposals that are detrimental to traders and shopkeepers," said Mir. When The Third Pole contacted Mir in May 2023, he had said the measure had thus far not been implemented in the port city "due to their stiff resistance".

Afia Malik, a senior researcher at the Pakistan Institute of Development Economics, said that while Pakistan's energy conservation plan is promising, there have been many others over the past two decades. "The real question has always been the implementation of plans," she said.

Malik argued that the government should address the major issue of circular debt in Pakistan's power sector, which she put at \$15bn. This refers to the recurring problem of unpaid electricity bills and inefficiencies in the energy sector, involving a cycle whereby power generation companies face payment delays, leading to a shortage of funds for fuel purchase and maintenance, and ultimately hindering power supply and exacerbating the debt issue.

Malik also noted that the amount of energy used by each person in Pakistan is not high compared to other countries.

Shaheera Tahir, a researcher at Islamabad-based think tank the Policy Research Institute for Equitable Development (PRIED), said that while the government's focus on energy conservation and efficiency is promising, the plan was not introduced proactively but "when the crisis had already hit".

"The plan sets a target of saving 3m tonnes of oil equivalent [a unit that quantifies the amount of energy released when one tonne of crude oil is burned] by 2025. However, with the current pace of work, the timely completion of the targets looks difficult," Tahir said.

Tahir added that campaigns designed to

effect behavioural change appear promising, but that the efficient generation of electricity is overlooked in current plans.

"Coal is not discussed at all for its adverse impacts on the environment and on communities. Despite the low efficiency of Thar coal [extracted in Pakistan's Thar region], we see new power plants being inaugurated," Tahir said.

Energy specialist Saadia Qayyum expressed scepticism about the implementation of the energy conservation plan. "The plan has the right contours and right intentions in place, but there is a question mark on implementation: how are the authorities going to replace the fans or get the building codes implemented?"

"There is a lack of capacity in the institutions," she said. "We are quite late in terms of realising energy efficiency is important."

It's now or never for energy plan, says Pakistan government

When asked to respond to questions over implementation of the energy conservation plan, minister Ahsan Iqbal said it is one component of a bigger strategy.

"When you are bleeding, you need emergency treatment as well as long-term therapy. They are not mutually exclusive. We need a quick fix to stabilise the haemorrhaging of our economy, and that is the reason for this plan," Iqbal said.

"This plan is different [from previous ones] because the pressure is on. The dollar challenge is a very strong imperative. If we do not change energy usage and consumption, it will be a disaster."

Questioned on use of coal in energy production, Iqbal said: "We will not invest in imported coal, and will only use indigenous coal."

When The Third Pole raised the issue of locally produced coal, particularly lignite, being highly polluting, Iqbal responded: "We are using ultra supercritical technology in these coal plants, so they have lower emissions. We are doing clean coal, as the technology has changed. The new generation of coal plants is clean. We will use this energy as a base load, and add solar and wind power to this as well."

When asked to put the minister's 'clean coal' comment into perspective, environmental lawyer Ahmad Rafay Alam said: "What the hell is clean coal? It's like saying light cigarettes are healthy! There is nothing clean about this coal. The Centre of Research for Energy and Clean Air did a study in 2020 that said up to 30,000 people would prematurely lose their lives on account of air pollution emanating from Thar's coal plants. Consuming coal just because we [Pakistan] have it isn't a good enough argument. We have plenty of renewables like sun and solar too — renewables which are cheaper than other forms of electricity produced in Pakistan." ■

This article was originally published by The Third Pole



PARCO and TCF have signed anMoU for the establishment of two primary schools in TalukaKhanpur, District Shikarpur in Sindh and Tehsil Rojhan, District Rajanpur in Punjab. The MoU was signed between Mr. Shahid Mahmood Khan, Managing Director PARCO and Mr. Asaad Ayub Ahmad CEO & President TCF.

Govt awards 3 oil and gas blocks

—◆ Israr Khan —◆

Only three of 18 oil and gas exploration and production blocks offered by the government have been awarded to local companies, with the rest attracting no interest from local or foreign investors, officials said on Tuesday. The two blocks were awarded to the state-run Oil and Gas Development Company Limited (OGDCL) and another to a joint venture of two local private companies. An official, who spoke on condition of anonymity, said the poor response was a disappointment and that the government had been advised against proceeding with the auction due to unfavorable market conditions. "We have never received such a disappointing response in the past," the official said. "Despite the advice, the government went ahead with the auction and this is what we have got." OGDCL, a public company with decades of experience and expertise, is already burdened with numerous blocks and occupied with ongoing projects. The joint venture that won one of the blocks consists of Prime International Oil and Gas Company Limited (PIOGCL) and Al-Haj Enterprises (Private) Limited (AEPL). Both companies are relatively new to the petroleum exploration and production sector. Al-Haj was incorporated in 2012 as a private company under the Companies Ordinance. It was an oil transportation company and had transported fuel to NATO forces in Afghanistan. On the other hand, PIOGCL is a joint venture between Hub Power Services Limited (HPSL) and ENI Pakistan's Local Employees.

SNGPL gets gas supply from Wali

—◆ EU Report —◆

Injection of gas supply into SNGPL's network from a newly discovered gas field namely Wali (Bettani) in District Lakki Marwat of Khyber Pakhtunkhwa has started on Friday, a statement said. The Oil and Gas Development Corporation (OGDCL) discovered Wali gas field last year. Prime Minister Shehbaz Sharif and Federal Ministry of Energy (Petroleum Division) had directed Sui Northern Gas Pipelines Limited (SNGPL) to lay pipelines for injection of gas from the newly discovered gas field. The gas flow from Wali gas field will be processed at OGDCL's facility before being injected into Sui Northern's transmission system. Current gas supply flow rate from the gas field is 10mmcf/d which is expected to rise to 20mmcf/d in near future.

PM lauds Chasma nuke plant MoU

—◆ EU Report —◆

Prime Minister Shehbaz Sharif has said that the signing of Memorandum of Understanding (MoU) for 1200 Megawatt Chasma-V Nuclear Power Plant was a great step forwards economic cooperation between Pakistan and China. Addressing the MoU signing ceremony in the federal capital, he said the project would be started without any further delay.

He said under a difficult economic situation, Pakistan was up again for an investment of \$4.8 billion from China in

this project, which has sent a message that Pakistan is a place where Chinese companies and investors continue to show their trust and faith. He said the Chinese companies gave a massive concession of Rs30 billion to Pakistan in two phases in implementation of this project.

He said the neighboring country came to help Pakistan when it was facing dire economic challenges amid talks with the IMF for finalization of the 9th review for revival of the loan programme. Mr Sharif also lauded great brotherly countries Saudi Arabia, United Arab Emirates and Qatar for extending help to Pakistan.



Pakistan seeks energy partnership with CA

— EU Report —

Pakistan is actively seeking to establish a partnership with Central Asia, particularly Turkmenistan, in the energy sector and facilitate the supply of Turkmen gas to the port of Gwadar, transforming it into an international energy hub.

Pakistan's objective is to attract investments from China, Europe, and other regions to establish liquefied natural gas (LNG) plants in Gwadar, with the intention of exporting LNG to their respective countries and other areas with high demand. Musadik Malik, the State Minister for Petroleum, expressed these views on Wednesday here.

The Pakistan government has extended an invitation to Turkmenistan to explore the possibility of gas connectivity from the Chaman border to Gwadar. Additionally, there are plans to construct LNG terminals in Gwadar, which would expand gas supplies to Europe and the global LNG markets.

"We want to be the trading partner of Central Asia, as it is the world energy capital. We have given a proposal to bring gas through a pipeline to Pakistan. There are huge gas reserves in Turkmenistan, almost equivalent to that of Qatar," Malik said, adding, "We offer to the world to come and establish their LNG plants at Gwadar, especially China and Europe to invest in this sector and export it to other countries."



An incredible evening at the CEO Club Pakistan meetup, Where the CEO of Inverex Solar Energy Mr. M Zakir Ali connects with chief executives from Pakistan's leading business organizations. They delved into stimulating discussions about our country's current economic landscape and brainstormed innovative strategies to tackle it head-on. To top it off, we are humbled and honored to announce that The CEO of Inverex Solar Energy Mr. M Zakir Ali is also featured in the esteemed book '100 CEOs of Pakistan' alongside accomplished leaders. This recognition is a testament to the hard work and dedication of the entire Inverex Solar Energy team. Let's continue to drive sustainable growth and create a brighter future for Pakistan!

US ambassador visits Gomal Dam

— EU Report —

US Ambassador Donald Blome recently visited the multi-purpose Gomal Zam Dam in South Waziristan district. He was accompanied by Chairman of Water and Power Development Authority (WAPDA), Lt General (retired) Sajjad Ghani, and Secretary of Agriculture Department of Khyber Pakhtunkhwa, Muhammad Javed Marwat. The dam is a joint project of the United States and Pakistan that has yielded remarkable outcomes. Under the US-Pakistan "Green Alliance" framework, the two countries are working together to advance water management, clean energy, and climate-smart agriculture initiatives. This single project has doubled agricultural production in the region by opening 191,000 additional acres for local farmers. It has also controlled potential flood damage for over 30,000 households, dramatically increased Pakistan's national water storage capacity, and provided electricity for 20,000 homes.

PPL distributes ration among poor

— EU Report —

Karachi: In line with the government's efforts to help underprivileged communities, Pakistan Petroleum Limited (PPL) recently organized a national-level ration distribution drive worth Rs100 million. To this end, the company distributed over 12,000 ration bags among deserving households around its operational areas. The ration bags, containing flour, rice, sugar, milk, pulses and cooking oil, weighing 20 kg each, have been handed over to local administration for distribution among the deserving residents in Sindh, Balochistan and Punjab.

NJ station to resume generation soon

— EU Report —

Efforts are underway at the Neelum Jhelum hydel power station to complete the necessary remedial works in the tail race tunnel, with the aim of resuming electricity generation by the end of next month. Chairman of the Water and Power Development Authority (WAPDA), Lt Gen Sajjad Ghani (Retd), was briefed on the progress during his visit to the project site. During the visit, the WAPDA chairman inspected

the 3.5kilometer long tail race tunnel, focusing on the affected section. The consultants provided a detailed update on the rehabilitation works, highlighting that concrete lining was being applied to the collapsed area, which had caused the tunnel to become blocked. The remaining affected portion is also being strengthened using lattice girders, rock bolting, and shotcrete application. The contractor is working round-the-clock to ensure the remedial works comply with international consultant guidelines.



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