

MONTHLY

JULY 2024

ISSN 2309-6578

# ENERGY UPDATE

PAKISTAN FACES  
**HIGHEST ELECTRICITY TARIFF**

NEELUM-JHELUM PROJECT WASTES  
**BILLIONS OF RUPEES  
OF PUBLIC MONEY**

PAKISTAN IN MOST  
**LETHAL DEBT TRAP**

CLIMATE CHANGE TURNS TO BE  
**A NIGHTMARE IN PAKISTAN**

**GROWATT**

## Residential Hybrid Storage System



Support both single phase and  
split phase application



Support lithium battery  
and lead-acid battery



Support diesel and  
gas generator



UPS function,  
10ms transition



SPH 10000TL-HU



Growatt New Energy

Shenzhen Growatt New Energy Co., Ltd.

[www.en.growatt.com](http://www.en.growatt.com) [info@ginverter.com](mailto:info@ginverter.com)

+92-300-404-5884

Rs 600/-

[www.energyupdate.com.pk](http://www.energyupdate.com.pk)

Regd. # SC-1295





**LONGi**

# LONGi World No.1 Solar Brand

**4GW+** Solar Panels Top Supplier  
in Pakistan Market

Hi-MO X6 Anti-Dust Technology - Ultimate Protection, Stable Power Generation  
BC Technology - Leading Technology, Quality Assurance  
Ready to Delivery-Immediate Shipment, Timely Arrival



LONGi Solar Pakistan @facebook



— [www.solisinverters.com](http://www.solisinverters.com)

t: +92 4235467247 | e: [sales@ginlong.com](mailto:sales@ginlong.com)

# Solis: The World's 3rd Largest PV Inverter Manufacturer

**Solis Residential  
Energy Storage Solution**

- S6-EH3P(8-15)K-L**  
Solis Three Phase Low  
Voltage Energy Storage Inverters
- S6-EH1P(5-8)K-L-PLUS**  
Solis Single Phase Low  
Voltage Energy Storage Inverters

**Solis C&I PV Solution**

- S6-GC(80-125)K**  
Solis Three Phase Grid-Tied Inverters

EUPD RESEARCH  
TOP BRAND PV  
INVERTERS  
PAKISTAN  
2024

Open The Facebook App To Search



Global account: **Solis** | Pakistan account: **Solis Southeast Asia**





# ILLUMINATING PATHS TO CLEANER ENERGY SOLUTIONS



+92-21-111-209-988



InverexSolarEnergy



apt\_inverex/



company/inverex-solar-energy/



www.aptinverex.com



info@aptinverex.com





# Residential Hybrid Storage System



Support both single phase and split phase application



Support lithium battery and lead-acid battery



Support diesel and gas generator



UPS function, 10ms transition



SPH 10000TL-HU



Growatt New Energy

Shenzhen Growatt New Energy Co., Ltd.



[www.en.growatt.com](http://www.en.growatt.com)



[info@ginverter.com](mailto:info@ginverter.com)



+92-300-404-5884





Trina solar

LONGi

Jinko Solar



TW SOLAR

ASTROENERGY

CHINT



# PAKISTAN'S LEADING SOLAR DISTRIBUTION COMPANY



Office No 1018, 10th Floor Al-Najeebi  
Electronic Market Abdullah Haroon Road, Saddar  
Karachi - Pakistan - 74400

(UAN) 021-111-333-926

@ info@diwanit.com

+92 300-0222-710

Diwanit.com

DiwanitPvtLtd



# FUSIONSOLAR FOR A SUSTAINABLE BUSINESS

Optimal Electricity Cost | Active Safety | Better Experience | Intelligent Assistant

## ✓ **SMART ENERGY CONTROLLER**

### **SUN2000-5/10KTL-M1**

The most resilient and convenient smart on-grid inverter is easy to install

## ✓ **SMART ENERGY CONTROLLER**

### **SUN2000-12/15/20/25KTL-M5**

Energy storage systems store solar energy for the night or a rainy day without wasting any power your PV generated

## ✓ **SMART PV CONTROLLER**

### **SUN2000-115KTL-M2**

Solar inverter for large-scale installations, ensuring efficient energy conversion and smart features for optimal performance.

## ✓ **SMART PV CONTROLLER**

### **SUN2000-30/50KTL-M3**

Smart PV Controllers protect the safety of your life and property





## EXCLUSIVE DISTRIBUTION PARTNER IN PAKISTAN

Fronus Unveiling *Pakistan's* Most Powerful *Hybrid Inverter* for the First Time

# Next Generation Hybrid Inverter **GENKI**

Single Phase - 8.5kW / 10.5kW / 12.5kW



10sec Real-time  
Cloud Monitoring



IP65  
Protection



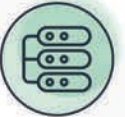
8ms Switch  
Over Time



200% Overload  
Tolerance for 10s



200%  
PV Input



Upto 10 Units  
In Parallel





# CONTENT

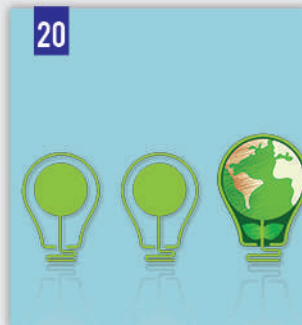
---

12 Analysis of federal budget

18 No new power plant on imported fuels to be inducted

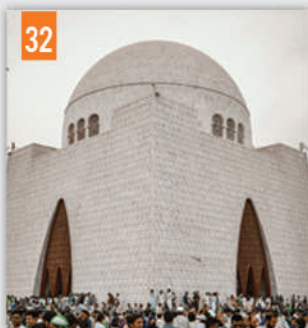
20 Building a climate-resilient energy future

21 Govt to offer offshore oil-gas exploration blocks



25 Wind projects' tariff issues stay unresolved

29 Fixed charges: boon or bane for electricity consumers?



32 Build Karachi, develop Pakistan

41 Huawei unleashes Next-Gen solar and storage solutions in Karachi





# World's No. 1 210mm module supplier



Residential



Commercial and Industrial



Utility



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

[www.trinasolar.com](http://www.trinasolar.com)



# FROM THE Editor's desk...

## ENERGY UPDATE

Managing Editor  
**M. Naeem Qureshi**  
info@energyupdate.com.pk  
energyupdate@gmail.com

Editor  
**Sajid Aziz**  
saziz75@gmail.com

Chief Financial Officer  
**Ruqiya Naeem**  
ruqiya.nfeh@gmail.com

Chief Marketing Officer  
**Engr. Nadeem Ashraf**  
marketing@energyupdate.com.pk  
nadeem.event@gmail.com

Marketing Consultant  
**Khalid Iqbal**  
hikhaid@live.com

Deputy Editor  
**Mustafa Tahir**  
mtmustafa92@gmail.com  
mustafa@energyupdate.com.pk

Head of corporate Affairs and Sustainability  
**Halima Khan**  
mccm.energyupdate@gmail.com

Coordinator Lahore  
**Mohammad Asif**

Art Director  
**Rizwan Ahmad**  
rizwanahmed55@gmail.com

Advisors  
**Zafar Sobani**  
**Kalim. A. Saddiqui**  
**Sohail Butt**  
**Anwar Shahid Khan**  
**Raziuddin Razi**  
**Engr. Irfan Ahmed**

Circulation & Subscription  
**Zahid Ali**  
Alizahid210@gmail.com  
**Shakeel Qureshi**

Overseas Correspondents  
**Arif Afzal - USA**  
**Kazim Wasti - Canada**

Legal Advisors  
**M. Nadeem Sheikh Advocate**

### Monthly Energy Update

#309, Al-Sehat Centre, Hotel Regent Plaza,  
Shahrah-e-Faisal, Karachi-Pakistan.  
Tel: 021-3565 3676, 3521 3853, 35674570  
Email: info@energyupdate.com.pk  
Web: www.energyupdate.com.pk

REGISTRATION # DCO/DDO/LAW/CDGK-41/2006  
Published by M. Naeem Qureshi for Energy Update  
& Printed at Print Vision, Karachi Cell: 0333-2244586

## Water and power scarcity

Karachi, which has turned a major economic hub of the country with about 70% revenue generation for the nation, has been badly deprived of water and electricity requirements, compelling citizens to face hardships in the crippling heatwave season. To say that Karachi is being treated like step motherly will be exactly right. This is nothing but a great injustice with the citizens. Several deaths of citizens have been reported in June and July this year due to heatwave.

The water supply in this mega city of Sindh has fallen short to the worst level in the history of the city due to maladministration and corruption. As per a report, 40 percent of the city's piped water is wasted due to bogus and outdated pipelines as the allocated funds are not being spent for the purpose. The city's water infrastructure is poorly maintained, leading to frequent leaks and wastage. The water is being sold through tankers at high rates, which is a clear example of corruption.

There is inequitable distribution of water across the city, with affluent areas often receiving more reliable water supplies compared to poorer neighborhoods. This is clear proof of the bad governance and bias. As the piped water supply is not being improved, many residents rely on water tankers, which is a costly source of water supply and is unreliable to meet their daily water needs.

Another misery which the citizens are facing presently is prolonged power load shedding lasting several hours. As a result, citizens are in miserable condition amid ongoing heatwaves. The major share of electricity is being sold to industries instead of citizens, which is a human rights violation.

Electricity theft and technical losses are significant issues, contributing to the instability of the power supply. Aging infrastructure is prone to failures. There have been ongoing disputes between the city's electricity provider, K-Electric, and the government regarding tariffs, subsidies, and investment in infrastructure improvements.

To overcome water shortage and power load shedding, the government needs to tighten noose around the water and power authorities. There is a dire need to improve water and power infrastructure, ensure better governance, and raise investments. There is also a need to use local coal instead of imported one besides boosting clean energy, particularly solar. To ensure this, companies making solar panels should be provided lucrative facilities with lowest tax.





# IMF blessings sought

## Analysis of federal budget

Dr Hafiz A Pasha

Living conditions have been badly affected by inflation; GDP growth rate has turned positive to 2.4% from a negative 0.2% in 2023-24; crop sector has recovered strongly from the 2022 floods; Negative outcome is the fall in the level of fixed investment; FBR has failed to give a detailed break-up of the additional revenue of Rs 2200 billion

**T**he federal budget for 2024-25 has been presented in a mixed economic environment characterised by both positive and negative developments.

The GDP growth rate has turned positive to 2.4% from a negative 0.2% in 2023-24. The crop sector has recovered strongly from the 2022 floods and achieved an extremely high growth rate of 16.8%. However, the large-scale manufacturing sector is likely to show only zero growth.

The rate of inflation has steadily come down since December 2023. It is now down to only 11.8% in May 2024, partly due to the 'high base effect' of the peak rate of inflation in May 2023 of 38%. The Sensitive Price Index continues to show an inflation rate above 21%. The average rate of inflation in 2023-24 is likely to be close to 23%.

The revised estimates for 2023-24 indicate that the budget deficit is likely to be 7.4% of the GDP, with a primary surplus of 0.4% of the GDP. The target was 6.5% of the GDP. The revised estimate generally tends to understate the actual deficit. The likelihood is that the budget deficit in 2023-24 will approach 8% of the GDP and there will be a small primary deficit.

The very good news is the near zero current account deficit in the external balance of payments of 2023-24. During the first ten months, imports have contracted by 5%, while exports have increased by over 10%. Consequently, the foreign exchange reserves have remained stable at \$9 billion.

The truly negative outcome is the fall in the level of fixed investment in Pakistan to its lowest level in the last 50 years. It is down to only 11.4% of the GDP, with decline both in private and public investment.

The living conditions of the people have been badly affected by the high cumulative inflation of 59% since 2021-22 and 69% in food prices. Simultaneously, there has been a drop in real per capita income of over 2%. The unemployment rate in the absence of high growth has risen to 10%, while the youth

unemployment rate has jumped up to 17.5%. Meanwhile, the incidence of poverty has approached 43%. Today, over 103 million people are living below the poverty line in Pakistan.

Therefore, the Federal budget of 2024-25 needed to be framed in a way that some stimulus could be provided to economic growth and employment, while ensuring that the rate of inflation continues to remain low, and that priority is attached to providing relief to the poor.

Consequently, the budget ought to have focused on a significant cutback in current expenditure while raising revenues in a visibly progressive manner. This should have provided the fiscal space for raising development spending and fostering more employment, both directly and indirectly. Further, the focus ought to have been on larger pro-poor interventions.

Instead, the Government has not focused at all on economy in expenditure and proceeded only with an aggressive mobilization strategy, more from indirect taxes.

The PSDP is being doubled in size and with the big growth in revenues the expectation is that there will still be a quantum reduction in the budget deficit and a big jump in the primary surplus. There is only a modest increase in the size of the Benazir Income Support Programme.

We turn now to an in-depth examination of Federal revenues, expenditure and the financing of the fiscal deficit. The targets in the Federal budget for revenues are very ambitious. FBR revenues are expected to increase by 40%, from Rs 9.3 trillion to almost Rs 13 trillion in 2024-25. The increase in direct tax revenues is anticipated to be 48% of the total increase in FBR revenues. Therefore, more than half of the increase is to come from indirect taxes. This implies more regressivity of the taxation proposals.

The estimated normal growth in FBR revenues in 2024-25 is estimated at close to Rs 1500 billion, in the absence of any taxation proposals. This implies that the revenue yield from the multitude of taxation measures will need to be over Rs 2,200 billion. This is equivalent to 1.8% of the projected GDP in 2024-25 and represents the highest ever target for

additional taxation.

Successful performance by FBR in 2024-25 will take up the Federal tax-to-GDP ratio from 8.7% of the GDP in 2023-24 to 10.4% of the GDP in 2024-25. This increase of 1.7% of the GDP is more than the target indicated by the Finance Minister of an increase annually of 1% of the GDP.

The implied over-taxation will clearly adversely impact on the rate of GDP growth and the rate of inflation in 2024-25. Also, the overall incidence of the taxation proposals is likely to be regressive in nature and adversely affect more the lower income quintiles in the population. The inflationary impact will be compounded even more by the forthcoming big increases in energy tariffs.

The FBR has failed to give a detailed break-up of the additional revenue of Rs 2200 billion from the large number of taxation proposals in the budget. This increases the probability that the expected increase in revenue is significantly overstated.

Turning to Federal non-tax revenues, these are expected to jump up by as much as 64% in 2024-25, from Rs 2,947 billion to Rs 4,845 billion. This is to come from a colossal increase in the receipt of profits of the SBP from Rs 927 billion in 2023-24 to Rs 2,500 billion in 2024-25. Apparently, continuation of a high policy rate will contribute to the massive jump of 157% in SBP profits. However, the IMF projections of public finances in the Staff Report of May 10 do not show a similar quantum jump in non-tax revenues.

A preliminary analysis has been undertaken of measures to generate additional revenues. The first proposal of a controversial nature is the withdrawal of the benefit to exporters of 1% presumptive income tax and transition to a full income tax regime at 29% of net profits. Exports are the country's lifeline today.

Bangladesh and India both offer big incentives to exporters. We have gradually withdrawn all the incentives at a time when fast growth in exports is required to reduce the country's external vulnerability.

Already, the volume of exports of goods and services is expected to decline by almost 6% in 2023-24, according to the PBS. The future drop in net profitability could reduce further Pakistan's export competitiveness and exacerbate Pakistan's external vulnerability.

The other contentious move is the enhancement in the income tax on salary

income. There is, no doubt, that the tax needs to be more progressive. However, this should have been accompanied by a rise in the exemption limit from Rs 600,000 to Rs 1,000,000, to protect relatively low salary earners.

A number of goods will be subject to a higher sales tax rate either by withdrawal of exemptions or enhancement of reduced rates. This includes medicines, medical equipment, poultry feed, tractors, cheaper mobile phones, stationery and newsprint. Further, the excise duty is being enhanced on cement and an additional customs duty is being imposed on many tariff lines.

There are some proposed measures which are welcome. This includes the withdrawal of the capital gains tax exemption beyond the holding period, higher advance tax on retailers and wholesalers, and the highest marginal tax rate of 45% on non-salary income. However, the Punjab and Sindh budgets continue the very favorable tax treatment of large agricultural incomes. This needs to be withdrawn if the income tax base is to be significantly broadened.

Turning to the expenditure side of the Federal budget, an increase of almost 21% is proposed in current expenditure, significantly above the likely rate of inflation. However, 51% of the rise is in debt servicing, with the likely continuation of a relatively high policy rate. The other source of increase is the 22% to 25% increase in salaries and 15% in pensions. Grants and subsidies are expected to increase by 20% and 27%, respectively. Overall, there is no evidence whatsoever of any economy in current expenditure.

A quantum jump is also proposed in the PSDP and lending by the Federal government in 2024-25. The PSDP is expected to virtually double in size. The sectoral priorities in the development programme are generally appropriate. An increase is proposed of 212% in the energy sector, 106% in water resources and 102% in physical planning and housing. However, the HEC gets an increase of only 10%.

The real disappointment in the Federal budget is the lack of adequate relief for the poor. As opposed to other big increases, there is only a moderate enhancement in the BISP to Rs 590 billion. This is at a time when the 'poverty gap' in the country has exceeded Rs 3000 billion. As a signal of equity, the BISP should have been increased by over 50%, such that its size would have exceeded

Rs 750 billion, equivalent to 25% of the poverty gap.

The bottom line may perhaps appear to be somewhat surprising. Despite the quantum jumps in current expenditure of 21% and doubling of development spending, the budget deficit is to fall sharply in 2024-25.

The expectation is that it will decline from almost 8% of the GDP in 2023-24 to only 5.9% of the GDP in 2024-25. Simultaneously, the likely primary deficit in 2023-24 is to be greatly improved to a surplus of almost 2% of the GDP in 2024-25. However, all this will crucially depend on the achievement of the revenue targets.

There is also a fundamental change in the strategy for financing the Federal budget deficit. For the last few years non-bank borrowing has ceased to be a significant source of financing. The expectation now is that almost 34% of the deficit will be financed by inflows of savings into government schemes. This will be a positive development and reduce the inflationary impact of the deficit financing.

The other major area of concern is the expectation that the four Provincial governments combined will generate a cash surplus of Rs 1200 billion. This will reduce the consolidated budget deficit by 1% of the GDP. Historically, bulk of the cash surplus is generated by the two larger Provincial governments of Punjab and Sindh.

The Punjab government has targeted for a large cash surplus of Rs 650 billion, but the Sindh government has already indicated a zero surplus and instead increased phenomenally its development budget.

Therefore, the target of Rs 1200 billion will be difficult to meet and lead to a larger consolidated budget deficit. Clearly, the time has come for a new Fiscal Pact with the Provincial governments, as highlighted by the Finance Minister.

The budget has been designed to get the blessings of the IMF. This is likely given the targeted big increase in revenues and generation of a large primary surplus of 2% of the GDP.

However, it is a fragile budget with many risk factors, especially related to the almost 40% growth in FBR revenues, 64% growth in Federal non-tax revenues and the generation of a Provincial cash surplus of 1% of the GDP. As there may be significant shortfalls, we are likely to see a spate of mini budgets in 2024-25, to keep operational the IMF program. ■



# Pakistan faces highest electricity tariff

Rehan Jawed and Wajid

End-consumer tariff has skyrocketed to approximately Rs55 per KWH

Pakistan faces the challenge of having the highest electricity tariff in the region. This soaring cost of electricity has led to issues such as theft and non-payment of electricity bills, putting a significant burden on the economy and law-abiding consumers.

One of the major contributing factors to this problem is the substantial disparity between the prices of indigenous and imported LNG (liquefied natural gas). IPPs (independent power producers) relying on imported RLNG often find themselves at the lower end of the merit order (despite having higher efficiency), resulting in underutilization of these plants and subsequent-

ly higher per unit capacity payments (staggering Rs17 per unit of the base tariff). Meanwhile, in certain cases, the end-consumer tariff has skyrocketed to approximately Rs55 per KWH, with projections indicating further increases.

In this proposal, the concept of the Weighted Average Cost of Gas (WACOG) has been discussed as a potential solution to this problem. However, misconceptions and a lack of understanding regarding its impact on electricity prices have shrouded it in mystery. Political governments have, thus far, lacked the political will to implement WACOG across all consumer categories primarily due to resistance from pressure groups, which includes influential business entities.

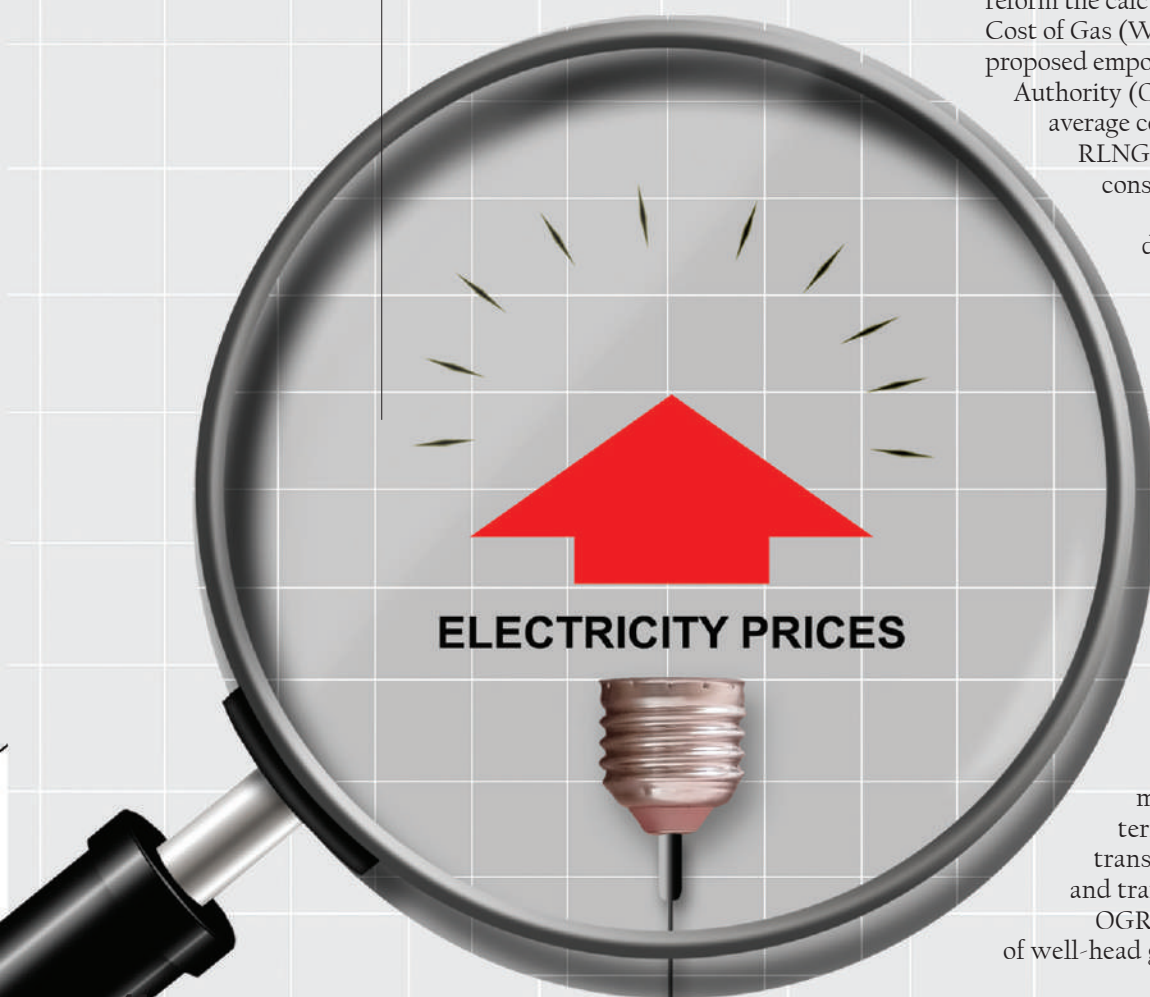
These entities, through their influence, have succeeded in preventing the cost of self-generated electricity at their respective facilities from going beyond Rs14 per unit. Despite all odds, two bills were introduced, one of which aimed to reform the calculation of the Weighted Average Cost of Gas (WACOG) in March 2022. This bill proposed empowering the Oil & Gas Regulatory Authority (OGRA) to determine the weighted average cost of indigenous gas and imported RLNG (re-gasified liquid natural gas) for consumers.

It's crucial to emphasize that domestic users are currently paying the lowest tariff slab for gas. However, they may not realize that if the same gas is used efficiently in power plants, it could significantly reduce their electricity bills, resulting in substantially reduced spending stress.

## Current Gas Price Determination Process

Sui Gas Companies biannually file a petition for the revenue requirement of well-head gas with OGRA. OGRA calculates RLNG prices separately on a monthly basis, considering long-term and short-term cargo prices, transmission and distribution costs, and transmission losses.

OGRA determines the average price of well-head gas under section 8 of the OGRA



Act and sends it to the federal government for category-wise pricing, which has often lacked the political will to raise domestic and captive users' prices. Within 40 days, the federal government should decide on category-wise well-head gas pricing, as mandated by the OGRA Act amendment in March 2022, but this requirement has been bypassed by political governments multiple times.

After 45 days, OGRA should issue a notification for category-wise pricing as advised by the federal government. Even if the federal government does not recommend category-wise pricing, OGRA must issue a notification with its own determined prices for different consumer categories. However, this has not been done in recent years. 6. RLNG tariffs are separately charged for consumers with RLNG contracts, while well-head gas prices are charged for consumers with well-head contracts.

### Positive Effects of Implementing WACOG

Main concern addressed by the implementation of WACOG will be the underutilization of RLNG plants. Currently, due to the higher fuel cost, these plants have a lower rank in the merit order, resulting in increased capacity and energy charges per unit. After WACOG implementation, RLNG-fired efficient power plants will gain priority,

reducing fuel costs by approximately 50 percent and lowering the average electricity price for the 6,000 MW of installed RLNG power plant capacity in the country.

Domestic users, currently paying the lowest price per mmbtu, represent an inefficient use of natural resources. Once their prices increase, the concept of energy conservation will evolve. WACOG will minimize the disparity in electricity prices between captive and grid users, making captive prices closer to grid prices and significantly reducing electricity costs for grid users.

RLNG power plants, with an efficiency of 60 percent, will produce twice as much electricity using the same volume of gas when WACOG is implemented by efficiently utilizing natural gas resources that are currently being wasted at 35 percent efficiency. WACOG will positively impact export-oriented and import substitution industries.

The grid-using industry competes with captive power producer industries, which dominate exports and domestic sales, rendering grid users to be noncompetitive. WACOG will embark on a level playing field by rationalizing electricity prices for both. Increased availability of RLNG on higher spot pricing can be purchased since the well-head portion of WACOG will balance the RLNG portion, reducing supply-demand gaps

and minimizing gas load shedding across the country.

Since energy cost is a major component of monthly spending for the majority of the population, once the cost of energy goes down, it will ultimately reduce inflation. As the current setup is committed to reviving the economy, it is important to recognize that a country with an inadequate balance in the energy mix will perpetually struggle. WACOG implementation can address this issue, potentially reducing the base tariff by Rs5 to 7 per electricity unit. It can also result in increasing industrial demand for the Grid, which is desperately required to overcome the capacity trap and reduce capacity payments. It can also maximize electricity production from well-head gas using some of the world's most efficient RLNG power plants installed in Pakistan. This approach offers significant relief to electricity consumers without requiring major efforts.

The cost of diverting RLNG to the domestic sector due to low demand from the power sector can be overcome because once category-wise price is enacted by the government, it will enable them to create a balanced and affordable price for all categories. Industries cross subsidizing other categories of consumers that are being charged below average price of gas or full price of RLNG is rendering them uncompetitive. ■

**ALHAMDULLILAH!**  
MONTHLY ENERGY UPDATE MAGAZINE  
HAS SUCCESSFULLY COMPLETED IT'S  
**18 YEARS OF JOURNEY**

**ENERGY UPDATE**  
www.energyupdate.com.pk

**18 Annual Anniversary**

FOR  
ARTICLES ADVERTISEMENT  
REPORTS SUBSCRIPTION

PLEASE FEEL FREE TO CONTACT US  
INFO@ENERGYUPDATE.COM.PK | WWW.ENERGYUPDATE.COM.PK





# Pakistan in most lethal debt trap, says ex-SBP governor

With 65% of its revenues going to debt servicing, Pakistan ranks second globally, following Sri Lanka

## EU Report

**F**ormer State Bank Governor Dr Murtaza Syed has sounded an alarm, asserting that Pakistan is entangled in the "most lethal debt trap" globally. In a series of tweets, the former acting governor of the State Bank of Pakistan (SBP) from 2022 highlighted the country's current debt situation and called for a "more prudent path" to restructure Pakistan's debt profile, allowing resources to be allocated for development and climate change initiatives.

"Pakistan is in one of the most lethal debt traps in the world," he declared. "Our governments have accumulated excessive debt and squandered it on unproductive expenditures, such as consumption. Maintaining this debt in its current state is hindering our development and climate needs."

Dr Syed pointed out that the Pakistani government pays more in debt servicing than any other country and will continue to do so for the coming years. "This creates the need for punitive and unrealistic taxes to pay off past debt, leaving no real resources for investment in Pakistan," he stated. "As seen recently in Kenya, this puts Pakistan on a dangerous path of social unrest," he warned.

Citing data from the United Nations Conference on Trade and Development (UNCTAD) debt dashboard, Dr. Syed noted that at 6%, "the Pakistani government pays the highest interest payments as a share of the economy in the developing world." Additionally, with 65% of its revenues going to debt servicing, Pakistan ranks second globally, following Sri Lanka.

"Due to this heavy interest burden, the government has no resources left for social expenditures. This is detrimental because social spending is crucial for enhancing our population's skills and

improving the quality of jobs, exports, and foreign investment in the economy," Dr. Syed explained.

He highlighted that the Pakistani government spends nearly three times more on interest payments than on education, the second-worst ratio in the developing world after Sri Lanka. Similarly, the government spends almost six times more on interest payments than on health, a ratio worse than only Yemen, Angola, and Egypt.

"Clearly, debt interest payments are crowding out public spending on education and health in Pakistan, which are already among the lowest in the world," he observed. "Lastly, the government spends twice as much on interest payments as on investments, which are crucial for development, a ratio worse only in Angola and Lebanon. Pakistan currently invests less than 14% of its GDP, which is less than half of what is typically required for sustained growth," he added.

Dr. Syed emphasized that the debt burden is not solely a result of the current high-interest rates but reflects Pakistan's heavy debt load over the past four years, even when interest rates were very low. "Therefore, this issue reflects Pakistan's heavy debt burden and not the high-interest rates. And it is here to stay," he remarked.

He further noted that even if Pakistan's revenue "miraculously" increased by 2% of GDP in the next few years, interest payments would still consume nearly 55% of government revenue. "One way to address the problem is to try to increase government revenue, but this will take time and could backfire, as recently demonstrated in Kenya. ■







Our **KIOSK substation & Solar Solutions** including LV, MV, Transformer provides economical solution to meet the large scale commercial and industrial solar project requirements.

## ADVANTAGES

- LV SIDE : FROM 400VAC UPTO 1150 VAC
- MV SIDE: 6.6 KV UP 33 KV
- REDUCED PROJECT COST AND TIME
- REDUCED EQUIPMENT AND CABLE SIZES
- ABB- TIER-1 EUROPE BRAND BREAKERS
- ABB TOUCH SCREEN DISPLAY



**ABB** 800-1150VAC  
CIRCUIT BREAKERS

FOR QUICK DELIVERY, CONTACT US AT  
[info@tariquelectric.com](mailto:info@tariquelectric.com)



# No new power plant on imported fuels to be inducted

**Special Report by Mansoor**

Total share of green electricity is projected to increase 59p percent: Report

**N**o new power plant based on imported fossil fuels will be inducted in Pakistan. By 2030, the share of electricity from hydel, wind, and solar sources is projected to rise from 28 percent, 4 percent, and 1 percent to 39 percent, 10 percent, and 10 percent, respectively, thus increasing the total share of green electricity in the generation mix to approximately 59 percent.

According to new Economy Survey of Pakistan, the Private Power Infrastructure Board is facilitating twenty-four (24) power generation projects (including 22 renewable projects), having an installed capacity of 7,460 MW, which will be completed by 2032.

Solar-based power generation capacity shall be solicited to substitute expensive imported fossil fuels used for power generation. This will lower the average basket cost of generation for the system by utilizing solar energy during the daytime in substitution of the imported fossil fuels-based thermal generation at that time while utilizing the same thermal power generation capacity at night to meet the peak demand at that time. The government plans to add around 6,000 MW of solar PV capacity under this initiative primarily through competitive bidding. The following three (03) solar PV projects of 2,400 MW cumulative power generation capacity will be implemented shortly. These are the 600 Megawatt peak (MWp) solar project at Kot Addu / Muzaffargarh, the 600 MWp Sola Project at Jhang, and

the 1200 MWp Solar Project at Layyah.

## Solar PV Generation on 11 kV Feeders

Many electricity consumers in Pakistan suffer from poor power quality (scheduled & unscheduled outages, low voltage, etc.). Decentralized, medium-scale Solar PV power can contribute cost-efficiently to alleviate some of these problems by feeding directly into the medium-voltage (MV) network, thereby improving the local losses and voltage situation. Furthermore, the injection of Solar PV power into the MV network would provide cheap electricity to the national grid without any augmentation or significant upgrade of the grid infrastructure. Accordingly, solar PV projects with a suitable capacity of up to a maximum of 4 MW will be procured through a competitive bidding process at the 11 kV feeder level. It is envisaged that approximately 2000 MW of solar PV capacity will be added under this initiative.

## Solarization of Public Buildings

Solarization of public sector buildings will help meet particular portion of the electricity load through clean solar energy technology, reduce electricity bills of public offices, and relieve electricity utilities/ distribution companies from long-term dues. Under this initiative, building-specific Solar PV net-metering-based systems are being installed through bidding. This initiative is expected to result in the installation of 1000 MW rooftop-based solar PV capacity

PPIB proactively facilitated the RE power



projects' achievement of project milestones and resolution of issues and impediments faced by the project sponsors from different public sector entities.

PPIB engaged with the World Bank to carry out an initial study on RE development in Balochistan titled "Balochistan Renewable Energy Development Study" with the objective of strategic development of utility-scale solar and wind power in Balochistan to help meet Pakistan's ambitious renewable energy targets for the power sector and support the broader transition that is needed to achieve "affordable, reliable, sustainable and modern energy for all."

An online net-metering portal (ONMAP) was redesigned and reactivated in IESCO and LESCO for the online processing of consumer applications for net-metering based systems. PPIB is currently working on the expansion of ONMAP with improved features such as solar PV equipment verification & tracking and a rooftop solar monitoring program.

With the support of GIZ, a program for the training of solar technicians has been initiated. Under this program, customized training for 500 technicians at relevant Pakistani training institutions will be provided using a Competency-Based Training and assessment approach, following the National Vocational Qualification Framework. PPIB is also engaged in international initiatives such as the Danish Energy Transition Initiative (DETI) and RELP.

Under the DETI initiative, the Danish Government is providing capacity building to Pakistan's power sector. RELP, an interna-

tional NGO, is assisting PPIB in designing a competitive bidding framework and preparing a broader roadmap for Pakistan's renewable energy sector, along with de-risking guarantees/tools. Nuclear Energy Pakistan was the 15th country worldwide to install an NPP when the 137 MW Karachi Nuclear Power Plant (KANUPP) became operational in 1972. The plant's economic life assessment was 30 years; however, it operated for around 50 years under the supervision of the Pakistan Atomic Energy Commission (PAEC) and finally shut down in August 2021.

For almost three decades after the start of the KANUPP, international embargoes on transferring civil nuclear technology to Pakistan restrained the expansion of nuclear energy generation capacity in the country. Steady efforts regarding technology and manpower development have resulted in the addition of six NPPs with 3530 MW capacity in Pakistan's power system. Units (C1 and C2, each of 325 MW, and C3 and C4, each of 340 MW) are currently operational in Chashma, Mianwali, while two plants, each with a capacity of 1100 MW, are operational in Karachi. While KANUPP was a Pressurized Heavy Water Reactor (PHWR) constructed with the help of Canada, the new generation of nuclear plants are all Pressurized Water Reactor (PWR) designed and built with the assistance of China. One more PWR plant of 1200MW capacity is in the initial phase of its development at the Chashma site, called C-5.

A unique characteristic of a PWR NPP is that once fueled, it can produce electricity at total capacity for around 14 to 18 months. This is called one cycle of

electricity production. Fuel is only added during break time between these cycles. This not only makes them invulnerable to short-term energy price fluctuations but also a source of secure energy supply to the grid. These attributes of nuclear power technology ensure a high availability of NPP. The six NPPs supplied about 16,753 million units of electricity to the national grid during July-March FY 2024.

During this period, the monthly share of nuclear in the generation mix remained between 12.8 percent to 25.8 percent. Nuclear energy is clean, so it avoids the emission of greenhouse gases (GHG) in the environment. During July-March FY 2024, nuclear generation in Pakistan avoided about 10 million tonnes of GHG entering the environment. The lifetime avoidance of GHG emissions by Pakistan operating NPPs is estimated at around 103 million tonnes.

Achieving self-reliance in energy production is crucial to reducing economic vulnerabilities, lowering production costs, and enhancing global competitiveness. As such, Pakistan's energy sector is paving the way towards transitioning from imported fossil fuel to renewable energy sources, as demonstrated by substantial investments in wind and solar power.

Furthermore, the government has approved the Framework Guidelines for Fast Track Solar Initiatives to promote and develop cost-effective, climate-friendly, and local renewable energy sources. Accordingly, the government has been focusing on strengthening the regulatory framework and incentivizing the private sector investment in renewable energy that will help ensure energy security and climate change mitigation. ■





# Building a climate-resilient energy future

**Maheen Rehan**

The writer is a project assistant at the Centre for Private Sector Engagement, Sustainable Development Policy Institute, Islamabad

Effective green transition strategies must consider regional disparities and historical contexts

**T**he transition to green energy in South Asia is a pressing and comprehensive effort, driven by the urgent need to address climate change impacts. This transition demands moving away from fossil fuel dependency and towards sustainable resources such as solar, wind and hydroelectric power.

The region faces a complex set of challenges and opportunities in this green transition, requiring a comprehensive policy approach and dynamic industrial development strategies.

In the context of energy, climate change poses a significant threat to South Asia, a region characterised by its vulnerability to extreme weather events, rising temperatures and shifting precipitation patterns. The ecological footprint from fossil fuel consumption has been growing, leading to severe environmental and health impacts.

Over the past two decades, South Asia has experienced substantial economic growth. This has improved living standards and reduced poverty levels. However, this growth has come at the cost of increased environmental pollution and intensified

climate vulnerability.

The concept of a green transition involves shifting from “brown” energy sources like coal and gas to renewable energy alternatives. This transition aims not only to mitigate environmental harm but also to enhance energy security, reduce dependence on imports and stimulate economic growth through job creation in the renewable energy sector.

## Policy and strategies

First, incentivising green energy adoption, including innovative policy approaches is crucial. This can include adapted solutions for different sectors and regions, emphasising positive incentives, such as tax credits, grants and preferential tariffs for renewable energy adoption.

Direct financial support through low-interest loans, subsidies and insurance for energy-efficient technologies can help overcome financial barriers. Additionally, non-financial support, such as information dissemination, training, and industry-specific strategic support, is vital for raising awareness and building capacity for sustainable energy practices.

Second, market-based solutions and trade policies include mechanisms like cap-and-trade



schemes that can incentivise emissions reduction and promote innovation in clean technologies.

Open trade and investment policies in energy and energy technology can facilitate collaboration, technology transfer and investment inflows, leading to a diversified and secure energy mix.

Regional cooperation in the South Asian energy sector can enhance energy security by employing complementary resources and infrastructure. Nepal and Bhutan, for instance, have significant hydropower potential.

Third, mandating energy efficiency and emissions reductions is essential for driving investments in clean technologies.

Eliminating environmentally harmful subsidies, such as those for fossil fuels, is crucial for levelling the playing field and redirecting resources towards sustainable alternatives. Developing national capabilities for technology adoption, innovation, and monitoring is key to achieving long-term sustainability goals.

Regional cooperation, government commitment and effective governance are key to navigating the complexities of this transition. By addressing these challenges, South Asia can pave the way for a sustainable and resilient energy future.

Governments should invest in research and development, build institutional capacity and provide regulatory support to facilitate this process.

Fourth, financing the energy transition is fundamental to overcoming financial barriers and mobilising investments in clean energy infrastructure.

Innovative financing mechanisms, including public-private partnerships, green bonds and carbon pricing schemes, can help unlock private sector investments. Engaging the private sector and exploring combined finance options can further augment funding for the transition while developing market efficiencies and expertise.

India's green energy transition exemplifies the challenges and strategies involved in shifting towards sustainable energy. With a total installed power capacity exceeding 400 GW, India aims to transition its energy portfolio to greener sources. However, the country faces significant hurdles, including heavy reliance on coal and the need for an efficient grid system.

Despite investments in green energy plants, coal use remains high, particularly during peak demand periods. Address-

ing these challenges requires optimising plant load factors and enhancing grid efficiency.

The diverse regional landscape of India adds complexity to the transition process. While some states are highly industrialised, others like Uttar Pradesh and Bihar rely mostly on agriculture, which carries a huge carbon footprint.

Effective green transition strategies must consider regional disparities and historical contexts, recognising that developing countries face different challenges compared to developed nations.

Overcoming challenges in green transition is a dire need of the times. One of the primary challenges in green transition is the inadequate understanding or prioritisation of green policies by government agencies. This results in insufficient support and resource allocation to renewable energy initiatives.

Overcoming this challenge requires a shift in perception and a stronger commitment to integrating green transition policies into national development agendas.

Transition policies often reveal double standards, where national governments and international stakeholders declare emission reduction goals while continuing to rely on fossil fuels. This undermines the credibility of climate commitments. Addressing these contradictions is essential for establishing coherent and effective transition strategies.

The upfront financial burden associated with green technologies is a significant barrier to adoption. Innovative financing mechanisms and supportive infrastructure are necessary to democratise access to green technologies. For instance, providing soft loans or zero-markup financing schemes can help mitigate cost barriers and promote the adoption of green technologies like solar panels and electric vehicles.

Green energy transition in South Asia is a critical step towards achieving environmental sustainability and addressing climate change. It requires comprehensive policy and industrial strategies that incentivise renewable energy adoption, implement market-based solutions, strengthen regulatory frameworks and develop innovative financial mechanisms.

Regional cooperation, government commitment and effective governance are key to navigating the complexities of this transition. By addressing these challenges, South Asia can pave the way for a sustainable and resilient energy future. ■



## Govt to offer offshore oil-gas exploration blocks

Israr Khan

Pakistan is set to offer a dozen offshore blocks for oil and gas exploration in August 2024, aiming to attract international investors; boost the country's energy sector; and reduce reliance on imported energy.

The government plans to offer two dozen blocks in two phases, each dozen in 2024 and 2025. These blocks, located in the Arabian Sea, range in size from 1,000 to 3,000sq kilometres. The initiative is expected to significantly enhance domestic energy production and decrease dependence on imported energy resources.

The offshore blocks are divided into several zones based on geological and geophysical characteristics. The Ministry of Energy highlighted the potential for significant hydrocarbon discoveries, citing recent technological advancements in deep-sea drilling.

Pakistan's offshore exploration success has been elusive, with the most recent high-profile effort being Eni's 2019 Kekra ultra-deepwater wildcat, which targeted multi-trillion cubic feet of gas reserves but proved unsuccessful.

The bidding process for 12 blocks is likely to begin in August 2024, with interested companies required to submit their proposals by the end of November. The government has assured potential investors of support in obtaining necessary licences and navigating regulatory requirements. ■



## NEELUM-JHELUM HYDROELECTRICITY PROJECT'S DEFECTIVE DESIGN

# NJ project wastes billions of rupees of public money with zero accountability

**Muhammad Naeem Qureshi**

Project cost significantly increased due to extended construction period; those accountable for wastage of public funds must be held responsible

**I**t is high time that a thorough, impartial, and transparent investigation led by energy and civil construction experts should be immediately conducted to determine those responsible for the defective design and construction of the Neelum-Jhelum Hydroelectric project in Azad Kashmir.

This project was intended to be a valuable asset for generating renewable hydropower for the country. Those accountable for the wastage of public funds due to faulty design and construction of this flagship hydroelectric project must be held responsible, regardless of their connections or influence. If those who displayed negligence during the construction process are not held accountable for their professional misconduct, similar power projects in Pakistan will continue to be built with the same flaws.

A comprehensive investigation and imposing responsibility for the flawed design and

execution of this project will ensure dedication, commitment, integrity, and professionalism in future power projects. The fact that power consumers contributed a special surcharge to their electricity bills to fund this project underscores the importance of a thorough investigation into the use of public funds.

It is important to note that the project's cost significantly increased due to the extended construction period. The project construction began in 2008, and by 2018, the completion of the power plant added 969 Megawatts of hydroelectricity to the national grid.

The tunnel of the hydropower project developed cracks in July 2022 after four years of continuous hydroelectricity production. A team of foreign experts investigated and discovered several construction defects, such as using soil instead of concrete and lack of physical support from rocks above the tunnel. After 14 months and spending billions of rupees on repair and maintenance, the project resumed operations in September 2023.



However, in April 2024, electricity production was nearly halved due to reduced water flow in the headrace tunnel caused by blockages from silt and rocks. This new issue may render the project non-functional for another year, leading to significant financial losses for the public exchequer.

Prime Minister Shehbaz Sharif visited the site and announced the formation of a probe committee to investigate the plant's affairs. The contractors responsible for the construction were not implicated in any investigations. The uninterrupted generation of 969 MWs of hydroelectricity from the power plant could have greatly benefited consumers during peak summer.

In its report published on June 25, 2024 with the headline "Expert had warned of Neelum-Jhelum Hydropower Project tunnel risks beforehand, Dawn newspaper reported that an independent panel of experts is believed to have raised red flags last year about the headrace tunnel (HRT) of the Neelum-Jhelum Hydropower Project, as well as recommending preventive measures that were not implemented before the 969-megawatt project, valued at over Rs500 billion, was shut down last month.

The shutdown of the Neelum-Jhelum Hydropower Project, which officially ceased operations on May 2, 2024, is estimated to result in direct annual losses of over Rs55bn, said the Dawn's report. Indirect losses, due to the need for expensive replacement fuel, could range from Rs90bn to Rs150bn, depending on the fuel source. The project previously produced over 50 billion units of clean energy annually with zero fuel cost.

While an inquiry committee constituted by the prime minister is looking into the matter, officials close to the probe noted that some individuals who might have contributed to the problem during the construction phase 15 years ago were still involved, providing technical assistance to the investigation, the Dawn report added.

Last month, PM Shehbaz Sharif formed a two-member inquiry committee to investigate the flaws in the construction of the mega hydropower project in Azad Kashmir.

Led by a former federal secretary, Shahid Khan, and incumbent Water Resources Secretary Syed Ali Murtaza, the committee was constituted after the incident of April 2, 2024, which later led

to closure of the powerhouse.

The panel was asked to "ascertain the reasons for the delay in submission of the findings/report of the panel of experts, hired in September 2022, for ascertaining the cause of blockage in the tailrace tunnel" of the project and to review its final report.

"The probe and the project should be looked at with a fresh eye and with an independent mind" not only to identify causes but also highlight them and offer alternate solutions, said a hydrological expert, adding that asking the same people to carry out a technical investigation could lead to avoidance of liability and failure to highlight any design flaws.

The expert pointed out that independent specialists, while investigating the tailrace tunnel (TRT) collapse of July 2022, had pointed out a big geographical fault on the main boundary thrust. The fault that caused the TRT collapse could again be the same in the case of the HRT as well, just below the Jhelum River crossing, Dawn's report added.

"Vigilance is to be exerted over all zones of mudstone/siltstone not lined with a concrete lining, including in the headrace tunnel (HRT) and the surge shaft. A properly planned remotely operated vehicle inspection of HRT should be foreseen," said the final report prepared by the experts on the TRT collapse, seen by Dawn.

The experts' panel basically addressed the blockage due to the collapse in the TRT but also provided recommendations for the HRT. Even the dewatering of the project tunnel, being conducted by Wapda and the Neelum-Jhelum Company, is against the recommendations of the experts' panel.

"As dewatering pressure tunnels is

not a desirable alternative, if one wants to take advantage of the present stop of operation, an inspection by means of a remote-control vehicle should be done," the experts suggested, adding that the primary objectives of the ROV inspection should be to conduct a general condition.

Their report identified potential causes of collapse generated by a combination of root causes with a high probability of the presence of unidentified erodible or swelling rocks, hydraulic conditions, insufficient ground support, absence of concrete lining and long-term decompression of rock mass. Increased ground pressure and faulty construction procedures were also noted as contributing factors.

With view of this, the experts recommended the installation of a fully reinforced concrete lining in the TRT as the most appropriate long-term performance measure, pointing out that some lighter construction measures may be sufficient for safe long-term operation of the downstream surge tunnel as there is no continuous flow in it, said the Dawn's report.

In addition, the expert panel recommended a precautionary approach almost two years before the Neelum-Jhelum Power Plant was shut down about two months ago because of the HRT's stability and safety concerns.

"Considering that the tunnel boring machine (TBM)-excavated part of the HRT has been, except for some local fault crossings, lined with shotcrete, it appears prudent to check the condition of the HRT over its whole length, especially within the sections crossing through siltstone/mudstone," the report said. ■

ALHAMDULLILAH!

MONTHLY ENERGY UPDATE MAGAZINE  
HAS SUCCESSFULLY COMPLETED IT'S  
18 YEARS OF JOURNEY


ENERGY  
UPDATE

www.energyupdate.com.pk

18

Annual

Anniversary



FOR

ARTICLES

ADVERTISEMENT

REPORTS

SUBSCRIPTION

PLEASE FEEL FREE TO CONTACT US

INFO@ENERGYUPDATE.COM.PK | WWW.ENERGYUPDATE.COM.PK



# Austerity policy, and IMF programme

## 30 percent of climate finance globally needed

Dr Omer Javed

United Nations Secretary-General António Guterres says holding warming to 1.5 degrees will require a quantum leap in climate action

Pakistan is likely to enter into an Extended Fund Facility (EFF) programme – which is different from a standby arrangement (SBA) programme since, in addition to targeting macroeconomic stabilisation, including improving balance of payments situation, it also focuses on economic growth prospects – in the next few weeks.

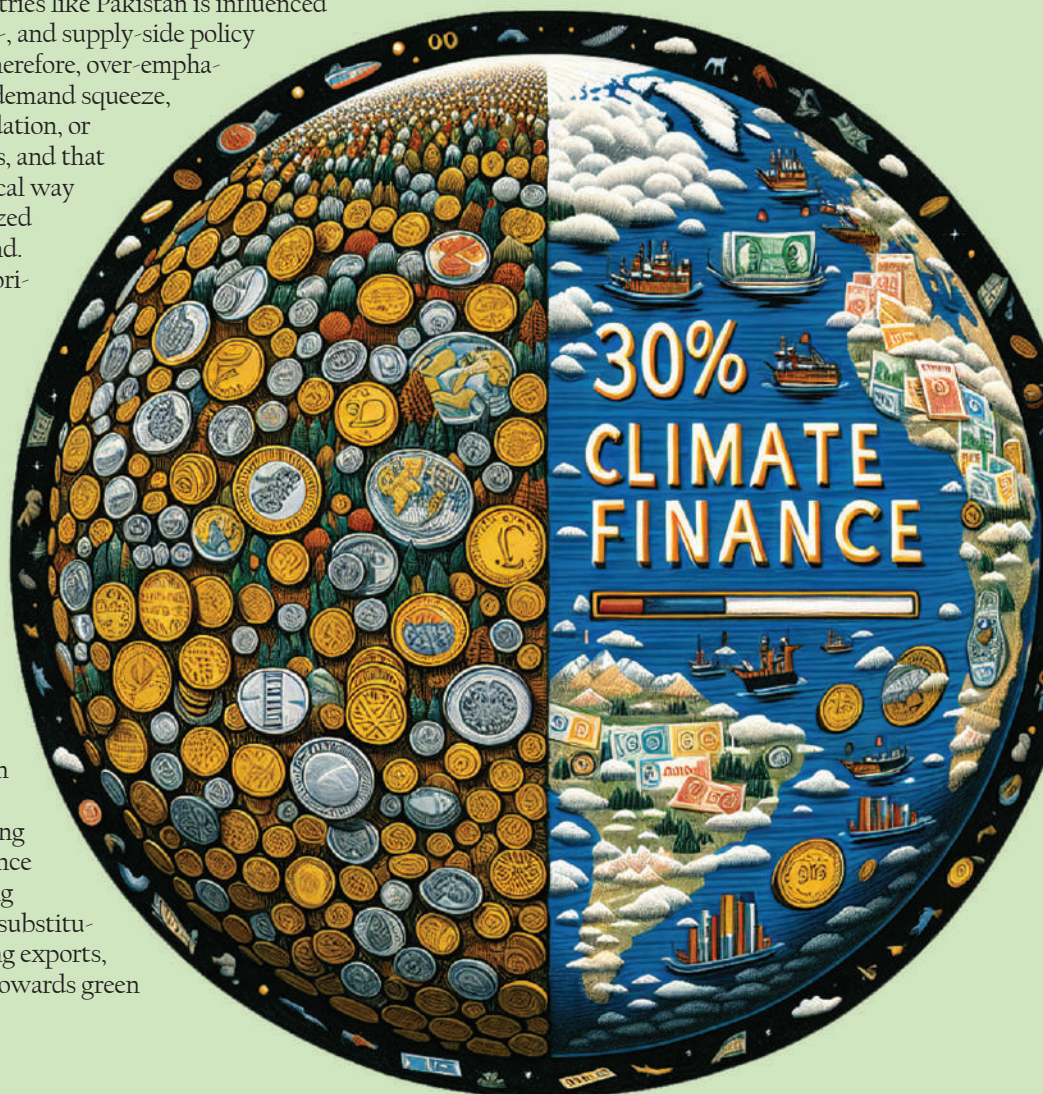
The centre-staging of austerity in overall economic policy has resulted in more than required sacrifice of economic growth to attain macroeconomic stability on one hand, since inflation in developing countries like Pakistan is influenced by both demand-, and supply-side policy emphasis, and therefore, over-emphasis of aggregate demand squeeze, or fiscal consolidation, or austerity policies, and that too in a procyclical way have over-squeezed aggregate demand.

Austerity-oriented economic policy in or outside of the IMF programme, therefore, leaves open the door of macroeconomic instability and a resulting low economic growth situation by not appropriately insulating it from global economic shocks by building economic resilience through investing towards import substitution by enhancing exports, and by shifting towards green

economy, in turn putting dependence on fossil fuel on a diminishing path.

Moreover, over-emphasis on monetary, and fiscal austerity policies unnecessarily reduce fiscal space by creating more than needed burden of debt repayments, and by weakening domestic resource mobilization effort at the back of lesser revenues generated through lower economic growth. In addition, lack of welfare, and overall development spending does not allow improving economic resilience, including lack of removal of supply-side bottlenecks, all contributing to macroeconomic instability.

It is, therefore, important that the next IMF



programme shifts away from over-emphasis on austerity policies because any stable footing of economic growth and macroeconomic stability needs a much-improved economic resilience level against existential threats in the shape of climate change, and likely 'Pandemicene' phenomenon.

Already lack of focus on dealing with climate change crisis has affected global economic growth prospects, while continuation of a similar lackluster policy approach globally is estimated to incur a lot of economic cost, and a lot more than previously estimated earlier. This is pointed out by a May 2024 published working paper in National Bureau of Economic Research (NBER) working paper series, whereby it indicated the following: 'In this paper, we... demonstrate that the macroeconomic impacts of climate change are six times larger than previously documented. ...We find that a 1°C rise in global temperature lowers world GDP by 12% at peak. ...We [also] find that climate change leads to a present value welfare loss of 31% and a Social Cost of Carbon (SCC) of \$1,056 per ton of carbon dioxide (tCO<sub>2</sub>).'

A December 29, 2023, Financial Policy (FP) published article '2023 was another record year for climate change' pointed out in this regard: 'This year, as global carbon dioxide emissions from fossil fuels reached a new high, the world fell further behind on its emissions targets. As 2023 drew to a close, the U.S. National Oceanic and Atmospheric Administration announced that it was set to be the world's hottest year on record. A report by the Intergovernmental Panel on Climate Change in March found that the world may breach a critical threshold for warming – 1.5 degrees Celsius (or 2.7 degrees Fahrenheit) above temperatures in preindustrial times – by the early 2030s. As United Nations Secretary-General António Guterres said, holding warming to 1.5 degrees will require a "quantum leap in climate action."'

The pace of shift towards renewable energy is not enough as pointed out by a June 4, Financial Times (FT) published article 'World falling short on renewable energy goal for 2030, IEA warns' as follows: 'The world's clean energy plans still fall almost a third short of what is needed to reach a renewable energy goal for 2030

agreed at UN climate talks last year the International Energy Agency [IEA] warned, as delegates from almost 200 countries meet again in Bonn this week.'

Moreover, there is a serious lack of multilateral spirit, whereby not only a commitment, made back in 2009, to provide annual climate finance to the tune of \$100 billion to developing countries, was finally met in 2022 as per OECD, there is also no coming through of policy – although there has been a lot of advocacy going on for some time now – for provision of climate-related special drawing rights (SDRs) allocation to highly climate change challenged countries – which includes Pakistan – by IMF on an annual basis for a number of years going forwards.

The extent of weak level of climate finance could be gauged from the existence of a yawning gap between what is being allocated in this regard globally, and what is needed to keep global average annual temperature below 1.5°C, as pointed out by a June 3, FP published article 'Who pays for climate action?' as follows: 'If average global temperature rises are to be limited to 1.5 degrees Celsius above preindustrial levels (in line with the 2015 Paris Agreement), climate finance globally will need to increase to about \$9 trillion a year globally by 2030, up from just under \$1.3 trillion in 2021-22.

According to the International Energy Agency, 30 percent of climate finance globally needed – around \$2.7 trillion – will have to come from the public sector, with the remaining 70 percent coming from the private sector. This is the scale of the world's climate finance needs. However, when viewed in the context of governments' other spending priorities, \$2.7 trillion in public money is achievable. Indeed, in 2022 governments spent \$7 trillion on fossil fuel subsidies alone.' ■



## ENERGY NEWS

# Wind projects' tariff issues stay unresolved

**Mushtaq Ghumman**

The United States Treasury Department delegation, led by Assistant Secretary Brent Neiman, discussed at the highest level the power sector issues including circular debt, which has choked the entire sector.

The delegation was on a two-day Islamabad visit to evaluate Pakistan's economic situation, prospects of the International Monetary Fund's new programme, and general business and investment climate. Well-informed sources told that Washington and Islamabad have serious issues on tariffs of wind projects. The US has taken up this issue at the highest level with Pakistan and also conveyed that Islamabad should not expect any investment from the US International Development Finance Corporation (DFC) until tariff issues of the existing five wind power projects are settled.

DFC, sources said, has already made an offer to the Pakistani government to revise Power Purchase Agreements (PPAs) of its sponsored wind projects subject to some concession from the GoP. According to an official statement, the meeting was aimed at exploring potential collaborations in the energy sector. Federal Minister for Power Sardar Awais Leghari said the reform plan has been made to remove the deficiencies in the power sector. The purpose of these reforms is to improve the energy mix of Pakistan and eliminate other deficiencies of the power sector.

## World Bank to provide \$535m to Pakistan

**EU Report**

The World Bank has announced that it will provide \$535 million to Pakistan for two projects aimed at mitigating the effects of climate change and improving the country's agricultural sector. According to the official statement by the World Bank, the first project, worth \$400 million, will focus on reducing the impact of climate change in Pakistan, particularly in the agricultural sector. The funds will be used to improve crop yields and protect the sector from the effects of climate change. The second project, worth \$135 million, will aim to improve the livestock sector in Sindh, making it more resilient to climate change.

This financial assistance from the World Bank will support Pakistan's efforts to address the challenges posed by climate change and promote sustainable agriculture practices.



# Climate-smart finance bill

**Ali Taugeer Sheikh**

The writer is an Islamabad-based climate change and sustainable development expert

There is need to integrate climate considerations into overall budget-planning processes

**T**he finance bill or proposed budget for the next fiscal year has refused to commit any resources or even set the national direction for climate resilience.

It has failed to acknowledge that Pakistan is one of the world's most climate-vulnerable countries, and perhaps the least prepared. It has missed, once again, the opportunity to determine the course of action for Pakistan's sustainable economic development. Worse, the proposed budget has not outlined a vision for climate-resilient investments.

The finance bill has not shown any particular appetite for institutional or policy reforms that could help stop the economic bleeding caused by repeated climate-induced disasters or the slow onset that is threatening GDP growth rate and per capita incomes. Ironically, despite heavy losses, Pakistan has not explicitly adopted climate considerations into the budgetary

process.

The government has, instead, opted for a simplistic formula for generating tax and non-tax revenues, particularly by cutting subsidies. Economic development is a secondary target, and climate-resilient development is not even on the horizon. As seen in several other countries, the government can ensure that public finance is aligned with climate change mitigation and adaptation goals.

The Planning Commission has still not embedded adaptation and mitigation in PC-Is that are the backbone of annual public sector investments. The finance ministry has not initiated the tracking of climate expenditures, despite attempts over the years by several development partners. The office of the Accountant General Pakistan Revenues has not climate-proofed reporting of federal transactions, nor has the Auditor General upgraded its auditing standards and disclosure rules.

The FBR is not tracking and reporting climate-related tax expenditures, nor has it supported the development of climate-resilient infrastructure by ensuring that tax policies



and regulations promote investments in climate-resilient projects and infrastructure. In fact, none of the major government players have strengthened climate-smart budgeting by embedding climate considerations into their processes. These lacunae are mirrored in the provincial budgets.

We must integrate climate considerations into the overall budget-planning processes. Some of Pakistan's neighbours have begun to climate-proof their annual budgets. Bangladesh is now graduating from least developed country status to become, like Pakistan, a low-middle income country. It stands out for its long journey towards human development and climate resilience. As part of broader efforts to mainstream climate finance across its public financial management systems, Bangladesh set up the Climate Change Trust Fund in 2010 with a governmental equity of \$350 million. Designed to help communities recover from climate disasters by supporting the construction of houses in cyclone-affected areas, the CCTF has supported the construction of embankments and provision of solar home systems.

While our finance bill has announced the government's intent to set up a similar fund, following the Climate Change Act of 2017, the finance minister has clouded its future by not committing any equity from the government, without which it will remain a fictional fund.

Another example is the Climate Fiscal Framework that Bangladesh has implemented since 2014. Revised in 2022, the CFF emphasises institutional coordination between the planning, finance and other divisions to ensure effective implementation of climate fiscal policies and programmes. The CFF is designed to ensure that their vulnerabilities are integrated into national development and resource mobilisation strategies. It made way in 2018 for a budget-tagging system that tracks and reports on all climate-related expenditures, enabling them to identify, classify, and mark climate-relevant allocations in the budget system. There is a lesson for Pakistan: such tracking systems not only help improve policymaking to address climate vulnerabilities, but also add to transparency and accountability in its budgeting.

A climate-smart budget would typically rest on five anchors: i) an assessment of the potential impacts of climate change on different sectors and regions, ii) a mechanism to track and report on related expenditures, iii) an alignment with national policies and targets, such as the Nationally Determined Contributions, iv) prioritising resource allocation for mitiga-

tion, adaptation, and resilience-building, and v) accessing domestic and international climate finance to fill the resource gaps.

In other words, rather than treating it as a stand-alone issue, Pakistan needs to integrate its climate considerations into the overall budget-planning processes. Governments across the world are routinely focusing on domestic financing through national budget reallocations, the establishment of national/ subnational climate funds, and partnerships with the local private sector, civil society, and local authorities. No such intent is outlined in the proposed budget. Likewise, the budget bill has not committed to systematically pursuing innovative green finance mechanisms, such as green bonds, green loans, and green guarantees to mobilise climate finances.

True, Pakistan's fiscal space is narrow, yet we still follow traditional debt relief involving rescheduling, forgiving, or reducing a portion of a country's debt, often through bilateral or multilateral agreements. This approach focuses on reducing debt burdens without necessarily addressing environmental and climate concerns. Debt-for-climate swaps, on the other hand, involve converting debt into funds dedicated to environmental conservation and climate mitigation. This approach addresses both debt distress and climate

change by redirecting debt payments towards climate-smart projects.

Several developing countries have used debt-for-climate swaps to finance climate projects. This approach focuses on reducing debt burdens without necessarily compromising environmental or climate concerns. Debt-for-climate swaps, on the other hand, involve converting debt into funds dedicated to environmental conservation and climate change mitigation. This can help address both debt distress and climate change by redirecting debt payments towards climate projects.

Some similarly placed economies are trying to manage their debt burdens by exploring such measures as debt-for-nature swaps, debt-for-climate swaps, green bonds, and domestic financing through national budget reallocations, partnerships with local private sector, or public-private partnerships to develop and finance climate change projects. The proposed budget is silent on these options, leaving matters to the imagination of our federal and provincial economic managers. Instead of having a simplistic, linear approach to macroeconomic stabilisation, it's time to set the direction for a climate-resilient country. The finance bill can still provide us the space to accelerate our journey towards a resilient economy. ■

## Sindh allocates Rs25bn for mass-scale solarisation

The Sindh government, in its newly presented budget for the upcoming financial year 2024-25, has allocated Rs25 billion to fulfil one of the important election campaign promises of PPP Chairman Bilawal Bhutto Zardari.

The promise is to provide free electricity to underprivileged power consumers in the country after coming into power. Sindh's top authorities have stated on several occasions that the province's massive solar energy potential will be maximally utilized to generate clean electricity and provide it free of charge to deserving power consumers, as per the campaign promise of the PPP Chairman.

Sindh Chief Minister Syed Murad Ali Shah, who also heads the provincial finance department, announced the allocation of Rs25 billion for implementing the mass-scale solar energy initiative while presenting the budget of his government for the new financial year in the Sindh Assembly.

The CM informed the lawmakers that Rs 25 billion would be spent over the next five years to provide free rooftop solar systems to 2.6 million off-grid households. In the first phase, during the new financial year 2024-25, solar home systems will be provided to 500,000 households. These systems will include 100-watt solar panels, three LED lights, one fan, and six hours of battery storage. This initiative will be implemented in addition to the World Bank-funded Sindh Solar Energy Project. The US \$105 million World Bank-assisted project aims to provide solar home systems to 200,000 households in areas of the province with low or no electricity. According to a senior project official, the procurement of solar home systems under the World Bank-funded clean energy promotion initiative has commenced, and the first batch of 50,000 systems will arrive in Karachi by mid-October this year. ■





# CPEC 2.0

## CAN PAKISTAN LEARN FROM SHENZHEN?

**Shakeel Ahmad Ramay**

It is essential to examine the factors driving Shenzhen's transformation

Prime Minister Shehbaz Sharif recently praised the remarkable success story of Shenzhen, heralding its evolution into the city of the future. Once a modest fishing village, Shenzhen has emerged as a dynamic hub of modern technology, development, and innovation. With its GDP growing steadily, Shenzhen's journey of transformation commenced in 1978 with a modest GDP of \$40 million, soaring to an impressive \$500 billion with a population of 13 million.

Impressed by Shenzhen's achievements, Prime Minister Shehbaz Sharif announced Pakistan's intention to adopt the Shenzhen model of development. While this declaration demonstrates a positive step towards learning from Shenzhen's experience, it raises the question: Can Pakistan truly replicate Shenzhen's success?

Before answering this question, it is essential to examine the factors driving Shenzhen's transformation. What reforms did China implement? What institutional mechanisms and infrastructure facilitated Shenzhen's growth?

China initiated its reform process by implementing political and economic changes. Shenzhen was granted greater political and economic

autonomy, starting with Guangdong Province declaring Shenzhen equivalent to a provincial capital in 1981 and initiating infrastructure upgrades.

Experts widely agree that legislative power and decision-making autonomy were pivotal in revolutionising Shenzhen's development. Leveraging the trust and authority granted by the Central government and the Communist Party of China, Shenzhen implemented numerous innovative practices. One notable example is the introduction of the "government approval within 24 hours" concept and model, which was further expedited by adopting and strengthening the one-roof model, consolidating all services under one administrative umbrella.

On the economic and infrastructural fronts, Shenzhen granted the zone authority to expedite company registration processes. Additionally, zone authorities provided investors with essential services such as electricity, water, and facilitated tax matters. State-of-the-art trade facilitation mechanisms and infrastructure were also established, ensuring efficient import and export operations, alongside robust security measures.

Now, the question arises: Can Pakistan adopt and derive lessons from the Shenzhen model? In the current context, learning from it appears to be exceedingly challenging for various

reasons. Let's consider the example of the CPEC Authority.

Secondly, there is a tug of war among political parties to claim credit for CPEC. Each party tends to credit themselves for CPEC's successes while blaming others for its shortcomings. PML-N, PPP, PTI, and JUI-F are prominent players in this credit-seeking game, making it challenging to build consensus for innovative programs like the CPEC Authority. Furthermore, they are hesitant to support initiatives that don't enhance their own prominence.

Thirdly, government ministries and departments vie for prominence in CPEC projects, leading to unnecessary competition that complicates project implementation and deters investors. This mentality has significantly impacted the effectiveness of the CPEC Authority, rendering it non-functional.

Fourthly, Pakistan faces a weak chain of command, with provinces and the federal government often at odds due to conflicting preferences. Provinces tend to shift blame onto the federal government, exacerbating tensions. The complexities introduced by the 18th Amendment have further strained relations, turning CPEC into a new battleground for competition between federal and provincial governments. This has hindered progress, particularly in completing SEZs.

Fifthly, local governments in Pakistan are either non-functional or non-existent, as all political parties are complicit in weakening them and delaying local government elections. Despite advocating for the 18th Amendment, they are unwilling to grant power to local governments, leaving them without financial resources to provide essential services like roads, water, electricity, and sewage. Given these challenges, learning from the Shenzhen model appears extremely difficult, if not impossible. However, if the government is genuinely committed, the SIFC offers a promising opportunity to implement elements of the Shenzhen model. ■

## FORCED CHARGES

# Fixed charges: Boon or bane for electricity consumers?

**Abubakar Ismail**

**W**ith the recent Discos tariff determination by power regulator Nepra, fixed charges have been introduced for domestic consumers, and industrial fixed charges have been increased by almost 300%.

On June 14, 2024, Nepra also determined the National Average Power Purchase Price as 27 rupees per unit and the Average Electricity Selling Tariff as 35.5 rupees per unit, which is nearly 19% higher than last year. Although the consumer-end tariff notification for the next fiscal year for this two-part tariff has yet to be issued, this determination has sparked a debate about the implications of fixed charges.

The Pakistan power sector has fixed costs associated with an installed generation capacity of almost 45,000 MW. However, our transmission network can only dispatch around 21,000 MW on a hot summer day due to temperature degradation and up to 26,000 MW under optimal summer conditions.

Load shedding in the country clearly highlights the impact of these bottlenecks. This raises the question of why customers should bear the capacity costs resulting from poor planning that has led to increased fixed costs. For FY 2024-25, the total Power Purchase Price is 3,534 billion PKR, of which 64% is fixed capacity costs (2,266 billion PKR) and 36% is variable energy costs (1,268 billion PKR).

The question here is can a business pass their inefficiency cost to the customers in a competitive environment? Currently, industries are facing similar issues to the power sector, such as idling capacity and underutilization due to tight economic conditions.

While Power Division operating DISCOs as a monopoly, can pass these costs on to consumers, industries operating in a competitive environment cannot do the same. This inability to pass on costs will likely lead to further shutdowns.

There are many ways to reduce the cost

of electricity, such as increasing production or demand (which lowers fixed capacity costs per unit) and by reducing transmission and distribution losses. A 1% reduction in T&D losses could save 1,062 GWh (1,062 million units) at current sales projections, translating to 37.7 billion PKR in revenue at the current national average power price of 35.5 PKR per unit. However, the government has opted to pass inefficiency costs onto customers instead of addressing these potential savings.

The implications of a 300% increase in fixed charges could be severe for industries. A typical industry is currently operating at only 50% production capacity and is unable to spread its internal fixed costs effectively.

Fixed charges of 2,000 PKR per kW per month would translate to almost 9 PKR per unit on a variable unit consumption basis for industry operating at 50% production capacity. Previous fixed charges for industries ranged from 460 to 500 PKR per kW per month, so the increase should be capped at 400 PKR. This would result in final fixed charges of around 860 to 900 PKR per kW per month.

On the other hand, there is an argument that certain users, such as those with captive power or distributed generation, are using grid services like voltage regulation, frequency regulation, reactive power, and backup power without adequately paying for these services. Therefore, they should share the cost of maintaining the grid for these services.

There should be an optimal level for fixed charges that does not force consumers to leave the grid or seek alternatives. The concept of a two-part tariff is not new; it is common worldwide. However, what is urgently needed is competition in the power sector and the immediate implementation of the CTBCM (competitive trading bilateral contracts market), first at the wholesale level and then at the retail level.

With competition, consumers will have the option to choose from different electric suppliers offering various pricing models, such as flat tariffs, peak and off-peak tariffs, or two-part tariffs. ■





# Socio-economic development hit hard Climate Change turns to be a nightmare in Pakistan

Rising heatwaves in summer and severe cold in winter badly affect agriculture, business and social development; govt needs to take urgent remedial measure to reduce losses; strategic planning is required to tackle climate-induced calamities; there is also immediate need to shore up all climate projects

**Muhammad Naeem Qureshi**

**C**limate Change is harming socio-economic development in Pakistan besides affecting public health and causing mass deaths, as the average temperature in the country has increased by 1°C since the 1980s and is projected to continue rising while Karachi has witnessed over 3°C rise in temperatures in six decades. The record temperature rise above 52°C in some parts of Sindh this

year is nothing but a nightmare.

Such a rising warming in the country is due to fast hacking of forests, rising use of fossil fuels, expanding transportation, rapid industrialization, use of ACs, oven and forest fires, commercialisation and worldwide warming entering the country through air.

Unfortunately, very little and disappointing work has yet been done by all the successive governments, irrespective of who rules the country. Due to slackness, ill-planning and lack of interest by the relevant authorities, the forest cover

of the country has been hacked fast, reducing it to 5.1% of the country's total land area as compared to the international standard of 25% forest cover a country should have on its total land area. The average annual deforestation rate in the country stands at 11,000 hectares, which is alarming. Hence, there is dire need to protect the country's forest cover and raise it to a significant level through an effective and efficient policy.

Pakistan has 4.51 million hectares of forest cover, with coniferous forests covering the most significant proportion



at 37 percent, followed by scrub forests (22.2 percent), mangroves (7.3 percent), riverine forests (7.8 percent), and irrigated plantations (6.3 percent). There is dire need to raise forests to significant level to reduce warming and save the people and crops from the devastating heatwaves.

Pakistan has a diversified economic base with the agriculture sector, contributing 24 percent in GDP and 37.4 percent in employment. The predominance of agriculture in the economy indicates that agricultural growth is a critical driver of economic growth, employment, and poverty reduction, given its linkages with the other sectors.

Pakistan's greenhouse gas emissions are less than 1% of the world total, but despite this, the country is suffering heavy losses from climate change. The worst example of losses was caused by the 2022 floods. The floods' damage was estimated at US\$14.9 billion, the loss to the GDP at US\$15.2 billion, and the total needs of rehabilitation at US\$16.3 billion. The sectors that suffered the most damage was housing at US\$5.6 billion; agriculture, food, livestock, and fisheries at US\$3.7 billion; and transport and communications at US\$3.3 billion.

Due to climate change implications, the Indus River Delta in Sindh has been dried up, affecting livelihood of the local people. The local people, who used to grow cattle to earn their livelihood in the delta, have no grass, trees and water for their animals. As a result, the majority of the population has migrated to urban areas. Unfortunately, Pakistan's 80 percent land has turned dry, which is a bad indicator for the agriculture sector as per a government survey. The water level in the Indus River is gradually decreasing due to global warming. The gradual increase in air and soil temperature will cause water scarcity, while recurring heat waves will intensify the situation and worsen droughts, affecting socio-economic development and hitting public health hard. The population is facing challenges of natural hazards like floods, droughts and cyclones, which have been growing in intensity and frequency with the passage of time.

As per the government's damage assessment report, in 2022, a third of the nation was submerged by massive and deadly floods across the country. About 33 million people were impacted, especially in the provinces of Sindh and Balochistan, and numerous died as a result. It killed 1,739 lives causing \$14.9 billion of damage and \$15.2 billion of economic loss, per the

government's damage assessment report.

According to a new economic survey of Pakistan, Pakistan's projected temperature increase is expected to exceed the global average. Temperature increases of 1.4°–3.7°C are projected by the 2060s and increases of 6.0°C by the 2090s. It is projected that water availability per capita will decrease to an alarmingly low level by 2025. Yields of major crops such as wheat and rice are expected to decline significantly. Sea levels are forecast to increase by 30–80 cm by 2100. The low-lying coastal regions of Pakistan, including the city of Karachi, are at significant risk from projected sea level rise. As the sea level rises, seawater is causing further intrusion into the Indus Delta, affecting the freshwater sources.

The frequency of climate-related natural disasters has alarmingly risen in Pakistan. The most observed hazardous phenomena in

Pakistan during 1980–2022 were floods, tropical cyclones, extreme temperatures, and occasional droughts. The floods of 2010 and 2022 and the earthquake of 2005 created substantial economic losses, casualties, infrastructure damages, and rehabilitation costs. It has been observed that the intensity of floods has been increasing over the years, which can be attributed to changes in global climate patterns (rising temperature and changing precipitation patterns), melting glaciers, deforestation, and urbanization. With increased temperatures and rising temperature volatility, Pakistan will see increased climate-related severities in the future. The most serious effects of climate change in Pakistan are expected to increase severe drought and volatility in extreme precipitation events, leading to more mudslides and landslides.

The frequency of climate-related natural disasters has alarmingly risen in Pakistan. The most observed hazardous phenomena in Pakistan during 1980–2022 were floods, tropical cyclones, extreme temperatures, and occasional droughts. The floods of 2010 and 2022 and the earthquake of 2005 created substantial economic losses, casualties, infrastructure damages, and rehabilitation costs. It has been observed that the intensity of floods has been increasing over the years, which can be attributed to changes in global climate patterns (rising temperature and changing precipitation patterns), melting glaciers, deforestation, and urbanization.

Climate change leads to prolonged droughts in specific regions of Pakistan. In 2018, insufficient rainfall and extended

water scarcity caused drought conditions in Balochistan and Sindh. In September of that year, the Sindh government declared significant portions of Southern Sindh as "calamity areas" due to deficient rainfall during the monsoon season. Unlike other natural disasters, droughts build up gradually over time, and their impacts can persist for several years after they occur.

Climate change poses serious challenges to social, environmental and developmental activities, and leads to migration within and across national borders. The effects of global climate change in Pakistan are already evident in the form of growing frequency of droughts, floods, erratic weather behavior, changes in agricultural patterns, reduction in fresh water supply and the loss of biodiversity. Mitigating and adapting actions are considered to be the two key ways of combating climate change. The immediate and pressing task for the country is to prepare itself for adaptation to climate change.

Notwithstanding the fact that Pakistan's contribution to global greenhouse gas (GHG) emissions is small, its role as a responsible member of the global community in combating climate change is dedicated by giving due importance to mitigation efforts in sectors such as energy, transport, forestry and agriculture.

The Indus river system is the lifeline of Pakistan, in more ways than one. More than 80% of Pakistan's arable land is irrigated by the waters of the Indus. Nine out of the ten largest cities in Pakistan are situated within 50km or less of the waters of the Indus. The degradation of the Indus Basin presents a precarious economic, social, ecological as well as demographic challenge to Pakistan as a developing country.

Climate change is a global issue, therefore, joint efforts are required to be taken not only by Pakistan but also by the world countries to strengthen resilience against climate shocks, assure sustainable development, secure future for their respective populations in growing climate challenges. Moreover, developed countries should take the responsibility to engage with climate-friendly production practices, promote green growth, and put in resources to pay for the climate-related damages in developing countries. Also, Pakistan may continue its efforts to sensitize the global community about creating a climate-resilient society all around the globe. Long-term comprehensive planning and vigorous execution at all levels would be critical to a better future. ■



# Build Karachi, develop Pakistan

Development in Pakistan is hostage to the situation in Karachi compared with that in Lahore or Punjab, where the law-and-order situation and infrastructure are better and the extortion mafia is not quite active.

Karachi is the country's largest city and has a well-functioning seaport. It is home to some of the largest industries in the country. Its infrastructure, however, is in shambles. It is extremely painful to move container-laden heavy traffic in its industrial areas. Another major drawback is the questionable law-and-order situation in the city. Street crime, including phone snatching and car lifting, is the norm. On top of that, businesses have to deal with the 'bhatta' mafia, and there are no exceptions.

In fact, this extortion industry has developed over time and perhaps collects more money than official revenue departments in a systematic way. There are millions of tax evaders in Karachi, but it is rare to find a 'bhatta evader' in the city. This tactic was initiated, and for a long time monopolized, by one political party. As the influence of that political

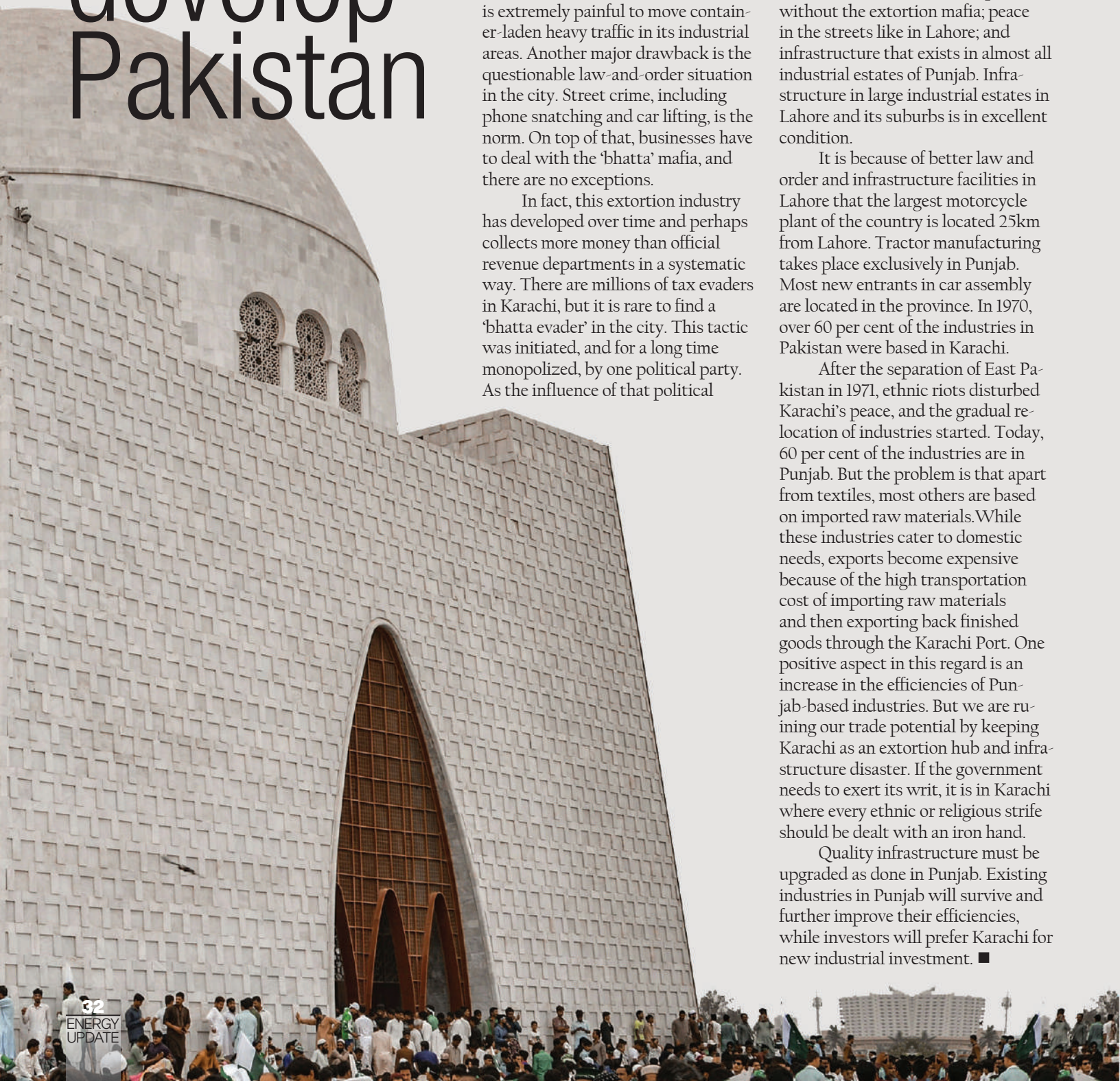
party waned, other groups jumped in, including organized criminal groups, some religious parties and many more.

This extortion has scared away investors from the city. Many have shifted their units to Punjab. Ideally, all investors would love to operate from Karachi, which is a port city. Industries that import raw materials bear high costs when they transport those raw materials upcountry. The industries that are in export business have to dispatch export consignments to Karachi for shipments. What Karachi needs are business operations without the extortion mafia; peace in the streets like in Lahore; and infrastructure that exists in almost all industrial estates of Punjab. Infrastructure in large industrial estates in Lahore and its suburbs is in excellent condition.

It is because of better law and order and infrastructure facilities in Lahore that the largest motorcycle plant of the country is located 25km from Lahore. Tractor manufacturing takes place exclusively in Punjab. Most new entrants in car assembly are located in the province. In 1970, over 60 per cent of the industries in Pakistan were based in Karachi.

After the separation of East Pakistan in 1971, ethnic riots disturbed Karachi's peace, and the gradual relocation of industries started. Today, 60 per cent of the industries are in Punjab. But the problem is that apart from textiles, most others are based on imported raw materials. While these industries cater to domestic needs, exports become expensive because of the high transportation cost of importing raw materials and then exporting back finished goods through the Karachi Port. One positive aspect in this regard is an increase in the efficiencies of Punjab-based industries. But we are ruining our trade potential by keeping Karachi as an extortion hub and infrastructure disaster. If the government needs to exert its writ, it is in Karachi where every ethnic or religious strife should be dealt with an iron hand.

Quality infrastructure must be upgraded as done in Punjab. Existing industries in Punjab will survive and further improve their efficiencies, while investors will prefer Karachi for new industrial investment. ■







# NATURAL POWER FOR A BETTER LIVING



#### PID Protection

Ensure the attenuation probability caused by PID phenomenon is minimized.



#### Maximum Power Outrage

The Maximum Peak Power performance ranges from 180w to 200w



#### Load Capacity

Mechanical load tests including wind load of 2400 Pa and snow load of 5400 Pa conducted by TUV Nord.



#### Low Light Features

Higher performance under low light environment.



#### Harsh Environment Adaptability

Strict Salt Spray and Ammonia Corrosion tests by TUV Nord conducted to withstand harsh environments.



## JAPANESE TECHNOLOGY

認定された日本の技術と仕上がり



JAPAN  
PHOTOVOLTAIC  
ENERGY ASSOCIATION



For booking and details

UAN: 021-111-000-348



[www.crownsolar.co](http://www.crownsolar.co)





# The case for small dams

This is the age of small dams; the era of big dams is almost over worldwide; multilateral agencies, which used to sell this dream of big dams for mega development, are no more interested in building big dams

## Sikandar Ali Hullo

The writer is an Islamabad-based anthropologist and analyst

**T**his is the age of small dams; the era of big dams is almost over worldwide. Multilateral agencies, which used to sell this dream of big dams for mega development, are no more interested in building big dams.

In the post-modern world, the model of storing and utilizing water has switched from big to small dams as the most preferred option for eco-friendly and sustainable livelihoods and the environment both locally and globally.

Debates now are more focused on the utility and viability of small dams all around us. Small dams in Pakistan are not a dream project anymore, but a small-scale success story with big benefits for areas where they are located, with increasingly positive contributions to the local and national economies.

One such success story of small dams in Sindh which is worth sharing is from Nagarparkar, which is located in the bed of the Karoonjhar Mountains in Tharparkar. Images and stories doing the rounds in the mainstream

and social media highlight the impressive story of these small dams, which in recent years are changing the lives of the locals for the better.

The prime source of these small dams in Nagarparkar is rainwater that flows down from almost the 20km-long and 300-ft high Karoonjhar Mountains, which also consist of rich deposits of granite and China clay, and recently came under the spotlight when officials gave a green signal for mining activities here. Its range and bed connect with the Rann of Kutch and borders Indian Rajasthan. In the monsoon season, rainwater pours down from the mountains and flows down more than 20 streams, where most of these small dams are built.

Historically, Nagarparkar was a centre for Jainism for several centuries with the remnants of some of the best temples in its every corner. It is an open museum of nature with the best scenic trails, flora and fauna and the rare species of animals, birds and plants. Its entire life, landscape and livelihoods stand revived and recharged because of these small dams.

Sindh's two arid zones, the Kirthar range and Thar Desert comprise 49 per cent of the land. It is almost half of the province. These areas completely depend upon the rainfall which used to be wasted due to the non-availability



of rainfed, small dams. For tackling the impending scarcity of water in rainfed or Barani area, the irrigation department of the PPP-led Sindh government with its small dams initiative has constructed small dams at the untapped sites during the last fifteen years at a fast pace.

As per data available on the website of the irrigation department, the Hyderabad region alone has completed 106 small dams so far, under various annual and special development schemes. Of this, 51 small dams have been completed in Nagarparkar, whereas five more are under construction. More small dams are under consideration to cover almost the entire area of Nagarparkar, which otherwise is known for sand dunes and droughts where a drop of water is more precious than anything else.

Small dams are not only water reservoirs, but they also recharge underground water for safe drinking water with five times higher crop productivity while offering sustainable livelihoods. Now, the valley of Nagarparkar enjoys the facility of water throughout the year – from drinking water for humans and livestock to water for crops.

The effects are visible now. This year, the area recorded a bumper crop of onion, taking this drought-prone region to a development-friendly area. Onions worth over Rs4 billion were transported to the open market from Nagarparkar, marking a record-breaking production and dream incomes for growers and landowners. Resultantly, the cost of land has almost doubled, and the cost of lands in the close proximity of the catchment areas of small dams continue to rise.

Besides the wellbeing of humans and bumper crops, the life and survival of the wildlife, which used to be under the constant threat of being extinct, is also protected because of these water reservoirs. Previously, several species were supposed to die due to either the severity of the weather or water shortages.

With ample water available for drinking purposes, crops, and livestock, the percentage of migration has decreased to almost 80 per cent in the area. The migration from the desert to barrage areas in lower Sindh is a common phenomenon, where thousands of families with their livestock would travel in search of water during summer and in search of water during winter to escape droughts.

Now, organic and indigenous quinoa and other kinds are emerging as a major crop in this area. Likewise, the production of honey has reportedly doubled with the coverage of sustainable biodiversity in the region. Importantly, the guggul tree, which is used in the production of gum, has not only been saved but its production has also increased. Regarding animals, the dying species of the most beautiful cow called kankrech has been saved. These cows will not have to die due to drought or migrate to save their sensitive skin. With these small dams, the entire economy and livelihoods of this area have found a new life.

Overall, these small dams have successfully served three important purposes: first, the migration of the locals has been reduced at a significant level. Second, the sub-soil water level which was depleted at an alarming level of 200-250 ft has now recharged to 120-150ft. Third, these small dams are becoming an effective model for poverty alleviation in these areas.

Let this success story of small dams from the desert of Nagarparkar and elsewhere be replicated all over 70 per cent arid and semi-arid areas of Pakistan.

## ENERGY NEWS

# Faheem Haider reappointed as Managing Director/CEO of Mari Petroleum Company Limited

### EU Report

**M**ari Petroleum Company Limited (MPCL) has announced the reappointment of Faheem Haider as Managing Director/CEO for another three-year term, starting August 12, 2024. This decision, confirmed by a notice to the Pakistan Stock Exchange, reflects the Board's strong confidence in Haider's leadership.

With a wealth of experience in the global oil and gas sectors, Haider has been instrumental in guiding MPCL towards significant growth and strategic excellence. His reappointment is expected to further bolster the company's position in the industry, driving continued success and innovation.

Haider's leadership has been pivotal in navigating challenges and capitalizing on opportuni-



ties, ensuring MPCL's sustained progress and competitiveness in the dynamic energy landscape. The Board's decision underscores their commitment to maintaining stability and advancing the company's strategic objectives under Haider's proven guidance.

## Mari Petroleum successfully tests fourth appraisal well in Sindh

### EU Report

**M**ari Petroleum Company Limited (MARI) has successfully drilled and tested the fourth appraisal well in the Mari Ghazij Formation, located in the Mari Development and Production Lease (D&PL) in Sindh, as stated in a notice to the Pakistan Stock Exchange (PSX) on Monday.

The notice read, "MARI has successfully drilled and tested the fourth appraisal well in the Ghazij formation (Ghazij discovery) in Mari D&PL." This well is part of the appraisal program for the Ghazij discovery, which was

initially disclosed on January 25, 2023.

According to the notice, the well was spudded on April 21, 2024, and drilled to a depth of 1,006 meters. The post-acid gas flow rate from the well was reported at five million standard cubic feet per day (MMSCFD) with a wellhead flowing pressure (WHFP) of 363 pounds per square inch (psi) at a 128/64-inch choke size.

MARI, which operates Mari D&PL with a 100 percent working interest, stated that the well will be put into production after completing the necessary regulatory formalities.





# State of the economy

There has been modest recovery in GDP growth rate to 2.4%; bulk of this growth is from agricultural sector; exports have shown a healthy growth rate of over 11%

## Dr Hafiz A Pasha

The writer is Professor Emeritus at BNU and former Federal Minister

**T**he fiscal year 2023-24 is likely to close with a mixed performance by the economy. On the positive side, there has been a modest recovery in the GDP growth rate to 2.4%, from negative 0.2% in 2022-23.

Bulk of this growth is from the agricultural sector, which has demonstrated a very strong recovery from the devastation caused by the floods in 2022-23.

The sector has achieved a high growth rate of 6.3% in 2023-24. The major crop sector has performed exceptionally well, with an extraordinarily high growth rate of 16.8%.

The second major area of success has been the successful containment of the current account deficit in the external balance of payments. Over the first eleven months of 2023-24 it is down to only \$0.5 billion.

Exports of goods have shown a healthy growth rate of over 11%, while imports have been restricted, resulting thereby in a fall of 2.3%.

The financial account of the balance of payments has turned positive at \$4.2 billion, from a negative \$1.2 billion in 2022-23. This is primarily due to a bigger net inflow of loans and deposits of \$2.6 billion, as compared to a net outflow of \$1.5 billion in 2022-23.

Overall, in the first eleven months of 2023-24, there is a balance of payments surplus of \$2.4 billion, as compared to a large deficit of \$5.3 billion last year.

Coupled with a net inflow from the IMF of \$2.2 billion this year, as the net funding under the Stand-by Facility, the foreign exchange reserves have risen to the current level of \$9.1 billion. They were only \$4.4 billion at the end of 2022-23.

The third area of improvement is the progressive decline in the rate of inflation. It had attained peak on a year-to-year basis in May 2023 at 38.3%. Since then, it has steadily declined to a low of only 11.8% in May 2024. Part of this decline is, of course, due to the 'high base effect'. In particular, there has been a big fall in the food prices rate of



inflation, from as high as 50.7% in May 2023 to a very low rate of below 1% only in May 2024.

Compared to the above three areas of improvement in the economy, there are also some major areas of visible failure. The first is the lack of growth in the large-scale manufacturing sector. It had declined by as much as almost 10% in 2022-23. The on-going year is seeing near zero growth.

Industries which are exhibiting negative growth include textiles, automobiles, electrical goods, cigarettes, cement and iron and steel products. In some cases it is due to restriction on imported inputs and in others because of the fall in investment and construction activity. Generally, consumer demand has remained depressed due to the lack of growth in real household incomes.

The second area of concern is the colossal drop in the level of investment in the economy to the lowest level in the last 50 years at only 11.4% of the GDP. Private investment stands at only 8.7% of the GDP and public investment at only 2.7% of the GDP. Way back in the decade of the 80s, total fixed investment had reached 17% of the GDP.

There has also been a striking change in the composition of private investment. While investment in agriculture continues at a more or less unchanged level, there has been a quantum fall of investment in the manufacturing sector by 55% in relation to the level five years ago.

Instead, the direction of private investment is now towards property and real estate. In 2023-24, this sector will see a level of investment almost two and a half times that in manufacturing. Clearly, this has to be reversed. Private investment in industry and agriculture will need to be at the forefront for export growth and diversification.

The third area of failure relates to the management of the public finances of the country. The year started with a target consolidated budget deficit of 6.5% of the GDP and a primary surplus of 0.4% of the GDP.

The deficit was raised after the agreement with the IMF on the Stand-by Facility to 7.7% of the GDP, with the same primary balance of 0.4% of the GDP. This was due to the projected increase in the cost of debt servicing from Rs 7,303 billion to Rs 8,602 billion, in the presence of the peak policy rate of the SBP of 22%.

The revised estimates indicate that the federal ministry of finance expects a somewhat better outcome of the consolidated budget deficit in 2023-24 of 7.4% of the GDP, as compared to the revised projection of 7.7% of the GDP. However, the primary surplus is anticipated at the same level as the budgeted magnitude of 0.4% of the GDP.



According to reports in the local media, along with the higher taxes imposed on real estate in the recent budget, the Federal Board of Revenue also intends to revise its property valuation rates, used to calculate tax on property transactions, to 90pc of the market value. If the same is achieved — tax officials have reportedly told a Senate panel that they intend to issue a notification to this effect next month — it will constitute an important step towards fairer taxation of the real estate sector, which has for long been a haven for tax evasion and money laundering.

The current property valuation system in vogue in Pakistan is inefficient and opaque, with at least three different valuations existing for any given property.

This includes the FBR valuation mentioned above, which is used to calculate federal taxes; a District Collector, or DC valuation, which is used to determine provincial taxes; and the actual market price, around which the property changes hands between the buyer and seller. The large variations between the three rates allow buyers and sellers to easily get away with paying less tax than they should be liable for.

At a time when the country faces

severe resource constraints, the real estate sector cannot be allowed to operate like it has been. The official rates grossly undervalue properties and deprive the state of much-needed revenue. They also allow all manner of unscrupulous elements to thrive. On paper, properties change hands at a fraction of their worth, and the difference between official and market rates is invariably settled in cash.

This means money keeps circulating away from the tax authorities' view, which makes it much more difficult for them to extract revenue through fair, progressive taxation. The pricing distortions also allow black money to be whitened easily, as the disparity between declared and market rates can be exploited to launder large volumes of unlawfully acquired wealth relatively quickly and easily.

There is no question that harmonising property valuations and digitising property ownership and transaction records is the way to go: the question is, does the current government have the resolve to implement and enforce these measures, considering the power and influence of the various players involved in the real estate market? Others have tried and failed. It remains to be seen what this government may achieve.

Courtesy Dawn



# Green energy plans in Pakistan

Moving towards sustainable sources of energy is a step towards greater climate resilience; rumours about new tax slow down installation of solar power units in domestic sector

**Faaiz Gilani**

The writer is a University College London graduate with a master's

**R**ecently, there have been rumours that the government is considering the imposition of new tax on solar energy use. The Power Division has denied that there is any suggestion to impose additional taxes. However, the rumours have caused confusion in market and slowed down the installation of solar power units in the domestic sector.

Pakistan is among the countries most vulnerable to the impact of climate change. While Pakistanis cannot prevent carbon emissions by the rest of the world, moving towards sustainable sources of energy is a step towards greater climate resilience.

The 2017 net-metering policy encourages the integration of alternative sources of energy such as solar power into the national grid.

For a sustainable future, the government must always be on the lookout for ways to limit the carbon footprint. It must also adhere to the commitments made under the Paris Agreement, to "achieve a balance between anthropogenic emissions by sources and removal by sinks of greenhouse gases..."

The progress so far has not been satisfactory, despite the conference in Glasgow, the United Nations Emissions Gap Report highlighted a 2.4-degree Celcius warming of the Earth.

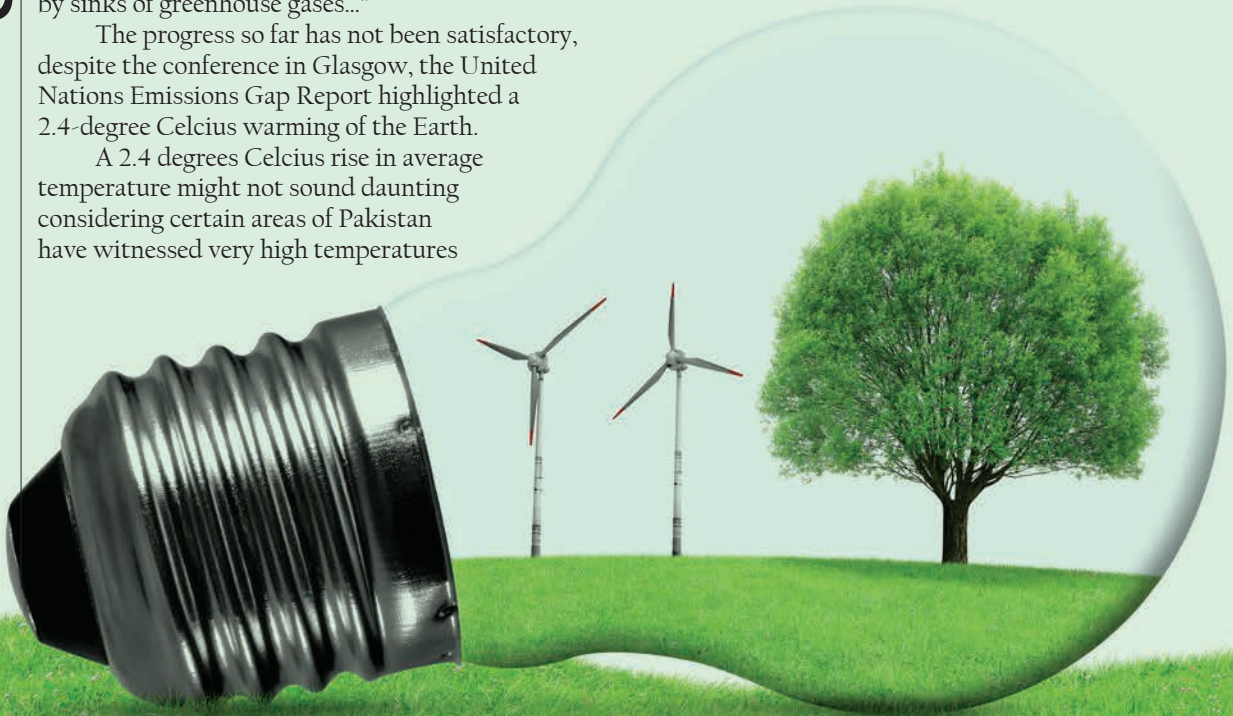
A 2.4 degrees Celcius rise in average temperature might not sound daunting considering certain areas of Pakistan have witnessed very high temperatures

during summers for many years. However, according to a recent study by the World Bank, a 2-degree increase could expose 37 percent of Pakistan's population to severe heat at least once every five years, cause a 0.46-metre rise in sea level along the coast and lead to an 8 percent loss in vertebrate species and a 16 percent loss in plant species.

In a top-down approach, the government and policy-makers take the lead in steering the country towards a more sustainable environment. The government's climate policy needs to promote and support a move towards environment-friendly strategies, with clear, ambitious targets, plans and timelines for full transition towards a zero-carbon economy.

There is a need to identify and list negative externalities that impact the environment. A Pigovian tax can then be pushed for. It is a tax on market transactions that create negative externalities. It impose a cost of production on third parties. Tobacco taxes are an examples of Pigovian tax. Pakistan has not shied away from imposing these to discourage smoking.

Such taxes not only distribute the problem across parties but also tend to help phase out cost-ineffective practices. In the United Kingdom, back in 2013, coal



use fell sharply to the lowest level since 1890 with the introduction of a carbon tax of around \$25 per tonne. A drastic change in national policy is needed to remove fossil fuel subsidies and keep green subsidies.

In recent years, Pakistan has moved towards exploitation of renewable resources. Solar, hydro and wind power have been the three main resources. Renewable energy use can flourish with research and development in these sectors.

Successive governments have been hesitant to remove subsidies on fossil fuels. The Imran Khan famously fixed petrol prices at a low level while international prices were rising. Former finance minister Miftah Ismail too came under the spotlight for supporting fuel price hikes.

According to a report by the World Bank, published at the end of 2023, Pakistan had the highest fuel subsidy in South Asia, (2.6 percent of the GDP) in 2020. In March 2023, the International Monetary Fund forced Pakistan to scrap new fuel subsidies to resume talks about stalled loans.

Recent years have witnessed Pakistan moving towards renewable resources like solar, hydro and wind. Renewable energy will flourish with research and development in these sectors and the adaptation of new technology.

Subsidies on renewable products can lead to a rapid move away from fossil fuels. Removal of consumer subsidies on fossil fuels can relieve the government of a huge financial burden and at the same time contribute to a reduction in emissions. Subsidies to lower carbon options, such as clean coal, may still be effective in biasing markets away from lowest-cost solutions that have a greater environmental impact.

The rapid emergence of housing societies across the country is also causing environmental degradation by replacing grasslands, forests and agricultural fields with concrete. There is a desperate need to halt the conversion of agricultural land and forests into gigantic housing societies.

On a regional level, the role of regulation and accountability has not been fully utilised. Most new regulations in climate policy are uniform, the idea of first-mover risk (the potential challenges and drawbacks that a company may face when it's the first to enter a new market or introduce a new product) has been eliminated.

Industries tend to compete to overcome the risk of new regulations. With everyone adjusting, the freeloader concerns are removed with uniformity bringing change for all parties involved. These shifts signal market investment in new clean technologies.

There is an opportunity for policymakers and governments to create a positive impact. This places a responsibility on their shoulders.

Pakistan is on the brink of a climate-related disaster with flash floods, inconsistent rainfall, unexpected seasons and poor air quality indicating the severity of the problems. Everybody needs to be aware of the threat and play their part towards a greener Pakistan. ■

## ALLEGED CORRUPTION

# LNG graft travesty to keep haunting investors

Cases like these are often referred to as politically motivated

**Zeeshan Jaffri**

The writer is an entrepreneur and social worker based in Karachi

**T**he National Accountability Bureau has withdrawn its case of alleged corruption in the Liquefied Natural Gas (LNG) deal Pakistan's then government had struck with Qatar in 2015.

Only two of about a dozen accused in one of the longest-standing corruption cases were politicians: Pakistan's former prime minister Shahid Khaqan Abbasi and ex-finance minister Miftah Ismail. The rest of the individuals who were implicated in the baseless corruption case represented Pakistan's biggest public and private sector corporate entities including the country's largest oil importer and retailer Pakistan State Oil, the operator of second biggest seaport Port Qasim Authority, regulators Oil and Gas Regulatory Authority and Engro Corporation, one of Pakistan's biggest conglomerates.

Those exonerated by NAB include businessmen and executives like Hussain Dawood, Samad Dawood, Uzma Adil Khan, Sheikh Imranul Haq, Agha Jan Akhtar, Saeed Ahmed Khan, Aamir Naseem and Shahid Islam.

Worrisome however is the fact that all individuals kept facing numerous court hearings, appearing before and responding to endless questions of NAB investigators and were thus given irreparable reputational damage only to know after about a decade that they are not guilty.

Cases like these are often referred to as politically motivated.

This particular case is being blamed on former prime minister Imran Khan, who is now himself in jail facing cases involving charges ranging from concealing income from selling precious state gifts to illegally solemnising his third marriage.

Engro Corporation, which had set up the ill-fated but most-needed LNG terminal at Port Qasim, was quick to publicise it as soon as NAB acquitted its officials later last month. And understandably so, for a business group reputation stands the first and foremost concern.

The corporation should not have been maligned in such a frivolous corruption case for serving the national interest by building Pakistan's first LNG terminal in a record 330 days. It was established as one of the most cost-efficient gas terminals in the region. Engro Corporation has reportedly announced that it would look to make investments in other developing countries in the next five years.

One should not wonder if this decision is motivated by what the group's senior management has been going through during the last eight years or more in this politically motivated corruption case.

Broadly speaking, this is not how nation-states operate in the highly globalised contemporary world.

On the one hand, Prime Minister Shehbaz Sharif and SIFC are urging international investors to invest in the Pakistani economy that, despite being heavily hit by inflation and soaring debt, is resilient and set to grow up to 3% this year. And on the other hand, a flawed system of accountability prevalent in the country is keeping foreign investors away from Pakistan. ■



# Innovative Solutions, New Market Opportunities Inspire Exhibitors, visitors

## EU Report

After three packed exhibition days featuring inspiring conferences and forums, Europe's largest platform for the energy industry has once again broken various records. Across 19 exhibition halls and an outdoor area spanning 206,000 square meters, 3,008 exhibitors from 55 countries presented their latest products, applications and solutions for a renewable 24/7 energy supply.

This was met by a great deal of interest from approximately 110,000 industry professionals from 176 countries. The conferences and side events also broke some records this year, as they attracted more than 2,500 attendees from across the globe. The smarter E Europe once again managed to grow and become even more international, demonstrating the full potential of renewable sources of energies. The smarter E Europe returns to Munich from May 7-9, 2025. The alliance of exhibitions brings together Intersolar Europe, ees Europe, Power2Drive Europe and EM-Power Europe.

The message from this week's exhibition and conference is clear and positive – that providing people and the economy with electricity from renewable energy sources, 24 hours a day, 365 days a year, is technologically and economically possible. The required technologies are already available on the market, and economies of scale are leading to a drop in prices across various sectors. Indeed, a spirit of optimism can be felt across all industries and sectors. Everyone involved is highly motivated to join forces and drive the energy transition forward. This year, particular attention was paid to smart, cross-sector networking; increasing digitalization and flexibilization of the energy infrastructure; the continuing dynamic global market ramp-up of renewable energies and electromobility, as well as the boom in battery electric storage systems.

### Star power and political clout

For the transformation towards a climate-neutral economy to be as comprehensive, efficient and smooth as possible, all players depend on favorable political



and administrative framework conditions. During his tour of the exhibition, Stefan Wenzel, Parliamentary State Secretary at the German Federal Ministry for Economic Affairs and Climate Action, pledged his Ministry's continued support, and expressed his optimism about the future. "I'm impressed with the industry's progress and innovative power," he said. "The exhibitors presenting photovoltaics, battery and storage products, and combined digital solutions demonstrated vividly that we already have the technology for a 100 percent

renewable energy supply, and that this is also financially viable.

The government is creating the conditions necessary to accelerate the development of these technologies and their introduction to the market. With Solar Package 1, we just recently took another important step in that direction. We now have to implement the Net-Zero Industry Act as quickly as possible, so that we can become more resilient and to make Europe more independent from a technological, energy policy and strategic standpoint." ■





## unleashes Next-Gen solar and storage solutions in Karachi

Huawei celebrated a landmark event in Karachi, unveiling its groundbreaking FusionSolar solutions that are set to revolutionize the solar and storage landscape in Pakistan. The event highlighted Huawei's innovative products designed to cater to both commercial and industrial (C&I) as well as residential markets.

The event kicked off with the launch of Huawei's new C&I product, the SUN2000-150KTL-MG0 Smart string inverter. This cutting-edge inverter represents a significant milestone in the evolution of solar energy solutions. As the pivotal component of a PV plant, the 150KTL inverter enhances power generation efficiency, ensures safety, and reduces operational costs. Huawei's latest offering is specifically designed for C&I scenarios, featuring unparalleled power generation capabilities, proactive security features, long-term reliability, simplified operation and maintenance (O&M), efficient deployment, and grid friendliness. Following the C&I product launch, Huawei introduced its latest residential product, further expanding its portfolio to meet the diverse needs of the solar market in Pakistan.

A key highlight of the event was the speech by Samir Ahmad, CEO of Energy Futures. Ahmad spoke about Huawei's Battery Energy Storage System (BESS) Project, emphasizing its transformative potential in Pakistan's energy sector. He highlighted how Huawei's BESS solutions could significantly enhance energy storage capabilities, providing reliable and efficient energy storage options that are crucial for the integration of renewable energy into the grid.



The event was graced by distinguished guests and industry leaders. Engr. Mehfooz Qazi, Project Director of the Sindh Solar Energy Project, served as the Chief Guest. Other notable attendees included Deputy Commissioner South Altaf Hussain Sario, Assistant Commissioner Muntha Azhar Bhangoo, President of All Karachi Tajir Alliance Asif Gulfam, President of Karachi Chamber of Commerce and Industry Iftikhar Ahmed Sheikh, Senior Vice President of Karachi Chamber of Commerce and Industry Altaf Ghaffar, Vice President of Karachi Chamber of Commerce and Industry Tanveer Bari, and Vice President District South of All Karachi Tajir Alliance Kashif Silat.

The presence of these prominent figures, along with numerous industry leaders, members of the solar fraternity, intellectuals, and a large number of other participants, highlighted the significance of Huawei's new product launch. The event not only showcased Huawei's commitment to advancing solar technology but also underscored the importance of sustainable energy solutions in Pakistan's future.



# Resolving plastic waste crisis in Pakistan

Pakistan generates over 3.3 million tons of plastic waste annually; illegal dumping of plastic waste poses a major threat to environment, human health

**Jawad Khalid**

The writer works as Specialist Green Innovation at Karandaaz Pakistan

Pakistan generates over 3.3 million tons of plastic waste annually, most of which ends up in landfills, dumped illegally, or litter the countryside and waterways. This problem is expected to worsen significantly, reaching a staggering 12 million tons annually by 2040 if left unchecked.

Urban areas are the primary source of this plastic waste, which poses a major threat to the environment and human health as the country lacks adequate waste collection and disposal infrastructure.

The United Nations observes International Zero Waste Day on March 30th to raise awareness about the importance of shifting towards sustainable consumption and production patterns. It emphasises waste reduction, reuse, and recycling – key components of a circular economy.

Climate change and urban waste management are pressing issues, which pose a serious threat to Pakistan's economy and well-being. Recognising this urgency, Karandaaz is taking action. Through the GreenFin Innovations Programme, it is fostering innovative climate solutions and scaling existing technologies to combat climate change challenges.

The programme seeks to develop a green impact investment model that provides growth capital to early-stage green techs or innovative solutions for climate change adaptation and mitigation. By demonstrating the feasibility and impact of green technologies, Karandaaz aims to unlock capital that accelerates the transition towards a climate-resilient economy and a sustainable greener future.

Karandaaz's impactful initiatives demonstrate a strong alignment with the UN's Zero Waste Day goals. Through the GreenFin Innovations Programme, Karandaaz actively promotes a circular economy and fosters innovation in waste management and recycling solutions.

In the landscape of environmental sustainability and innovation, Karandaaz's Green Challenge Fund stands as a beacon of hope, nurturing transformative solutions to combat the pressing issue of plastic waste management. Over the past two years, prior to the



formal establishment of the GreenFin Innovations Programme, Karandaaz has been instrumental in providing vital funding to four pioneering green technology startups and SMEs, particularly in the realm of plastic waste management.

Among these remarkable ventures is Suftech Innovations, a

company at the forefront of converting discarded plastics into high-quality recycled granules, effectively replacing virgin polymer materials. Through innovative chemical treatments, Suftech breathes new life into various plastic waste streams, transforming them into transparent sheets with qualities rivalling those of virgin polymers. With an impressive annual capacity to recycle 864 metric tonnes of plastic waste, Suftech serves as a shining example of the transformative impact of Karandaaz's support in driving sustainable change.

Concept Loop, another beneficiary of Karandaaz's investment, epitomises innovation in plastic waste recycling by crafting lifestyle products and construction materials from recycled plastics. Notably, Concept Loop develops concrete pavers utilising plastic waste, offering practical solutions for infrastructure development such as parking lots, footpaths, and building construction. With the capacity to recycle approximately 1,404 tonnes of plastic waste annually and produce 1.4 million square feet of concrete products, Concept Loop underscores the tangible results of Karandaaz's commitment to fostering sustainable practices.

Davaam Life, supported by Karandaaz, has taken a unique approach to tackling the issue of single-use plastic by manufacturing dispensing machines for domestic use products. By promoting the reuse of plastic through convenient dispensing mechanisms, Davaam Life not only reduces carbon emissions but also alleviates the costs associated with plastic packaging and transportation. With 32 dispensing machines already installed, Davaam Life exemplifies the integration of sustainable solutions into everyday life.

Lastly, Ouroboros, a recycling company backed by Karandaaz, specialises in the recycling of post-consumer PET and the recovery of polypropylene (PP) and polyethylene (PE), supplying high-quality rPET flakes to the fibre industry. Through its innovative processes, Ouroboros contributes significantly to closing the loop in plastic recycling, furthering the cause of sustainability in Pakistan's business landscape.

In supporting these initiatives, Karandaaz not only addresses the urgent waste crisis but also fosters a culture of sustainability and innovation. By investing in pioneering green technologies and fostering collaboration between stakeholders, Karandaaz paves the way for a more sustainable future, one where environmental stewardship and economic prosperity go hand in hand. ■

## FOSSIL FUEL

# Behind clean energy are dirty sources

Imran Jan

Writer is a political analyst

I remember a conversation I had with a Saudi man inside a Pizza restaurant that my friend owned. The Saudi not only happened to live in my neighborhood but also worked for the Saudi oil giant Saudi Aramco. These were the days of the Covid pandemic. There were lockdowns and international travel had been reduced tremendously. I asked him if the oil sales had gone down because of the travel decline. He told me how people consuming more power now because of being home was actually offsetting the decline in fuel usage by the airlines.

Then I brought up the topic of climate change and how the transition to clean energy and electric cars would impact the global sale of fossil fuel. I vividly remember how he told me that they were actually waiting for it to happen rather than opposing it because they had forecasted that the demand for fossil fuel would go very high.

Though, honestly speaking, at the time I didn't fully believe him and thought he was merely bragging about being part of an empire that was not collapsing. The demand for electricity, which has remained quite flat for two decades, has abruptly surged. The increase in electricity demand created a forecast for the demand ahead, which was actually doubled by the US utility companies. And even that may not cut it.

The main reasons behind the surge in electricity demand are millions of electric cars being plugged in, solar panel manufacturing factories, and the manufacture of batteries that are used in electric vehicles and other aspects of clean energy storage. If you think about it, these are all the things required for an ambition to tackle climate change and shift to clean energy generation. Fossil fuel was consumed

by the end user in the gasoline run cars but now they have shifted to where they are being consumed right at the birth of the tools necessary to undo the use of these very fossil fuels. The only difference perhaps is that the end user doesn't get to see the gasoline as he used to when he was filling up his tank.

It is not much different than the chicken and egg dilemma. The use of fossil fuel caused climate change. In order to tackle climate change, a technology was created where the necessary tools and life sustaining comforts that humanity uses wouldn't be run by gasoline. But somehow, now fossil fuels are right behind the creation of these climate change fighting tools. The generation that is born today may have a hard time down the road to understand what came first in the creation of climate change.

Just like when a revolution or a protest is won on the streets and then defeated at the table, the noise about the use of fossil fuel gives us electric cars and solar panels but how they are made and how they are powered defeat the very purpose, which they tend to serve.

I own a Tesla. I want to avoid gasoline cars because they are bad for the environment and the clean energy that we all need for a decent survival. Plus, I don't have to pay for gas or so I think. However, every night I plug in my car to charge for the next day, I instantly realise that I am consuming more fossil fuel through more usage of electricity at home and thereby offsetting whatever gasoline I don't use by having this Tesla.

The Saudi wasn't wrong. Major corporations always think ahead of the potential threats to their survival and to their bottom line. So far, they have been a step ahead of those who want to create clean energy for a habitable planet tomorrow. Sadly, so far the winners in this game are the ones who may not think about tomorrow but are happy with the dollar today. ■





# Power transmission: challenges

## Transmission sector requires thorough support to increase its own capacities

Omer Rizwan

**T**he power sector in Pakistan is facing a crisis of public perception amid the litany of technical challenges prevailing within Pakistan's sector.

While the popular media focuses on the capacity payments to power plants and use of expensive fossil fuels, deeper problems exist in the transmission sector, which acts as the nervous system transporting electrical energy from generating units to load centers under the ambit of the respective power distribution companies.

The National Transmission Dispatch Company (NTDC) and the National Power Control Center (NPCC) are the responsible entities that channel power across the country. Today, an installed power generation capacity totaling 45,885 MW exists. This includes renewables as well as thermal based power generators.

Variations in the above number may occur due to intermittency factors inherent for renewables (hydel, solar and wind). Its share in the power generation mix is not constant. For example, hydel's share peaks during the summer monsoon and dips during the winters.

NTDC's transmission capacity however is not capable of transferring all that electrical energy. Power regulator Nepra notes that up to the year 2028, generation capability is expected to exceed NTDC's projected demand during peak hours.

Power systems (transmission lines, transformers, and associated equipment) are sensitive equipment and are designed to operate at certain limits. When safe thresholds are crossed, the equipment can fail. These constraints also cause deviations in the power dispatch according to the Economic Merit Order (EMO). Limitations in dispatching electricity from cheaper generating units force the network operator to buy electricity from expensive power plants to dispatch power, thereby burdening the consumers downstream. In an assessment report by NPCC, (un) planning methodologies have resulted in two permanently vulnerable areas: the Southern Half of the 500kV (and 220kV) network and the Lahore ring.

The Jamshoro grid station – part of the Southern Half – is a major congestion point and a vulnerable node in the southern network due to insufficient incoming and outgoing transmission capacity, ageing infrastructure, and understaffing, notes the NPCC.

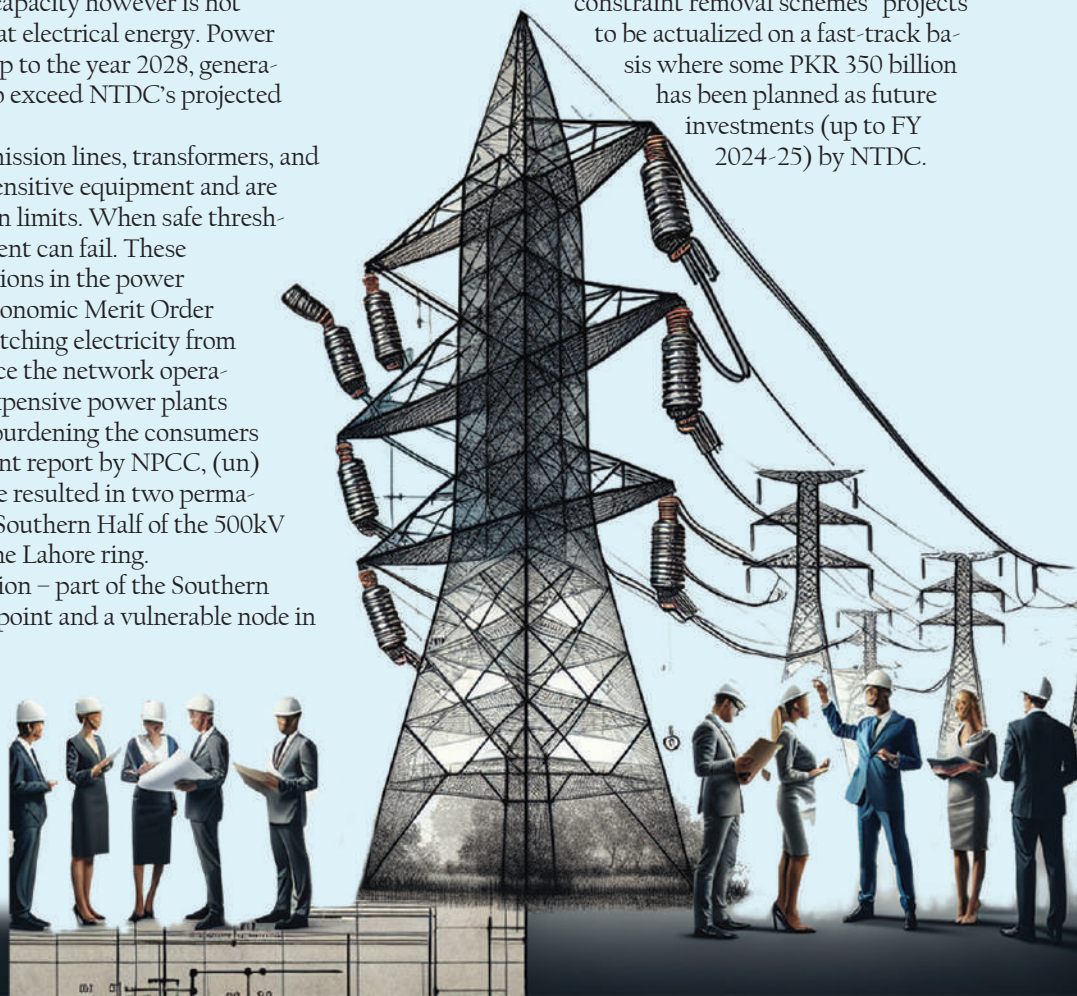
“Export constraints”

on the AC/DC Corridors limit the transfer of cheap power from the nuclear power plants (K2 & K3), China Power Hub, Hubco and the sole evacuation point for wind power from Jhimpir and Gharo, resulting in “redispatch” and “curtailment” of generation. Pakistan's transmission sector requires a thorough assessment and support to increase its own capacities.

The NPCC report observes that new 500kV grid stations and transmission lines in the south with improved VRE forecasting and real-time data, deviation settlement mechanism for DISCOs and long duration energy storage systems for primary reserves are major infrastructure investments required to uplift vulnerable zones as discussed above. This in addition to the “modernization” that is required to correctly make better decisions that come about through the induction of digital technologies. SCADA systems, for example, are built to ensure real-time monitoring and control of the transmission network including deploying more Regional Control Centers (RCCs) for better coordination.

The regulator has also recommended that NTDC's project management practices require a rigorous review to identify and rectify underlying causes for delays and cost overruns.

While the network operator has adopted “constraint removal schemes” projects to be actualized on a fast-track basis where some PKR 350 billion has been planned as future investments (up to FY 2024-25) by NTDC.





# The World's Most Advanced Energy Storage System



## BEYOND BATTERIES



### Key Features:

- ⚙️ **Graphene based supercap**
- ⚙️ **Zero degradation over life**
- ⚡ **Ultra fast charging & discharging**
- 🕒 **Up to 15 years warranty**
- 🔋 **100% Depth of discharge**
- 🌱 **Non chemical - environment friendly**
- 🌡️ **Operating temperature -30°C~ to +70°C**







# Will upcoming Disco boards be a fiasco again?

## Non-professionalism in power sector dubbed as main reason for the present rot

**Engr Tahir Basharat Cheema**

The writer is BE (Elect), Dip. Pub. Admn, Dip. Bus. Admn., Cert. Statistical Sciences, M.B.A. and former MD PEPCO, former President IEEEEP. Former Caretaker President IEEEEP

**N**on-professionalism in the power sector has been dubbed as the main reason for the present rot. Here, the present lacklustre governance at the MoE's (Ministry of Energy's) level and the huge management holes in DISCOs is considered as the direct result of this non-professionalism.

It is further oft-repeated that the Disco BoDs (boards of directors), acting as the WAPDA of the yore, hold the key to success or oblivion. The experts have been shouting hoarse that if the boards are not appropriately notified, no power on earth will be able to save the power sector of Pakistan and in extension the people who sadly have to bear the brunt of the continued losses.

Looking at the happenings of the last five years, we see that the then boards were replaced in 2021 with a fully KE-centric composition, where as much as 42 mid-level erstwhile functionaries of the K-Electric and allied entities were notified for the 10 DISCOs and the poor NTDC (National Transmission and Dispatch Company).

The only redeeming factor was that these people at least knew a few of the buzzwords being used in the power industry. One or two academicians were added in order to give these bodies a semblance of academic value.

These Einsteins were unable to leave any mark, but the one or two real professionals did try their best with not much of success. All of the above happened as a former CEO of the K-Electric (even smaller in size and yearly revenues in comparison to LESCO) had been selected as the SAPM (Special Assistant to Prime Minister) on energy.

The PDM (Pakistan Democratic Movement) government thereafter de-notified these KE-centric



BoDs and instead, being totally insensitive to the requirements and the tenants of law, notified patently political BoDs. These nominees were not even first-tier senior politicians – rather, they were counsellor level persons and even progeny of former legislators.

And as it happens in such situations, these fully politicized boards were more interested in reaping the political economy of the sector than managing it. This situation, mixed up with temps as Discos' CEOs and thousands of imperative vacancies in the sector, have resulted in a sector that is simply unable to survive or to serve the country.

A few gentlemen on these boards who wished to vie for the last elections did resign from the boards. The only silver lining to the whole issue has been the fact that the Auditor General Pakistan took exception to the situation and has since issued a scathing and damning audit report, castigating the earlier nominations as a total contravention to the law.

Come 2024, the new coalition government and luckily the thought process that things need to be set right. Consequently, since the last two months, the Federal Minister is in the process of suggesting new BoDs. The incumbent is on record stating that the boards will be completely professional, and that no political intervention would be allowed in the process of nominations.

Such a proclamation could not be more timely and opportune. The good minister's thought process has been further eulogised, because many practitioners of the sector were contacted by him or his nominees during the last two months. Reportedly, some have also been interviewed.

As his wont of such situations, it seems that the generalist actually holding the reins of the sector have reportedly been able to convince the minister that no expert from the power sector be placed on the BoDs, as according to them, they will have their own axes to grind and thus would not be able to allow the Boards to remain independent.

It has been reported that in order to meet the requirements, such experts are to be brought from the repository or alumnus of the KE, which the proponents of the change in the Boards consider as the best and the most suited. Moreover, as they will not have served in WAPDA or in the PEPCO area, these gentlemen would bring the needed independence of thought, etc.

Moreover, as most of these gentle-

men have been mid-level functionaries – we had seen all of them in the then SAPM backed BoDs of 2019-2022, thus there would be no issue of managing them. As the ones who are selecting the nominees are not experts and nor have experts been brought-in to assist for the correct selection, the middle level functionaries or at least the ones who have never held the position of the CEOs or the number two positions in even in a utility like KE will get accepted as the experts.

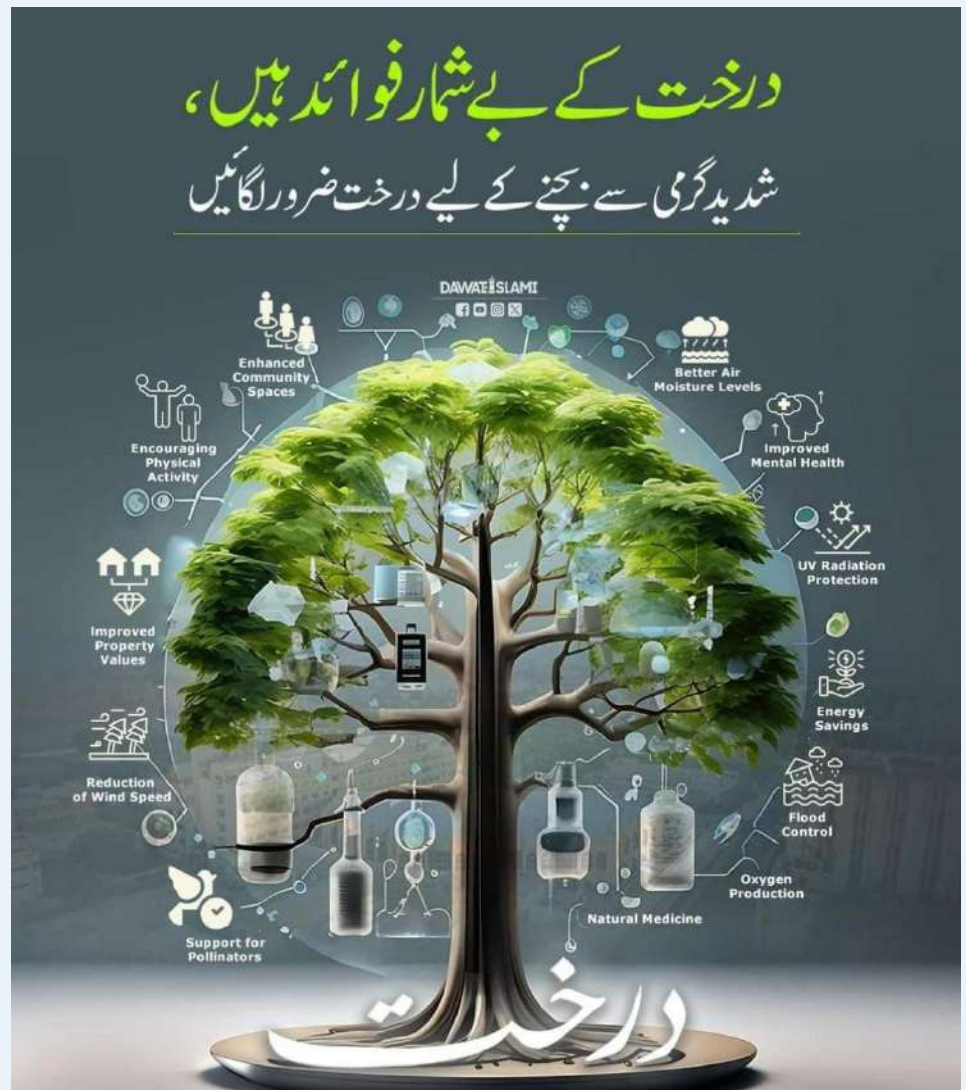
One such luminous is a gentleman, who reached the zenith of being the Head of Distribution of KE, which is not even similar to the position of at least 25 professionals in the DISCOs and who separately look after distribution operations and T&G operations and which positions are second only to the CEOs.

During the incumbency of this person, NEPRA (National Electric Power Regulatory Authority) fined KE for below-par operations which had led to dozens of electrocutions there. Reportedly, this gentleman is tipped to head the

BoDs of at least three DISCOs.

It all boils down to one fact that the present selection of the DISCO BoDs is going to be below-par, especially when it is based on the wisdom of the generalist civil servants posted in the energy ministry and who are not qualified to make such nominations without assistance from sectoral experts. In fact, the nomination committee as notified in the SOEs Act on 2023 will always remain deficient if they do not have any assistance from sectoral professionals and otherwise too any possible nomination will be faulty to say the least. Moreover, in Pakistan the best professionals for the Disco BoDs will ever be from the sector itself – preferably, from amongst the former CEOs and general managers – specially, those of the DISCOs who have excelled during their service.

The present position leads us to the fact that relegating the best of the best would render the up-coming new boards to be lame duck at best. And, the BoDs will remain a burden, instead of any direction giving entities, for the Discos. ■





# SolaX geared up to launch new series of LV Inverters



**Syed Khursheed Abbas**  
Country Manager

**S**olaX has been a prominent player in the Solar inverter, energy storage solutions, and batteries in Pakistan for many years. The phenomenal growth of the SolaX brand in 2023-24 is a testament to the confidence in the products, sales support, and distribution channel development in Pakistan with Fronus. Pakistan's market has been growing at the fastest pace in the region due to its diversified growth driven by residential, commercial/industrial as well as Utility scale SolaX.

As SolaX is geared up to launch the new series of LV Inverter from 8kw to 12kw in the third quarter of 2024, the X3-Lite-LV series in the extension of our phenomenal success of X1-HYV-LV, 6kw with our distribution partner Fronus Solar Energy in Pakistan. In a very short period of 3 months, SolaX has become the major force in the IP65 range in the 6kw segment and has become a top-selling model in the first quarter of its launch, the Pakistan consumer base in the mid-

dle-class segment has the highest growth as they are severely hit by the rising cost of grid electricity, load-shedding-prone areas, and changing lifestyle, SolaX has worked closely with the distributor as well as its local team to develop the right product at the right price. Our pricing strategy is to give value for money as well as make it affordable to customers.

SolaX also realizes the localized Services and support along with the training of the channel partners and Installers. Our Service partner BTA infrastructure helped in accessing key cities of Pakistan to give prompt service, SolaX Pakistan Academy platform in social media to share knowledge, assist in more safe installations, and explain the features to optimize usage of SolaX Inverters. Also the city-wise Training Seminars for Solar system installers will be conducted in each major cities in 3rd quarter 2024, covering all major and important cities Karachi, Multan, Lahore, Peshawar, Sukkur, Faisalabad and others. Trained SolaX Installation partners are key to developing the confidence of customers as well as the longevity of the product and the usage of the product features. ■

## Interest-free loans soon for installing solar systems

Sindh Energy Minister Syed Nasir Hussain Shah has said that the Sindh government would introduce an interest-free loan scheme for installing solar systems.

This he said while addressing media person at his residence in Karachi. Shah acknowledged various issues faced by the region and highlighted the government efforts to alleviate these problems through the budget. He emphasized that ongoing schemes had been prioritized, and the promises made to the public would be fulfilled.

He also announced measures to ensure the supply of clean water across Sindh. He pointed out that over 200,000 houses in the province still lacked electricity.

To address this, the government plans to provide electricity to 500,000 people annually. Initially, every poor household would receive solar systems capable of powering a fan and three bulbs.

For those who wish to install solar systems independently, the government was introducing an interest-free loan scheme. The interest on these loans will be covered by the Sindh government. Additionally, Shah revealed plans to construct two grid stations in every district of Sindh to further improve the region's energy infrastructure. ■





# ENERGY UPDATE

PRESENTS

## INTERNATIONAL **SOLAR POWER** CONCLAVE & TECHNOLOGY **EXCELLENCE AWARDS**

EMPOWERING PAKISTAN'S ENERGY  
FUTURE WITH SOLAR INNOVATIONS

STRATEGIC PARTNER



PRIVATE POWER &  
INFRASTRUCTURE BOARD  
MINISTRY OF ENERGY (POWER DIVISION)  
GOVERNMENT OF PAKISTAN

SUPPORTING PARTNER



**AUGUST 28, 2024**

NISHAT HOTEL, LAHORE

0300 2068048 – 021 35653676 – 021 35643478

For more information please visit our website  
[www.energyupdate.com.pk](http://www.energyupdate.com.pk)



# Time to act: 9 cents/kWh

Shahid Sattar | Absar Ali

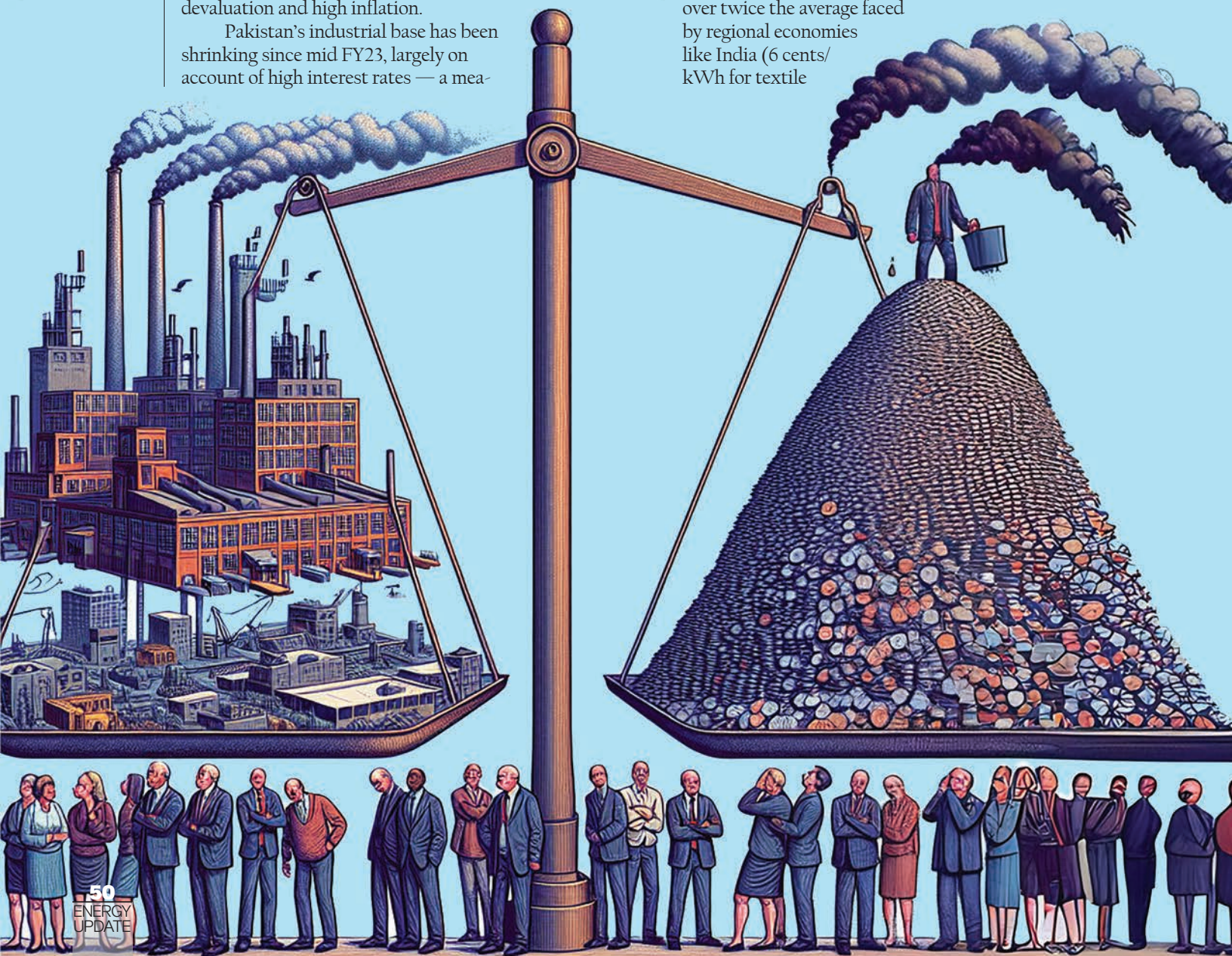
Pakistan faces daunting economic challenges; a shrinking industrial base, a bulging workforce with no jobs to turn to, twin deficits resulting in unsustainable debt and debt servicing, and a structural imbalance between production and consumption

**T**he country faces daunting economic challenges. A shrinking industrial base, a bulging workforce with no jobs to turn to, twin deficits resulting in unsustainable debt and debt servicing, and a structural imbalance between production and consumption that is the cause of repeated episodes of sharp devaluation and high inflation.

Pakistan's industrial base has been shrinking since mid FY23, largely on account of high interest rates — a mea-

sure to bring down record-breaking inflation — and out of control energy costs.

Power tariffs for industrial consumers are around 15.4 cents/kWh at present, down slightly from a record-breaking 17.5 cents/kWh in January 2024. Cross subsidies and stranded costs embedded in the power tariffs make them over twice the average faced by regional economies like India (6 cents/kWh for textile





producing regions), Bangladesh (8.6 cents/kWh) and Vietnam (7.2 cents/kWh).

Such high input cost differentials render our products uncompetitive in international markets. Resultantly, Pakistan's textile exports—which account for over half of total exports—have been clocking in at only around dollar 1.4bn per month, which is 30 percentage below the installed capacity of dollar 2bn per month, while our competitors like Bangladesh and Vietnam have been exporting 3 to 5 times as much.

Moreover, around 60 percent of basic industry, including yarn and cloth manufacturing that are relatively energy-intensive processes, have shut down due to prohibitive energy costs. This has prompted a sharp increase in imports of the same as exporters can import duty-free inputs for exports through EFS, resulting in a decline in the domestic value addition in exports and deterioration of the trade balance.

The economy is deindustrialising at an unprecedented pace.

Yet, ironic as it is, the shortage of industrial capacity is perhaps the economy's most pressing structural fault. Pakistan faces a permanent supply-side constraint, given that we do not produce enough to meet domestic consumption requirements. Every time the economy experiences even marginal levels of growth, there is a natural rise in aggregate demand.

However, Pakistan's domestic production capacity is neither sufficient to meet domestic demand nor can it generate sufficient foreign exchange to meet our import requirements. The shortage of foreign exchange resulting from an increase in aggregate demand then leads to episodes of sharp devaluation and high inflation that have become seemingly permanent features of Pakistan's economy.

The only sustainable way out of this trap is to increase the country's productive manufacturing capacity so that it can meet domestic requirements and produce exportable surpluses to earn sufficient foreign exchange the country's import requirements. However, competitive manufacturing requires competitively priced energy, and the energy currently available in Pakistan is anything but competitively priced. As already discussed above, power tariffs for industrial consumers are over twice the regional average while gas prices have also increased by 223 percentage since January 2023, leaving no financially viable source of energy for manufacturing activities. If the economy is to revive existing manufacturing and attract investment towards more, industrial consumers cannot be made to pay for cross subsidies to non-productive

sectors of the economy.

Power tariffs for industrial consumers must be reduced to 9 cents/kWh immediately. Energy consumption is highly sensitive to prices and, using actual power consumption data of APTMA (All Pakistan Textile Mills Association) members, we estimate that a 1 percent reduction in power tariffs can increase demand by 3.12 percent.

Moreover, an additional 1 percent discount on the price of grid electricity relative to the cost of alternate sources of energy further increases electricity demand by 1.85 percent. Based on this, a reduction in power tariffs to 9 cents/kWh can stimulate sufficient additional power consumption and economic activity to compensate for the revenue impact of removing the cross subsidy and generate an additional Rs 73 billion over that in government revenues from just APTMA members.

Moreover, the additional power consumption from textile and other sectors will make use of currently idle over-capacity, addressing the issue of capacity costs and reducing their burden on other consumers.

It is crucial, however, to underscore the urgency of this issue. If power tariffs are not promptly rationalized, the consequences will be irreversible. The deindustrialization could become entrenched as the cost of re-entering production—reacquiring machinery, rehiring and retraining staff—proves prohibitively expensive for most firms and business owners.

Once industrial units shutter and skilled workers disperse, reigniting the engines of production is not merely a matter of flipping a switch. The economic machinery, once dismantled, requires significant capital and effort to restore, and the window for revival is narrowing with every passing day.

In conclusion, this is a call to action to rescue Pakistan's economy from the precipice of economic calamity.

Reducing power tariffs to 9 cents/kWh is an essential step that can catalyse a resurgence in manufacturing and exports, pivotal for economic stability and growth. So let this be remembered as the moment when Pakistan chose renewal over decline, when we fortified our industrial base rather than pushing its disintegration.

We urge policymakers to act with the resolve this crisis demands—to implement these critical reforms and secure a prosperous future for all Pakistanis. Time is of the essence, and the decisions we make today will determine the future for generations to come. Let us choose a path of growth and resilience. ■

## ENERGY NEWS

# OGDCL Successfully Optimizes Production at Nashpa-4 Well in Karak, KP

## EU Report

Oil and Gas Development Company Limited (OGDCL) on Monday announced the successful revitalization of the Nashpa-4 well, situated within the Nashpa Development and Production Lease (D&PL) in Karak, Khyber Pakhtunkhwa province.

OGDCL thoroughly re-evaluated the well for the potential of the upper zone of the Lockhart formation and achieved a significant increase in the well's production capacity. The Nashpa-4 well is now producing an additional 330 barrels per day (BBL/day) of oil and 7.7 million standard cubic feet per day (MMSCF/day) of gas at a wellhead flowing pressure (WHFP) of 1570 PSI. Additionally, 21 metric tons per day (MT/day) of LPG is being recovered, contributing to the country's energy supply. The enhanced gas production from the well is being injected into the Sui Northern Gas Pipelines Limited (SNGPL) network, ensuring a steady supply of natural gas to meet the growing energy demands of Pakistan. Moreover, the production optimization from the Nashpa-4 well is projected to result in annual foreign exchange savings of \$59.85 million (PKR 16.94 billion) as import substitution for the country. OGDCL is committed to supporting Pakistan's energy needs through the optimization of existing resources and the exploration of new opportunities. The optimization at Nashpa-4 well underscores the company's dedication to enhancing the country's energy security and contributing to its economic development. ■



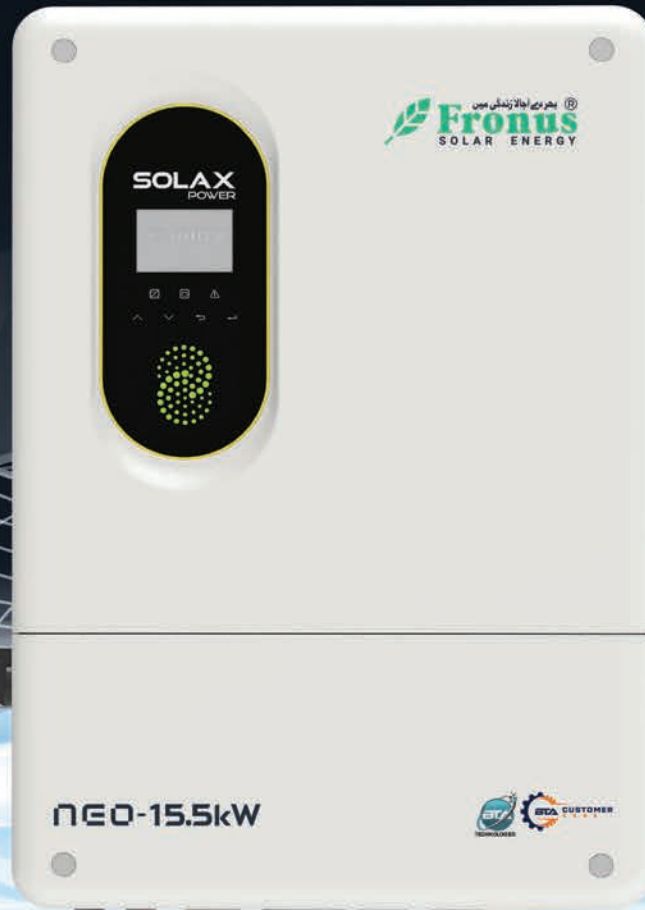


## EXCLUSIVE DISTRIBUTION PARTNER IN PAKISTAN

Fronus Unleashing **Pakistan's** First Powerful **3-Phase** Hybrid Inverter!

# Three Phase Hybrid Inverter **neo**

10.5kW / 15.5kW







ORGANISED BY

NATIONAL FORUM FOR  
ENVIRONMENT & HEALTH  
WWW.NFEH.ORG

# 21st Annual Environment Excellence Awards 2024

## CALL FOR NOMINATIONS

All Environment Friendly Organisations are  
invited to Submit their Nominations

The prestige annual awards; designed to **Recognize | Appreciate | Promote**  
the responsible organizations that protect Sustainable Environment in Pakistan

**Deadline for Nominations: 15th July, 2024**

AEEA Secretariat:  
#309, Al Sehat Centre, Hotel Regent Plaza,  
Shahrah-e-Faisal, Karachi  
Tel: (92-21) 3567 4570  
Cell: 0333-3441295, 0300-2068048, 0304 3098328  
Email: ruqiya.nfeh@gmail.com

PARTNERS

**ENERGY  
UPDATE**

**CSR  
CLUB  
PAKISTAN**

  
Publicity Channel

**CSRUpdate**

For Award Criteria, visit [www.nfeh.org](http://www.nfeh.org)



## PRIVATISATION

NO ENTRY

# Why Discos' privatisation can never happen

**Mobashir Sandila**

Pakistan's power sector has undergone various reforms in a bid to make the market more liberalized and introduce competition. Privatization of DISCOs continues to remain a contentious issue and an area of focus, but the process seems like a distant dream, heavily influenced by recent regulatory decisions and overarching systemic issues within the power corridors.

Due to recent changes in the Nepra Act followed by licences issued by Nepra, the Discos are required to be “unbundled” into distribution and supply businesses looking after technical and commercial operations, respectively.

The technical side looks after the operations and maintenance of its network, bringing efficiency through T&D loss reduction and rehabilitation of the network. The supply side has the tasks to issue, collect bills and deal with complaints and to ensure prudent power procurement.

While, both Supply and Network are distinct businesses with separate licence regime and are required to be legally unbundled, power regulator, Nepra, while determining tariff considers it as one.

The only segregation it does is to break the O&M expense into two segments. It is assumed, that the Supply part will be done “as an act of goodwill without any return” as Nepra denied IESCO and other Discos an allowance for retail margin. In its determination dated 14th March of this year, the regulator disregarded the supply margin to IESCO, stating that the margins allowed to the network operations should suffice.

It needs to be understood that Supply business faces

the most daunting task in power sector, i.e., to ensure recovery of bills. Not only does the tariff disregard an allowance for recovery loss (target based incentive) to allow the Supply business to recover its cost but it also disallows any margin to the Supply business.

Essentially, the tariff requires the Licensee to take the most difficult job of power sector and suffer losses. In this operating environment and unrealistic business model, how would the Government be able to privatise Discos. The idea to privatize DISCOs is to improve collections and bring in efficiency.

How it is expected that an investor would come in just to stem losses with nothing in return? Take for example KE, which, as per Nepra state of industry report, met its T&D loss benchmark in FY 2023, yet it posted a loss of over PKR 30 billion in the same year.

Prudence demands that for any investment in this sector the DISCOs need to be allowed a realistic Recovery loss allowance linked to an improvement curve along with an appropriate retail margin. As per power minister, Discos' inefficiency cost the Government over PKR 500 billion. This gap was around PKR 200 billion a few years back and if let unattended will continue to widen.

Also expectation that this number will be borne by private investor with expectation of no return cannot be realized in real world. In real world an investor can come in and agree to improve performance to reduce and ultimately eliminate this cost.

But it will demand that such performance targets be reflected in tariff in the form of an allowance and a retail margin be allowed. Do we have the will and competence to change our mindset? We need to act fast as the pace at which the sector is derailing, the Discos' losses will soon touch PKR 1 trillion annually.



EXCLUSIVE DISTRIBUTION PARTNER IN PAKISTAN



# Ultimate ENERGY COMBO

Next Generation Hybrid Inverter  
**GENKI**  
Single Phase - 6 Kilowatts

&

Li-ion Battery Module

**TP-LD53**  
IP65 Protection | 100Ah | 5.3kWh



IP65 Protection



Intelligent



High Efficiency



Economic



SCAN FOR MORE

# Huasun Pioneers the Future of Solar Energy with Heterojunction Technology (HJT)

In the dynamic solar industry landscape, Heterojunction (HJT) technology has emerged as a frontrunner, showcasing remarkable advancements in recent years. Projections indicate a substantial increase in HJT production capacity, with over 60GW expected to be operational by 2024. Leading this transformative wave is Huasun, a top manufacturer renowned for its innovations in the field. The significant advantage of the lowest temperature coefficient makes HJT the preferred choice for utility-scale projects.

Huasun takes pride in spearheading this transformation with its proven track record and cutting-edge innovations, which have garnered attention from Chinese state-owned enterprises, international investors, and project developers alike. In Pakistan, Huasun has swiftly become the preferred choice for the industry, thanks to its commitment to delivering the most advanced product features and technological benefits. The introduction of Huasun's HJT modules series, including the G10/G12 and G12R, has revolutionized the market, offering higher conversion efficiency, enhanced reliability, and lower Levelized Cost of Electricity (LCOE) for PV projects.

Huasun's dedication to research and development in HJT technology has positioned it as an innovator in the field. By focusing on industrialization and continuous improvement, Huasun remains at the forefront of technological advancements, ensuring that its modules meet the evolving needs of the solar industry. As



global demand for HJT modules continues to surge, Huasun's commitment to excellence and innovation solidifies its position as a key player in shaping the

future of solar energy. With a track record of success and a vision for a sustainable future, Huasun leads the charge towards a brighter, cleaner tomorrow.

## Ali Taha Al-Temimi Appointed Chairman of PPEPCA

Ali Taha Al-Temimi, a prominent figure in Pakistan's oil and gas industry, has been named Chairman of the Pakistan Petroleum Exploration and Production Companies Association (PPEPCA). With over 24 years of experience, Mr. Temimi is known for his expertise in exploration, production, and strategic advocacy.

Before becoming Chairman, Mr. Temimi held executive roles at KUFPEC, where he optimized operational efficiency and maximized hydrocarbon reserves. His leadership at PPEP-

CA focuses on fostering collaboration with government bodies and stakeholders to promote sustainable development and investment in Pakistan's energy resources.

Mr. Temimi is an advocate for technological innovation and responsible resource management, contributing insights through industry conferences and advisory committees. Under his leadership, PPEPCA aims to drive socio-economic progress by leveraging technology, enhancing transparency, and fostering partnerships in the energy sector.





# No.1 in Heterojunction

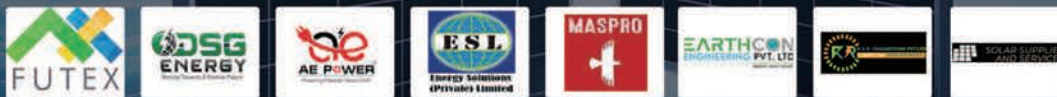
**20** Capacity  
**GW**
**5** Shipment  
**GW**
**750.54W<sup>[1]</sup>**  
**24.16%**

The  
Highest-efficiency  
HJT Module <sup>[2]</sup>

## 100MW Shipment to Pakistan Since Oct. 2023



### OUR MAJOR EPC PARTNERS







### SALES & SERVICE PARTNER- PAKISTAN



Registered Office: AE Power/AE Solar  
Head office: Near kangniwala bypass G.T Road Gujranwala, Pakistan  
Phone: +9255 / 4555400  
Email: info@aepower.pk/abbas@aepower.pk

### CONTACT US

Rana Farhan- Director MENA & PAKISTAN | 0323-3182009  
Rana.farhan@huasunsolar.com | Pakistan@huasunsolar.com

www.huasunsolar.com  
Follow us on    

30  
Watts  
FAN

ECOSMART  
FAN



**Tamoor**  
FANS



**Pakistan's No. 1**  
**Energy Saving Fans**

AC DC Series | 30 Watt Eco Smart Series | Pedestal BLDC Series



+92 3178222741  
(053) 3726360 / 3726378



info@tamoorfans.com  
www.tamoorfans.com



32-B, Small Industrial Area,  
Gujrat, Punjab, Pakistan



# Fusionsolar

## FUSIONSOLAR FOR A SUSTAINABLE BUSINESS

Active Safety | Optimal Electricity Cost | Long-term Reliability

Simplified O&M | Optimal Revenue

Huawei Ranks **No.1** in PVBL's TOP 20 Global Photovoltaic Inverter Brands 2024!







PARTNER



Single Phase | Low Voltage Hybrid Inverter

# SolaX Lite So Delighted

## X1-LITE LV 8.0kW/10.0kW/12.0kW



- Self-use
- Battery Off
- Peak Shaving
- Charging
- Discharging



Intelligent UI interface



UPS-level switching time < 8 ms



Max. 10pcs parallel



Smart loads management



Off-grid and on-grid to charge the battery



6 time periods of charging and discharging needs



24-hour real-time monitoring, WIFI/LAN/4G optional



Manufacturing Industry  
Champion Enterprise



Future Factory



Government Quality Award

www.solaxpower.com  
info@solaxpower.com



solaxpower

www.fronus.com  
info@fronus.com



fronus