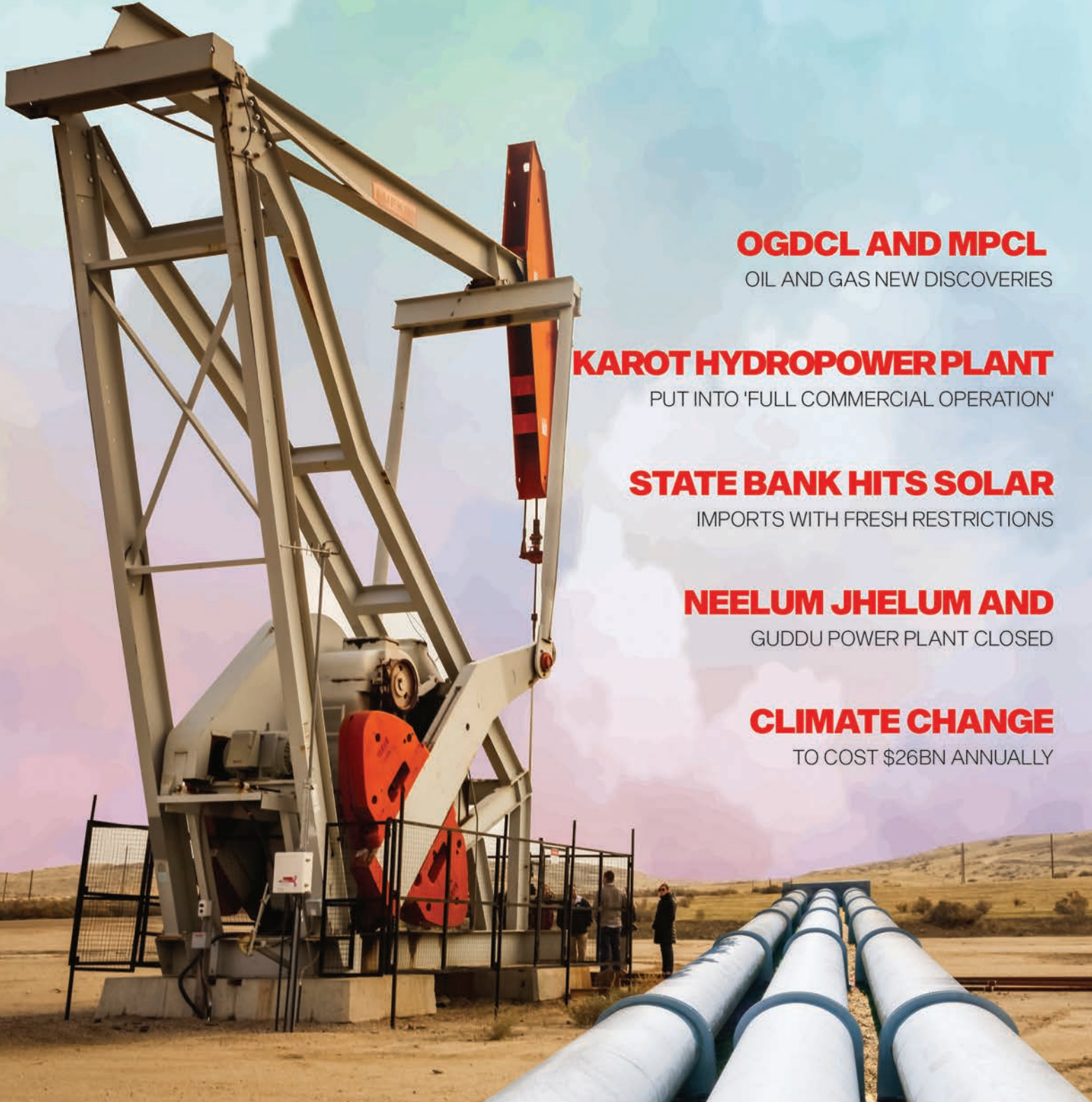


MONTHLY

ISSN 2309-6578

# ENERGY UPDATE



**OGDCL AND MPCL**  
OIL AND GAS NEW DISCOVERIES

**KAROT HYDROPOWER PLANT**  
PUT INTO 'FULL COMMERCIAL OPERATION'

**STATE BANK HITS SOLAR**  
IMPORTS WITH FRESH RESTRICTIONS

**NEELUM JHELUM AND**  
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**CLIMATE CHANGE**  
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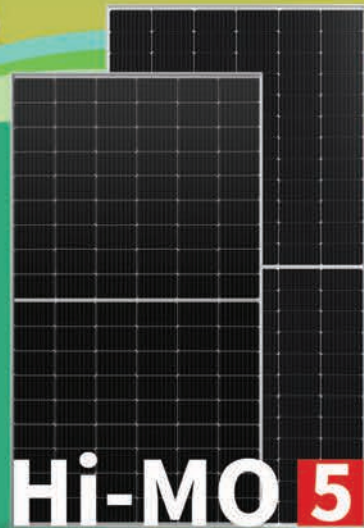
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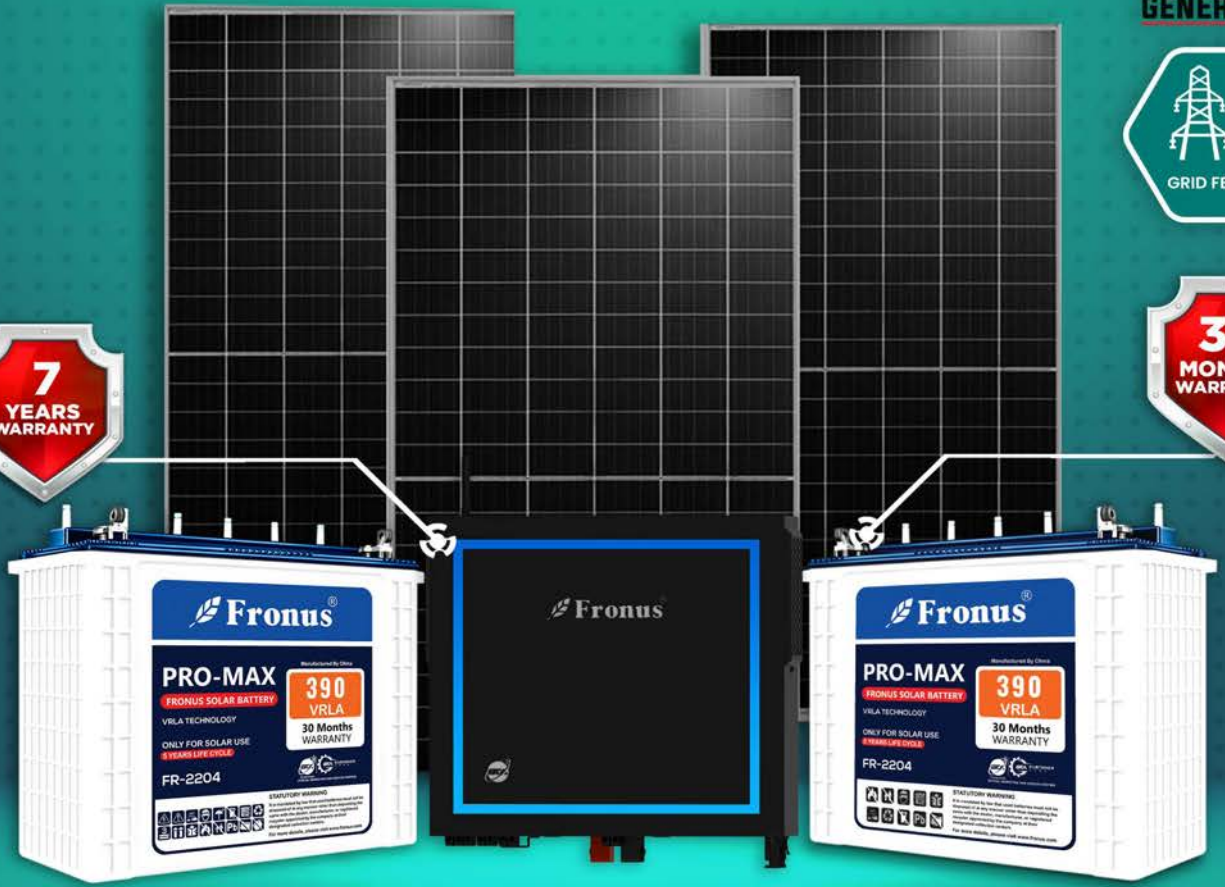
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Karachi - Pakistan

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## Public wrath on KE loadshedding

The ongoing crippling K-Electric power loadshedding of over five hours during 24 hours on daily basis in many areas of Karachi has badly affected social and business life of international city, compelling citizens to pass sleepless nights and suspend their businesses during the power outages. The power entity, which is enjoying monopoly in connivance with the government, is earning profits worth billions of rupees every year but is not investing to improve its outdated infrastructure and reduce loadshedding, which is open violation of its agreement with the government.

The situation has turned so worst that citizens have started taking to streets to denounce K-Electric's highhandedness and monopoly. Recently, violent protests were held on Mauripur road of the city in which protesters were ruthlessly baton-charged by police and a woman was killed in this violence. The question which arises is: who will pay the price of such a human life and colossal business losses. The KE has continuously been hiking power tariff in view of fuel adjustments and other so-called reasons which have been declared unjustified by experts and businessmen as the company's power tariff is already high as compared to Wapda.

Industrial fraternity of Karachi is already suffering because of high cost of doing business and suspension of electricity supply will prove detrimental for the industry and worsen the economic crisis.

It may be noted that the National Electric Power Regulatory Authority in 2020 had imposed a fine of Rs200 million on KE for carrying out prolonged load-shedding in Karachi during the months of June and July. Hence, there is also need to slap such type of more fines on KE to tighten noose around the erring power company which has crossed all limits of ethics and laws. There is no need of such an irresponsible company in this international city.

The K-Electric must end loadshedding as Karachi is an international city and economic hub of the country. It needs to improve its infrastructure, particularly the electricity distribution system, which is in a terrible state and is causing electrocutions in rains.

Further more, the government should come forward with concrete measures to nationalize K-Electric forthwith as time is running out to provide relief to the skyrocketing inflation-hit people. It should also improve its power infrastructure by repairing faulty power plants across the country.

The government should also raise power supply share from its national grid for Karachi which generates about 70 percent revenue for the country and houses millions of people from all provinces. There is also need to end step-motherly attitude to the megalopolis.

There is need to freeze till improvement of infrastructure and uninterrupted power supply while establishment of four to five power companies should also be ensured to provide relief to citizens.



## ENERGY UPDATE

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

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

Editorial Incharge and Manager Marketing  
**Mustafa Tahir**  
mustafa\_mt92@hotmail.com

Director Admin & Accounts  
**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

GM Islamabad Office  
**Halima Khan**  
mccm.energyupdate@gmail.com

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

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# Need for stabilisation fund

IMF demanding unreasonable increases in energy prices

—◆ Syed Akhtar Ali —◆

Oil prices go up and down. Now gas prices are also linked with oil prices. While lower oil prices go unnoticed and without affecting the economies of the developing countries in a positive or significant way, higher oil and gas prices cause havoc — socially and economically. Pakistan has been affected much more badly because of an already high current account deficit and falling currency.

Supplier countries are organised mostly under the OPEC, which has been lately quite effective in maintaining high oil prices by keeping production low. It would be fair to say that oil producers suffered due to extremely low prices during the Covid as economies and demand went into sort of recession. Oil prices went as low as 10-20 USD/bbl. Full economic and social impact of high oil prices including in Pakistan have yet to be noted and felt. In Sri Lanka, for example, semi-anarchic situation has developed and the full assessment of economic losses and destruction has not been done.

Some people in Pakistan and elsewhere in the developing countries have argued for building oil and gas storages. There is some working oil storage capacity in Pakistan covering on the average 14 days of requirement, while the OGRA law requires 20 days of cover-

age. Although there is a case of expanding storage capacity, it is an expensive business. It requires capital investment for construction and working capital for the commodity. The costs are to be finally borne by the consumer.

It should also be noted that large storages are more common for crude oil. Producer countries store their extra production in consumer countries. A case in point is the UAE-India agreement in this respect. However, IEA storage requirement and maintenance of three months' storage could not affect the prices in the recent days; it may cater to the strategic requirement assuring continued supplies during emergencies. In Pakistan and elsewhere in developing countries, strategic requirements may create demand for storages and some enhanced storage may be built eventually.

Major oil prices' rise and fall have been over a time cycle of 5-7 years, although it is difficult to predict points of inflexions with accuracy. As we have discussed, physical storage is costly and difficult. There is a greater feasibility of financial storage in the form of oil price fund. When oil prices go down, the savings may be deposited in an interest carrying fund. When the prices go up, these savings are utilized to fiancé the excessive prices. Although, the principle is simple, its actual mechanics of working may be complicated. Fund's design can be developed. It can be a national fund or preferably an international fund focused on developing countries. National funds may not be implementable in Pakistan, at least.

Several deductions

have been made earlier under various heads like Iqra surcharge on imports, but these end up in common pool, which means the amount so collected is spent on other heads to be not recovered. International agencies like the International Monetary Fund (IMF) and World Bank may not be required to dominate it and the fund should have larger influence and participation by China, Russia, South Korea and OPEC countries. The IMF and World Bank, however, have the intellectual and organisational resources to carry out this exercise.

Developed countries have a moral and political responsibility to pay some heed to the problem. Wars and conflicts are mostly created by them and the poor countries are mere spectators and suffer needlessly. From Vietnam to Russia-Ukraine conflict, it is all great power game. And additionally, the conflict is spread to economic sphere in the form of sanctions; Iraq, Venezuela, Iran and now Russia.

It is good to see that news is pouring in that there may be some mechanism to allow flow of oil from Venezuela and Iran to ease the oil prices. In earlier times, diplomatic pressure on Middle East-





ern countries used to be enough to maintain a low price oil regime; no more.

The IMF demanding unreasonable and abrupt increases in local energy prices in countries like Pakistan is a sure indicator. While there could be a case for requiring elimination of petroleum subsidies, it is absolutely ruthless and even destructive to require PLD and GST in an environment of ever-rising oil prices, of which nothing is certain. It may be good in the long run, but what about the short term? In the long run, it is said, we are all dead. It is in the short term that we all live and we have problems. So, it is hoped that some steps would be taken to alleviate the difficulties of the poor countries in meeting the abruptness in oil and gas prices.

As for Pakistan, the choices are limited. Pakistan has taken the bait of neo-liberal economic agenda for several decades; leave import substitution and ride the bandwagon of export development. Imports have climbed up while exports could not be expanded, causing current account deficit and currency devaluation issues which have exacerbated the energy price issue as well among others. Under such policies, reliance has been there on imported energy resources and development of local energy resources has been short shrifted.

Sufficient attention has not been given to the development of local oil and gas. Thar coal remains highly under-utilized, while imported coal power plants may be closed down if coal prices continue to remain high. A railway link project is required to bring Thar coal to the market outside the mines. The project remains to be approved and implemented. Thar coal gasification to convert it into gas and diesel, etc., has been talked about for quite some time now.

The international energy crisis has made the campaign against coal a bit milder. It may be the right time window to initiate these projects. Renewable energy can fill some gap at low cost. To be fair and balanced, renewable energy like wind and solar has become competitive only recently. Elsewhere, we have stressed the need of a fast track solar programme.

Hydro resources could have been developed more. Unfortunately, the installed hydro plants are giving lower output due to lack of water, adding to load-shedding. Hydros take inordinately long time to complete. Their water component adds to its critical role. LNG spot prices are very high; it is the term contracts which are somehow able to maintain lower average. Biogas and Bio-CNG have a reasonable potential of providing gas in reasonable quantity and at reasonable prices. Biogas projects can be implemented in less than a year. Scope for improvement and fast tracking is still there, at least in selected areas. Struggle should never end. ■

*The writer is former Member Energy Planning and author of several books on Pakistan's energy sector*

## LNG CRISIS

# Pakistan's energy crisis set to worsen

## Global LNG shortages sends fuel price spiralling

**C**ash-strapped Pakistan's energy crisis is set to worsen over the next several weeks as it struggles to procure LNG at an affordable rate when little is available in an international market that has been sorely affected by the political fallout of the Russia-Ukraine war.

The global LNG shortages have sent the fuel's price spiralling to record highs. The state-owned LNG Ltd last week scrapped the only, but most expensive offer it has ever received against a tender for four cargoes of LNG for July shipments.

Qatar had offered an LNG shipment at just below \$40/mmBtu, which would have been the priciest for Pakistan if it hadn't rejected it. The most expensive cargo that Pakistan has ever purchased was at \$30.65/mmBtu in November 2021. This is Pakistan's third failed attempt to buy LNG cargoes for next month as it faces the threat of an escalation in blackouts that people are already trying to cope with across the country. The earlier two tenders issued in May and June had attracted three offers in total, which were scrapped as none was technically responsive.

Though the government says it is talking to various gas exporters, including Russia, to ease domestic shortages, it has so far not been able to lock any new deal to ease power outages amid surging electricity prices. Spawnd by Covid-related supply disruptions and exacerbated by Russia's war on Ukraine, the spike in global energy prices has pushed domestic electricity fuel costs by

more than 100pc.

The government plans to raise power tariffs by 47pc from next month to recoup some of the losses being incurred on account of expensive fuel imports. According to a report, LNG prices in Pakistan have already gone up by 40pc in recent months, despite most cargoes coming from cheaper long-term contracts with Qatar owing to expensive spot purchases by the present government in April to meet the power demand. Hence, the decision to reject the priciest LNG shipment was a prudent one.

With Russia determined not to let up until it secures its strategic targets, chances are that international gas supplies will remain tight and their prices elevated over the next several months. The situation may worsen if global supplies don't normalise before winter, when shortage of the fuel for heating will create more problems for cash-strapped countries like Pakistan.

The current supply gaps are already forcing developed nations like Germany to initiate gas rationing and consider retracting on their commitment to halt financing for overseas fossil fuel projects in a reversal of their plan to tackle global warming. Even if Pakistan manages to overcome its balance-of-payments crisis and raise funds to finance energy imports, it may face difficulty in procuring LNG due to its unavailability in the market. This looming winter supply gap calls for formulating a strategy to both minimise gas wastage and ration fuel while it is possible. ■

*Courtesy Dawn*



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## OGDCL discovers oil, gas reserves in Sindh and Punjab

Discoveries made in Rajanpur, Punjab and district Tando Allah Yar, Sindh

The Oil and Gas Development Limited (OGDCL) announced the discovery of oil and gas reserves from its exploratory wells located in Sindh and Punjab. The discoveries were made in Rajanpur, a tribal area in Punjab, as well as district Tando Allah Yar, Sindh, announced the company in its notices to the Pakistan Stock Exchange (PSX).

The oil exploratory company said the joint venture of Nim Block comprising OGDCL as operator with 95% stake and Government Holdings (Private) Limited (GHPL) with the remaining 5% stake discovered oil and gas from the exploratory well Nim East1 located in district Tando Allah Yar, Sindh.

"Nim East-1 was spudded in on 21st March 2022 as an exploratory well by using OGDCL's in-house expertise and in close collaboration with GHPL team.

"Based on the results of wireline logs interpretation, Drill Stem Test-1 in the Basal Sand has tested 1,400 Barrels of oil per Day (BOPD) and 5.02 million standard cubic feet per day (mmscfd) gas through choke size 32/64" at Well Head Flowing Pressure (WHFP) of 1820 pounds per square inch (psi)."

OGDCL said that the latest development was the 11th discovery in Nim Block.

In a separate notice, OGDCL, being the operator of Kalchas Exploration Licence (operator, 50%) along with Mari Petroleum Company Limited (MPCL, 50%) as joint venture partner, announced gas discovery at Kaleri Shum-01 well located in Rajanpur (Tribal area), Punjab.

Various tests were conducted at Kaleri Shum-01 well, which showed that the well flowed at a rate of 1.24mmscfd gas.

"The well tested 0.489mmscfd gas through choke size 32/64" at



WHFP of 300psi. The well also tested 0.192mmscfd gas from Pab Sandstone during DST-3 through choke size 32/64" at WHFP of 10-75psi. DST-4 conducted Ranikot Formation, the well tested 0.16mmscfd gas through choke size 32/64" at WHFP of 100-130psi," read the notice.

"Discovery will help in mitigating energy demand and supply gap from indigenous resources and will add to the hydrocarbon reserves base of joint venture entities and the country," said the company.

OGDCL announced gas discovery from an exploratory well located in Ghotki, Sindh. ■

## MPCL discovers gas and condensate in Bannu west block

Mari Petroleum Company Limited (MPCL) an associated company of Fauji Foundation announced a gas discovery resulting from its exploratory efforts in Bannu West Block, located in North Waziristan district, KP Province. The discovery is of significant importance for Pakistan and is a step towards building the energy security of the country. The well was initially tested at a rate of around 25 MMSCFD and 300 BPD of condensate at 32/64" choke. A post acid clean-up well test has now been conducted to better understand well's behavior and expected improvements in its performance. The new test rates are in the order of 50 MMSCFD of gas and 300 Barrels per Day of condensate. These results have further established the confidence in the discovery and additional potential in this area.

MPCL together with its joint venture partners Oil & Gas Development Company Limited (OGDCL) and Zaver Petroleum Corporation (Pvt) Limited (ZPCL), is now developing the appraisal program and plan to bring this discovery on early production. The company is also working closely with Sui Northern Gas Pipelines Limited (SNGPL) who shall lay a transmission pipeline providing connectivity of the well with the national grid. Mr. Faheem Haider, Managing Director & CEO has said that we are committed to implement a fast track appraisal and development program to fully exploit the hydrocarbon resources in the Block. He thanked the Minister of State for Energy, Secretary Petroleum, Director General Petroleum Concession, Provincial Government, Law Enforcement Agencies and Local Community for extending their cooperation during the operational activities.



He highlighted that during the last 5 years the Company has contributed over Rs 80 million for the welfare schemes in the concession area. In addition, the Company is also implementing various projects worth Rs 86 million in education, health and water supply schemes. The Company has also created numerous employment opportunities for the local population during the project execution period and will continue to do so going forwards. The company remains fully committed and is engaged with all stakeholders to improve the socio economic environment of the area through its social welfare programs. ■





# Climate change to cost Pakistan \$26bn annually: UN

Natural hazards in South-Southwest Asia affected over 3bn people in 50 years

—◆— Amin Ahmed —◆—

**E**conomic costs from the combined impacts of the disaster-climate-health nexus estimated by the United Nations Economic and Social Commission for Asia and the Pacific (UN-ESCAP) show that Pakistan will have the highest losses as percentage of GDP at 9.1 per cent.

In South and Southwest Asia, the total average annual loss is estimated to be \$161 billion in the current climate condition. This estimate increases to \$217bn under the moderate climate change scenario and to \$322bn under the worst-case climate change scenario, says UN-ESCAP report, 'Pathways to Adaptation and Resilience in South and Southwest Asia' released this week. In absolute terms, under the worst-case scenario, India is set to record the highest average annual loss at \$225bn, followed by Pakistan at \$26bn and Turkey at \$24bn. However, when average annual loss is assessed as a percentage of the country's GDP, under the worst-case climate change scenario, Pakistan will have the highest losses as percentage of GDP at 9.1pc, followed by Nepal at 8.7pc and India with estimated losses equaling 8.1pc of its GDP.

Climate change is increasing the occurrence and intensity of natural hazard-induced disasters, leading to a reshaped riskscape for South and Southwest Asia. Over the past 50 years, natural hazards in South and Southwest Asia have affected over 3bn people and killed more than one million. The sub-region accounts for 44pc of all fatalities from disasters and 50pc of the people affected in the Asia-Pacific region.

Climate change scenarios for the near and far future suggest that drought conditions are likely to become more severe in the region. The variation in rainfall pattern and projected higher temperatures will likely cause more frequent, extreme, dry conditions. Projected

scenarios for 2040-59 show that multiple areas in India, Pakistan and Turkey are likely to experience a significant increase in the maximum number of consecutive dry days.

The report warns that climate change will impact the lives and livelihoods of population dependent on dryland agriculture in South and Southwest Asia.

The increase in mean temperatures in hyper arid and arid areas will have a significant impact on dryland agriculture in Afghanistan, India, Iran, Pakistan, and Turkey.

In Pakistan, almost 77pc of the agricultural production in arid regions will be exposed.

This could pose a threat to related livelihoods and food security in the country, the report says.

The convergence of biological and natural hazards together with climate change has added significantly to the already prevailing stresses of poverty and inequality in South and Southwest Asia.

In August 2020, during the Covid-19 pandemic, the monsoon floods in South Asia heightened the risk of dengue and malaria outbreaks and stretched health resources to their breaking point.

Recent decades have seen an increase in the risk of climate-related diseases leading to illness and death. South and Southwest Asia have witnessed a sharp rise in dengue cases. The records have risen from less than 100,000 cases in 1990, to nearly 400,000 by 2018. On the other hand, for malaria, the total number of confirmed cases in South and Southwest Asia has gradually decreased from nearly 2.5 million cases, in 2000, to nearly 1.3 million cases, in 2017.

While responding to the pandemic, South and Southwest Asian countries also faced natural hazards ranging from one of the strongest recorded cyclones in the region to flash floods caused by glacial lake outbursts, heat waves, and locust storms.

ESCAP analysis shows that in South and Southwest Asia, nearly one billion people who are in the low and medium human development index category will also be exposed to high multi-hazard cascading risks. This figure will rise to 1.3bn people across the sub-region in the worst-case climate change scenario. The highest percentage of population exposed to these converging risks is in Bangladesh, India, Nepal and Pakistan.

The convergence of climate change, and natural and biological hazards will also increase child malnutrition in Pakistan; the children at greatest risk live in Balochistan, Sindh, and Khyber Pakhtunkhwa. In these areas, it will be important to ensure that critical infrastructure and means of service delivery like hospitals, schools, and electricity grids, are resilient to the impacts of cascading hazards. For women, the risk will be greatest in Balochistan and Punjab.

ESCAP estimated a total annual adaptation cost of \$61.5bn for South and Southwest Asia under the worst-case climate change scenario, from which \$57.1bn is the adaptation cost for climate-related hazards and \$4.4bn is the adaptation cost for biological hazards. At the country level, the highest total adaptation cost is recorded for India at \$45.3bn, followed by Pakistan with \$5bn and Bangladesh with \$3.3bn. ■

Courtesy: Dawn



# Pakistan has to move towards conservation and efficient use of energy resources

— Halima Khan —

**Dr Sardar Mohazzam**  
MD, National Energy Efficiency and Conservation Authority

**D**r. Sardar Mohazzam is the Managing Director of the National Energy Efficiency and Conservation Authority. He holds Ph.D. in Public Policy and specializes in the area of Energy and Environmental Policy.

“Energy conservation shall be the strategic priority of the country as the first fuel from planning and decision making to the execution of the action plans of not only energy sector but other key sectors of the economy”

Dr Sardar Mohazzam, Managing Director of the National Energy Efficiency & Conservation Authority (NEECA), talked about the measures adopted NEECA to initiate, catalyze, and implement energy efficiency and conservation in the country. Following are the important excerpts from his interview for our readers:

## Energy Update: Why there is a need for adopting energy efficiency and conservation measures?

**Dr. Mohazzam:** The increasing demand for energy, depleting energy resources, and frequent extreme climatic conditions forces Pakistan to adopt the culture of energy conservation and invest more in the energy efficient technologies. Conservation and efficient-use of energy, also, has a great potential to improve energy intensity of the country which will make our exports more competitive in the international markets. Apart from these, energy efficiency and conservation generate co-benefits such as climate change mitigation, reduction in energy import bill, and job creation.

## Energy Update: What is the role of the NEECA in the recently announced

## energy conservation plan of the Government of Pakistan?

**Dr. Mohazzam:** The NEECA assisted in the development of energy conservation plan recently announced by the government. NEECA actively provided input and analyses to the government for adopting a number of measures, ranging from short term to long terms conservation impact, including an additional weekly day off on Saturdays and a hybrid working system for the government offices. Then, the suggestion was put forth to regulate the electric household appliances such as fans, motors, LEDs, ACs and refrigerators. The National Energy Efficiency and Conservation (NEEC) Policy 2022 is also under approval process after a thorough stakeholder consultation at national level.

## Energy Update: Do Pakistan again need such drastic measures, as once taken during coronavirus pandemic, to cut fuel and energy consumption?

**Dr Mohazzam:** When there are extraordinary circumstances/challenges, one needs to take extraordinary steps. The current economic challenges, being faced, demand a behavior change towards energy conservation at an individual level along with adoption of energy efficient technologies in the industrial sector. Unlike the national security emergency created by the COVID-19 pandemic and implementation of drastic measures such as smart lockdowns, we as a nation need to strategically select energy efficiency and conservation measures without creating adverse and unsustainable opportunity costs. Nevertheless, being the net energy importer, Pakistan needs to opt for energy efficiency and conservation measures across key sectors

such as Building, Industry, Transport, Energy, and Agriculture which can generate quick financial and social gains.

## Energy Update: Should Pakistan again adopt the day-light saving system for energy conservation?

**Dr Mohazzam:** Indeed. These are some of the low hanging energy conservation measures, which should be implemented, as a routine, in a country as it is being implemented in most of the countries. Further, it is a measure which inculcates the culture of conservation in the social fabric of a nation. Previously, this day-light saving measure was implemented successfully and should be adopted uninterruptedly.

## Energy Update: What steps are being adopted by the government offices for energy conservation?

**Dr Mohazzam:** One of the major steps initiated by the government is the solarization of the public buildings in the country. This step is part of the energy conservation plan of the government. The Prime Minister's Office has already issued directives in this regard, but before the solarization, an energy audit of the government buildings should also be carried out. The audit will determine to what extent the government buildings are energy efficient. This exercise will generate thousands of jobs and will develop a new energy professionals' market in the country.

**Further, NEECA, in collaboration with GIZ, is working towards deployment of energy management system in the public buildings and municipal facilities across ICT, KP, and Punjab.**



**Energy Update:** What progress has so far been made to ensure that only energy-efficient buildings are constructed in major cities?

**Dr Mohazzam:** The energy efficient buildings require energy efficient building code; whose custodian is the Pakistan Engineering Council (PEC). As soon as the PEC issues energy efficient building code NEECA will start implementing them through its provincially designated agencies. At present all the important stakeholders, by and large, are not aware of this issue including architects, land developers and different land-owning and civic agencies. So, the entire market has to be evolved to fully adopt this idea. The new housing societies around major cities are more likely to adopt this environment friendly idea for their customers.

**Energy Update: What steps NEECA has taken with regard to enhancing the awareness on Energy Efficiency and Conservation?**

**Dr Mohazzam:** NEECA has devised an effective communication and awareness strategy. We regularly engage sectoral experts to deliver talks on issues related to the energy conservation. These talks feature intellectual debate and have helped us a lot to align our organization with the knowledge dissemination on energy conservation. We also invite representatives of various relevant government organizations. Similarly, we have been very active on social media platforms to make people aware of the importance of the cause of energy conservation. Further, we have been working towards

commemorating an energy conservation day every year at a national level. The detail national outreach plan has also been prepared and international partners/donors are engaged for some of the awareness campaigns.

**Energy Update: What are some of the important initiatives carried out by the NEECA since its inception?**

**Dr Mohazzam:** We have actively worked with in the mandate of National Energy Efficiency Act 2016 and achieved following milestones, since November 2019:

1. Operationalization of NEECA's Strategic Plan 2020-2023 through various EE&C programme level collaborations and coordination with relevant national and provincial ministries, departments and authorities and international development agencies
  2. Drafted the National Energy Efficiency & Conservation Policy 2022 after Nation-wide Stakeholder Consultations. The target of 9 MTOE energy saving has been set in the draft NEEC Policy 2022 based on a business enabling policy framework.
  3. Formulated the minimum energy performance standards and associated regulations for five major household electric appliances i.e. Fans, Motors, LEDs, ACs, and Refrigerators.
  4. Drafted Provincial Action Plans (PAPs) for Energy Efficiency and Conservation and we are supporting the provincial governments in establishment of provincial energy efficiency and conservation agencies.
  5. Designed and got approval for two EE&C
6. Launched Energy Audits of Captive Power Plants
  7. Conducted energy audits of sugar mills across Pakistan
  8. Collaborated with the NEPRA to propose the tariff for the EV charging stations.
  9. Led the Pakistan's NDC Revision process in 2021 through successfully achieving the Mitigation Working Group objectives in close coordination with line ministries/ departments at both federal and provincial level.
  10. Developed NEECA's Communication Strategy and Action Plans which resulted in enhanced digital foot print on social media and public outreach for demand side energy management.
  11. We are also working with Municipalities and City Development authorities for deployment of energy management system across ICT, KP, and Punjab.
  12. We are also working towards launching a comprehensive 10-year programme to support the implementation of the NEEC Policy 2022, once approved.

## ENERGY UPDATE

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# Pakistan's forest cover declines to 5.45%

—◆— Special Report by Mansoor —◆—

Pakistan's forest cover has declined to very low level of 4.786 million hectares, which is 5.45 percent area of the country's total land and is 28 percent low as compared to a UN standard of forest cover of 33 percent that every country should have for better climate, biodiversity and living things on the planet. The hacking of the forests across the country continues to turn forest lands into agriculture ones, contributing to warming in big cities of Pakistan, mainly Karachi where summer temperature has risen by 3 degrees centigrade in 60 years.

According to new Economic Survey of Pakistan 2022, within the forest cover area, dry temperate forests hold the largest share of 36 percent, followed by sub-tropical broadleaved shrub 19 percent, moist temperate 15 percent, Chir Pine 13 percent, riverine 4 percent, irrigated plantation 4 percent, thorn 3 percent), mangrove 3 percent and subalpine forests 2 percent.

In a green economy, development of green jobs becomes the basis of sustainable economic development. Green jobs are central to sustainable development and respond to the global challenges of environmental protection, economic development, and social inclusion.

The meager forest cover area due to growing population, and dependence on the natural resources coupled with deforestation

## Country has 28% low forest cover compared to UN standard

have rendered the country one of the most vulnerable to climate change effects. As a result, natural resources are under tremendous pressure owing to change of land use and habitat destruction and consumption of fuel wood and timber extraction. Such pressures have rendered most of the forests of poor and medium density in need of drastic restocking on war footing.

Ten Billion Tree Tsunami Programme (TBTP): The implementation of the TBTP was initiated in 2019 with a total cost of Rs125.1843 billion for four years (2019-2023) to plant and regenerate 3.296 billion plants across the country. The programme is being implemented by the provincial forest and wildlife departments through Ministry of Climate Change (MoCC) on 50 percent cost sharing basis except AJ&K and Gilgit-Baltistan which are 100 percent funded by the federal government through PSDP.

The programme has achieved 579.093 million plants during July-March FY2022 and cumulatively has attained 1586.18 million plants till March 2022. MOCC has developed a robust digital reporting system to ensure the transparency of TBTP

activities. The system captures all activities including block plantation, linear plantation, assisted natural regeneration and nursery management system performed under forest component of TBTP.

In addition, Geographic Information Centre (GIS) team of TBTP has developed a web-GIS monitoring portal which is capable to visualize the plantation sites

geographically with detailed information of the site and processed satellite imagery of pre and post plantation status.

### A Protected Areas Initiative

was also launched to improve management and governance of 23 protected areas with a total estimated cost of Rs3.89 billion. The initiative will result in preserving rare fauna and flora and promote eco-tourism. The potential gain of this programme will be reaped with 5,500 new green jobs.

Nanga Parbat National Park and Himalayan: National Park in Gilgit-Baltistan was inaugurated to achieve the targets envisaged under this initiative. Besides, Tilla Joggian Park and Salt Range National Park are in progress in the Punjab province, whereas the Khyber





Pakhtunkhwa has notified new protected areas to support implementation of this initiatives.

**Billion Tree Honey Initiative:** This initiative is launched as a coherent effort of different ministries and agencies to promote apiculture in the country. It is estimated that the existing forest resource will increase to about 5.5 million hectares after addition of new areas being planted and regenerated under TBTP by FY2022-23.

It was estimated that about 10,000 bee keepers were using 300,000 colonies for producing 7,500 metric tons of honey annually. The potential can be enhanced to produce 70,000 metric tons of honey from the same harvest

**Readiness and Preparation Project:** Reducing emissions from deforestation and forest degradation, conservation of existing forest carbon stocks, sustainable forest management and enhancement of forest carbon stocks is a concept adopted by the countries under United Nations Framework convention on climate change (UNFCCC). The concept relates to absorption of atmospheric carbon through forest resource. Due to accumulation of carbon in standing trees, their financial value increases. Carbon stocked in forests is traded in carbon markets.

MOCC is implementing Readiness Preparation Project with financial grant of US\$7.81 million received under the Forest Carbon Partnership Facility (FCPF) of the World Bank.

Most of Pakistan lies in the arid and semi-arid zone which is characterized by low precipitation, extreme temperatures, and low humidity. Sufficient food production for growing population with limited water supply and fragile land resource is only possible when they are used wisely and sparingly. Outside the irrigation system of Indus valley, most area of the country is used for extensive agriculture and rearing livestock.

The arid lands in Sindh cover 60% of total land area of Province. These rangelands also support millions of people and their

livestock as a source of fodder, forage, food and fuelwood etc. In the absence of canal irrigation, seasonal rainfall during Monsoon is only source of water in these areas. Keeping in view the importance of this natural resource, these lands have been recognized within fourteen priority areas of environmental concern in Pakistan as identified under National Conservation Strategy (NCS).

Sindh is badly affected by deforestation. Sindh Forest Department controls an area of 241,198 hectares in the Riverine tract of the province which are categorized as "Riverine Forests"; locally known as Kacho forests. These forests are located along both the banks of River Indus in Thatta, Hyderabad, Dadu, Larkana, Naushero Feroze, Nawabshah, Khairpur, Sukkur, Shikarpur, Ghotki and Jacobabad Districts and have been declared as "Reserved Forests".

The main factors responsible for degradation of riverine forests in Sindh are severe reduction in flow of fresh water in Indus through floods, population pressure for meeting the local needs of the people.

Mangroves ecosystem in the Indus delta has been adversely affected in the recent years because of over exploitation of coastal resources due to coastal population increase, pollution and acute scarcity of freshwater

from river Indus due to diversion of water for inland agriculture, coastal urbanization and industrialization. The situation is exacerbated by a general lack of education and awareness of sustainable use, on the part of communities, policy makers and implementers.

Indus delta mangroves are dependent on freshwater discharge for their survival. Historically, abundant freshwater discharge and nutrient rich sediment load was conducive to a highly productive ecosystem including mangroves stands. With gradual and continuing reduction of discharge from the Indus, not only the transport of sediments to Indus delta mangrove has decreased, but also with the average annual rainfall being extremely low (221mm), and in some years, virtually no rain at all; availability of freshwater to Indus delta mangroves has been extremely curtailed. This combined phenomenon has put most severe environmental stress on the mangroves. Indus Delta at present receives the least amount of freshwater, leading to high levels of salinity and disruption to the ecological balance and loss of biodiversity.

Irrigated forest plantations of Sindh Forest Department cover an area of 82,195 hectares and have been declared as reserved forests. There is also hacking of trees in these forests, which needs to be stopped. ■

## Peter Rae re-elected WWEA President



**T**he General Assembly of the World Wind Energy Association has re-elected Hon Peter Rae AO from Australia for another term as WWEA President. The election was held at the WWEA General Assembly held in Rimini/Italy on the occasion of the 20th World Wind Energy Conference WWEC2022.

The WWEA General Assembly elected the following Vice Presidents: Prof Dr Chuichi; Arakawa, Japan; Heinrich Bartelt, Germany; Khalid Benhamou, Morocco; Dr Andrea Kraj, Canada; Dr Irfan Mirza, Pakistan; Dr Monica Oliphant, Australia; Qin Haiyan, China; Ms Galyna Shmidt, Ukraine;

Dr Ibrahim Togola, Mali; Prof Dr Tanay Sidki Uyar, Turkey; Prof Dr Galal Osman and Dr Jami Hossain while Zeeshan Ashfaq and Joan Fages were elected as auditors. WWEA President Peter Rae said: "I am grateful that the WWEA members have expressed their confidence in me by electing me for another term and I would like to thank them for their strong support in advancing WWEA's mission. I am pleased about the new board and in particular that we have been able to broaden the global representation and to improve our gender balance, with three female board members from Australia, Canada and Ukraine joining the team which will guide WWEA's work in the coming years."



# Ensuring water security

## Implementation of first National Water Policy sought

—◆— Shafqat Kakakhel —◆—

**D**uring the past six months, Pakistan has experienced unusually hot and humid weather and unprecedented shortages of water in the Indus Basin canal system, disruption of all kinds of farming activities, reduced power generation by hydropower plants and drying up of drinking water sources in urban areas.

Diminished canal flows also rekindled inter-provincial disputes over water allocations. Climate experts have linked our water crisis to the effects of climate change, adding that such calamities are likely to become a new normal.

The recent water crisis underlines the urgency of accelerated implementation of Pakistan's first and comprehensive National Water Policy (NWP) approved by the Council of Common Interests (CCI) and signed by the then prime minister, Shahid Khaqan Abbasi, and chief ministers of provinces on April 24, 2018. It seems appropriate to recall how the NWP was agreed and its key targets and means of implementation.

A decision to formulate a National Water Policy was made in 2003 and six successive drafts, prepared with the help of foreign consultants, were considered by the CCI, but none could attract consensus. Finally at its meeting held on November 24, 2017 the CCI constituted an inter-provincial committee under Mr Sartaj Aziz, then deputy chairman Planning Commission, which included the federal minis-

ters of planning and development, energy, and water resources, federal secretaries of water resources, power division, and planning and development and chief secretaries of the four provinces to develop a water policy.

The committee finalized an earlier draft of the NWP after adding the means of implementation, the estimates of financial resources and the institutional arrangements necessary for implementing the policy. An agreed draft of the Policy was considered and approved by the CCI on April 24, 2018. (It is interesting to recall that the 1991 Agreement on the Apportionment of Indus Waters was also finalized by an interprovincial committee chaired by Mr Sartaj Aziz, then federal finance minister).

The National Water Policy (NWP) addresses the spectrum of water-related issues such as the decline in the quantity and deterioration of the quality of water due to population explosion, increasing demands of all user sectors, loss of water during conveyance, over-abstraction of ground water, archaic irrigation methods causing agriculture to use over 80 per cent of available water, decaying water infrastructure, and policy and management deficits. It takes cognizance of the impacts of climate change on water resources, especially more frequent, longer-lasting and severe extreme weather phenomena such as drought, floods and heatwaves.

The main targets of the NWP for the period 2019-2030 include: one, reduction of 33 per cent in the river flows that are lost in conveyance estimated at 46 MAF, through an accelerated programme of water course lining, especially in saline or semi saline areas.

Two, increasing the existing water storage capacity of 14 MAF to 24 MAF, including the Diamer-Basha Dam (6.4 MAF) and Mohmand Dam (0.7 MAF).

Three, an increase of at least 30 per cent in the efficiency of water use by producing 'more crop per drop' by deploying micro-irrigation techniques like drip and sprinkler irrigation and more realistic water pricing policy.

Four, adapting drinking water and sanitation plans in line with relevant national policies and the Sustainable Development Goals (SDGs).

Five, gradual replacement and refurbishing of decades-old irrigation infrastructure in accordance with an asset management plan.

Six, real-time monitoring of river flows by the Indus River System Authority (IRSA) through telemetric technology in order to maintain a transparent water accounting system.

Seven, a standardized and uniform mechanism for data collection of water resources at the national and provincial levels including rivers/canals, rainfall, snowfall, depth of groundwater table, surface/subsurface water quality parameters, and reservoir sedimentation.

To achieve the aforementioned targets, the NWP requires that at least 10 per cent of the Federal Public Sector Development Programme (PSDP) should be allocated for the water sector, gradually increasing it to 20 per cent by 2030. It also calls upon the provinces to increase their respective allocations for the water sector. In the PSDP for 2017-2018, the water sector had received only four per cent funds. For 2022-2023, this allocation has been



increased to 11.3 per cent – Rs91.6 billion out of a total PSDP of Rs800 billion.

The NWP recognizes that the integrated management of water sources requires the highest level of skills and knowledge to effectively address the looming water crisis and calls for wide-ranging institutional reforms and capacity building. These include: first, provincial water authorities: each province is required to set up a provincial water authority to upgrade its capacity to design and construct small and medium sized dams and irrigation infrastructure, while the irrigation departments continue to handle water distribution and maintenance.

Second, 'groundwater authority': one of the most significant measures enshrined in the NWP relates to the protection of the rich Indus Aquifer from unsustainable abstraction since the 1960s. Each province is required to establish a regulatory body to curb the unrestricted extraction which has pushed the water table down to dangerously low level, especially in Balochistan and other arid areas. The provincial groundwater authority has to ensure that extractions from the aquifer are sustainable.

Third, National Water Council: the NWP provides for the creation of a National Water Council (NWC), chaired by the prime minister and comprising the four provincial chief ministers/ irrigation ministers. It is required to meet at least once a year to review and coordinate the implementation of the National Water Policy, recommend legislation where necessary and support provincial master plans for water development by providing matching grants. The NWC is to be assisted by an inter-provincial steering committee, chaired by the federal minister for water resources and comprising provincial irrigation ministers or secretaries and chairpersons of the provincial water authorities.

The prime minister should convene a meeting of the National Water Council as early as possible to review the state of implementation of the NWP and approve a roadmap for enhanced action with timelines for the federal and provincial governments. The writer is a retired ambassador and former UN assistant secretary-general. ■

# Let the sun electrify economy

## Pakistan does not seem to have energy security plan

—◆ Dr Pervez Tahir ◆—

**A**t the Economic Affairs Division-UNDP seminar on 'Global Economic Situation and Effective Debt Management Strategies' held this week in Islamabad, energy turned out to be the villain of the piece. These columns have long expressed the view that our future lies in solar energy.

At the cost of repetition, let it be reiterated that something similar to the nuclear experiment has to happen. Money was not a problem. Beg, borrow or steal, no questions were asked.

This was the policy that helped Pakistan achieve the nuclear threshold. Solar engineering, economics and policy still need innovation, research and development. We need to deploy the same zeal, the same consensus that was demonstrated in acquiring nuclear capability.

Call it Solar 2030 Project to achieve cost-effective solutions to meet energy demand, make Pakistan one of the largest manufacturers and exporters of solar energy solutions and equipment.

A congregation of Pakistani experts, including expatriates, should brainstorm and draw up technical details, followed by a meeting of political and other stakeholders for an agreement to keep their mismanagement on hold until 2030. Parliament should then pass a law to give effect to the agreement. The law should cover upfront allocation of a substantial sum of money for this project, as well as providing it with complete autonomy.

Countries take a long term view of energy security. Currently, there is a worldwide scramble to ensure energy security. The established, as well as the emerging powers, are investing to ensure that ready supplies are available to them in the future. China and Brazil have entered the solar field in a big way. Germany, with not much sun, is a lead player. Pakistan does not seem to have a plan to

ensure energy security, just a collection of contentious projects. What is needed is a safe, secure and continuous source of energy located within the country. The only inexhaustible source we have is the sun. No upstream or downstream issues are involved here.

The market right now is small, but the opportunities will know no bounds because this has the potential to become the cheapest alternative that can solve our energy problems. The economy needs a radical breakthrough to join the high-growth league, which can be provided by cheap energy and a niche in the export market. Solar power can help us break the boom and bust cycle of growth.

Solar is still a costly source of energy. The PTI government increased GST on the import of solar panels from zero to 17%. The GST on inverters and other necessary equipment, plus import duties were in addition. As 95% of the panels are imported and solar contribution to the total energy mix is still as low as 1.07%, the measure was a disaster.

The coalition government has done well to restore the original position. In the past, the PPP and the PML-N demonstrated the courage to start the nuclear programme and to detonate. Solar detonation requires no less. Remember, solar is the only solution for the remote, off-grid areas such as Balochistan, merged districts of Khyber-Pakhtunkhwa, South Punjab and Northern Sindh. Agriculture, our lifeline, is already exposed to imported solar panels as a source to power tubewells and water pumps.

Food security, poverty reduction, farm productivity enhancement and, above all, the environmental protection are all strategically linked to easy access to affordable solar energy.

The goal should be to solarise each rural household by 2030. It is a realisable dream. Various rural support programmes have demonstrated in different areas the success of solarisation. It's time to scale up. ■

# Pakistan needs Solar energy

—◆— Shahzada Ahasan Iqbal —◆—

**D**ue to the country's large population and current industrialization, sources are not meeting the country's current energy needs. Meanwhile, they have negative environmental consequences and are economically inefficient for electrifying remote areas. As a result, alternative energy sources must be sought. Energy is critical to the development of modern economies. All human activities, such as education, health care, agriculture, and employment, require energy to function properly. Without proper energy utilization, a country cannot succeed. It is regarded as the most important component of a country's economy. Pakistan is a developing nation. Due to recent development, as well as to support its large population and industry, the country requires a massive amount of energy to keep everything running smoothly. However, there is an energy supply shortage, and the country is experiencing its worst energy crisis.

In answer to a Geo News question, the finance minister stated that the previous government did not make any LNG agreements, and that "we are buying LNG at expensive rates, so it is currently not possible to end load shedding because the national exchequer is empty." According to power department references, the country's electricity demand has risen to 28,200 megawatts amid sweltering weather conditions, while the power source is 21,200 megawatts, with a power shortfall of over 7,000 megawatts.

Former Prime Minister Shahid Khaqan Abbasi said at a joint news conference with ministers of information, power, and petroleum that the government had taken steps to reduce the power outage to three and a half hours by Tuesday. He blamed the previous administration for all of the ills plaguing the energy sector and economy today, blaming corruption, inefficiency, and mismanagement. The current demand is approximately 25,000MW, while total power generation is approximately 21,000MW, resulting in a 4000MW shortfall or approximately four hours of load shedding.

Pakistan's energy crisis has become critical due to the country's sole reliance on hydropower generation. Currently, three major hydel power plants (Terbela, Mangla, and Ghazi Brotha) are producing electricity, but their capacity is much lower than the country's growing demand for electricity. Given the current energy crisis, a greater emphasis on renewable energy sources is required. Solar energy is one of the least expensive energy sources currently in use in the modern world.

The country currently generates only 1.16 percent of its electricity from solar power and 64 percent from fossil fuels. Other sources of electric-

ity include hydropower (27%) and nuclear (5%). Renewable energy accounts for only 4% of total electricity production. Despite its location in a region severely impacted by climate change, Pakistan continues to invest in environmentally unfriendly power generation methods.

The Chinese ambassador to Pakistan, the Pakistani minister of energy, and the Director of the CPEC authority met at the end of 2020 to discuss plans and collaborations in the energy sector for 2021. To address the energy and environmental crises, the two countries intend to make significant investments in renewable energy, particularly solar energy. The country may see increased government and Chinese investment in solar energy, indicating that now is the time to switch to solar.

Pakistan's energy demand is expected to increase eightfold by 2030 and twentyfold by 2050. Pakistan is geographically located in the sun belt and receives abundant sunlight throughout the year. It is critical to use existing solar energy resources to address current energy issues. Meanwhile, public and private sector investment is critical to realizing its full potential.

China, the world leader in solar energy, has made remarkable progress in recent years. At the end of 2017, the country had a total installed solar PV capacity of 131.1 GW. The United States ranks second with 51 GW of solar PV installed. Similarly, Japan has 49 GW, Germany has 42.4 GW, Italy has 19.7 GW, India has 18.3 GW, the United Kingdom has 12.7 GW, France has 8 GW, Australia has 7.2 GW, and Spain has 5.6 GW.

Pakistan plans to increase the share of renewable energy technologies (RETs) in the overall energy mix to up to 9700 MW by the end of 2030, according to the Medium-Term Development Framework 2006. The country can meet these targets and address energy crises if solar energy resources are used properly and efficiently. In the midst of the energy crisis, the federal government has decided to transition public buildings to solar energy. The decision was made during a meeting of the Task Force on Solar Energy. The meeting was presided over by Pakistan Muslim League-Nawaz (PML-N) leader and Information Minister Marriyum Aurangzeb.

The country's electricity shortfall has reached 6,709 MW, with total power generation hovering around 21,191 MW and total demand standing at 27,900 MW, necessitating lengthy power outages across the country. Pakistan's geography and environmental conditions are ideal for maximizing solar energy utilization. Solar power in order to solve Pakistan's energy crisis in a relatively short period of time. When operating, solar energy technologies and power plants produce no air pollution or greenhouse gases. When solar energy replaces or reduces the use of other energy sources with larger



environmental impacts, it can have a positive, indirect effect on the environment. However, there are environmental concerns associated with the development and use of solar energy technologies.

On August 1, the government will announce a national solar energy policy in an effort to boost the renewable energy sector. The policy's implementation will be subject to the approval of the Council of Common Interests (CCI). The news came during a meeting of the Energy Task Force on Thursday in Islamabad, presided over by Prime Minister Shehbaz Sharif. During the meeting, it was decided that the Prime Minister's House and Office would be converted to solar power on an emergency basis within one month. This is an admirable step by the government. Pakistan's future is in solar energy.

Because of Pakistan's climatic conditions, solar energy is a viable alternative to nonrenewable energy sources, which are frequently responsible for environmental pollution. The country is attempting to use solar power by increasing solar energy-based power plants, but the efforts are minimal. So the government of Pakistan needs to focus on solar energy. The people of Pakistan need solar energy at this time. The problem of load shedding in Pakistan is getting worse by the day. A Pakistani citizen can live a happy life in the future if he works hard and implements solar energy today. ■

*The writer is a working journalist, and has experience in different national news channels and doing MPhil from superior university.*

## ENERGY HURDLES

# State Bank hits solar imports with fresh restrictions

New circular by SBP requires "prior permission" before opening import transaction of hundreds of items, including all solar equipment

◆ EU Report ◆

**I**t landed like a bombshell. The State Bank of Pakistan (SBP) updated its list of products for which "prior permission" will be required and LCs can be opened for their import. Among the products added to the list – solar panels, inverters, and batteries.

The requirement had been in place since May 20, but this new circular expanded the coverage to all items under HS codes 84 and 85, which includes "nuclear reactors, boilers, machinery and mechanical appliances and parts thereof," as well as "electrical machinery and equipment and parts thereof." The latter category has netted solar panels, inverters and batteries among many other items.

"The import of solar equipment has been slowed since no payment can be made without prior permission," says Muhammad Farhan, ex Chairman of Pakistan Solar Association. One of the HS codes, among hundreds, on the list of items that now require prior permission of the SBP is HS8504.4090, under which all inverters are ordered, but that code also includes other items like emergency power supply equipment for hospitals, he adds. "Tax on any equipment other than solar panels has not been zeroed," he tells Profit, referring to the decision taken by the prime minister that excludes solar panels from the Sales Tax. "Why have solar on-grid inverters not been zeroed? They have no other purpose!"

What shocked players in Pakistan's solar market was the timing of the announcement. The SBP circular including all their equipment in the list of items requiring prior permission was issued on July 5. The very next day Prime Minister Shehbaz Sharif tweeted an announcement of a "solar package" that his government is preparing to ramp up adoption of solar initiatives across the country. This is not the first time that providers of solar solutions have faced restrictions. On at least two occasions



before this, the noose has been tightened around their necks, despite the fact that the country is facing daunting power shortages and spiraling cost of imported fuel.

In April the State Bank required solar imports to post 100 percent cash margin on all LCs, placing a crushing burden on the cash flows of all businesses operating in this sector. That was then followed on May 20 by a circular requiring "prior permission" for import of solar inverters as mentioned earlier. And then we have the latest circular issued on July 5 that expanded the coverage to panels, batteries, solar lanterns, geysers and all other products.

"The government recently has taken a keen interest in solar energy and has pledged to expand renewable energy in the energy mix by 20% by 2025 and by 30% by 2030," said Reon Energy in a statement sent to Profit magazine via email.

On its website, Reon says it is the country's largest company in the solar sector, providing large solar solutions to industry. They are currently engaged in the largest solar project in the industrial sector, for a cement plant in DI Khan, installing a project that will take the plant off natural gas forever once completed. The COD for that project is expected in November, but it has been hit by the new requirements.

"The premier also recently stated via his Twitter handle that the coalition government aims to introduce the country's first comprehensive solar policy which will drastically cut fuel imports, bring down cost of electricity and provide clean energy," the statement continues, highlighting the irony behind the timing of the announcement.

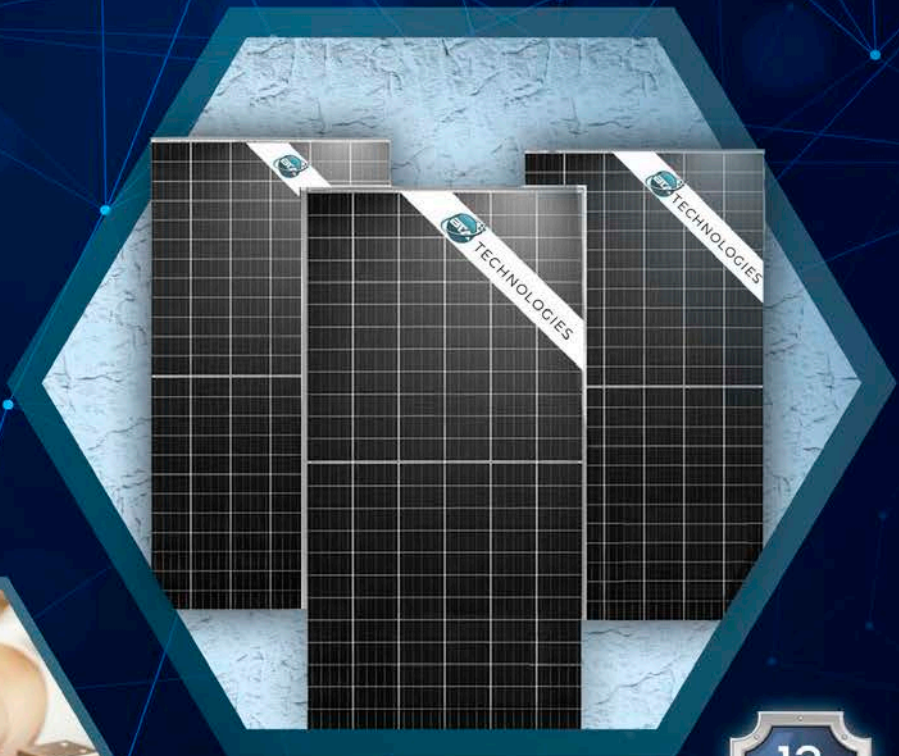
"On the contrary, the SBP lately imposed a regulatory bank approval requisite on inverters and batteries as per EPD Circular Letter as of May 20, 2022, and on solar panels, as per EPD Circular Letter dated July 5, 2022, to curb imports in accordance with the recent policy wide announcements." ■

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# Economic future of Pakistan

## Islamabad can engage with US without any conditions

—◆ Shakeel Ahmad Ramay ◆—

**P**akistan is searching for a plausible policy to overcome the economic crisis. The policy which can help to achieve the goal of sustainable development and maintain dignified place in the global community.

Pakistan has kick-started the process of dialogue, consultation and has engaged the policy institutes for assistance. Deliberations are going on with two specific objectives.

Pakistan is searching for economic opportunities where it has scope for engagement. Second, it wants a reliable and trusted partner, which can act as an anchor. Fortunately, Pakistan has a galaxy of reliable and trusted friends including China, Indonesia, Turkey, the Gulf countries, Western friends, the US, etc, which can be good economic partners.

The first phase of CPEC assisted Pakistan in creating 85,000 jobs directly and 200,000 jobs indirectly by engaging more than 100 SMEs. It means 285,000 families benefited from the phase-I.

Besides, CPEC-related energy projects provided jobs to 23,000 people during the Covid-19. CPEC's contribution to managing load-shedding in Pakistan is a well-established and acknowledged fact.

It is expected that the second phase of CPEC will trigger a new era of economic growth and development. With emphasis on industrialisation, agricultural development and modernisation of science and technology, Pakistan will reap benefits of sustainable development. Cooperation in social development will help Pakistan to reduce the inequalities in society.

Renewable energy (under CPEC and outside of CPEC) is another area where

China is working to enhance its footprint. Chinese companies, in partnership with Pakistani companies, have started to build Diamer-Bhasha Dam, which has multidimensional benefits.

It has storage capacity of 6.4 million acre feet (MAF) of water and will generate 4,500 megawatts of cheap electricity. It will create 16,000 jobs during the construction phase. The dam will help Pakistan to irrigate 1.2 million acres of land, which will give a boost to employment for the unskilled labour.

Besides, it will help to combat food insecurity and raw material shortages for the industry through enhanced production of food and non-food products. Dasu, Karot and Azad Pattan projects are prominent examples in the field of renewable energy. In a nutshell, China, through CPEC and non-CPEC cooperation, has proved that it will stand by Pakistan, no matter what is the situation.

On the contrary, Pakistan's Western friends and allies in the war on terror did not show much interest in solving the country's economic problems. Rather, they used and are still using international organisations like FATF, IMF and other institutions to bend Pakistan.

No matter what Pakistan does, the US and the West will never stand with Pakistan, until it abandons CPEC and China, which is not possible. The US and West will prefer India over Pakistan, even if Pakistan abandons China. It has a strong economic rationale.

It is a well-known fact that the US and China are entangled in an intense economic and trade war. Owing to the huge difference in market size, the US cannot compete with China. China is a huge market of 1.4 billion people. It can face off the economic war by giving impetus to the domestic economy.

Besides, it is expected that 300-400 million people will be graduated to the upper

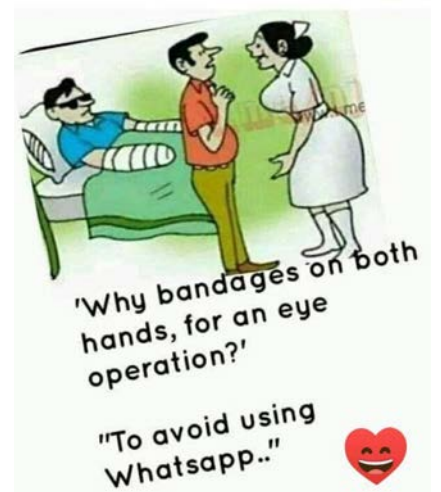
class. It means 800-1,000 million people will be changing the class, which will give a huge boost to the domestic consumption. So, China can face any type of sanctions and sustain the high economic growth.

On the contrary, the US is a market of only 333 million people, which has no comparison with China. European countries, the traditional allies of the US, also cannot help much as their markets comprise only 750 million people. Moreover, both markets are saturated and don't provide much room for expansion.

In this context, Pakistan needs to devise a wise and smart policy by adhering to two fundamental principles. First, Pakistan should stick firmly to the Pak-China relationship policy. Second, Pakistan should tell the US that it is ready to work with Washington for a mutually beneficial relationship but without any conditions. ■

*The writer is a political economist*

LAUGHTER FOR THE DAY 🤣🤣



# IHA's mission is to advance sustainable hydropower:

## Roger Gill

President International  
Hydropower Association

Says Pakistan has  
60,000MW hydropower  
potential as per Wapda report



— Halima Khan —

Roger Gill, President at International Hydropower Association's (IHA) said in an interview that the International Hydropower Association's (IHA) mission is to advance sustainable hydropower by building and sharing knowledge on its role in renewable energy systems, responsible freshwater management, and climate change solutions. We seek to deliver on our mission through advocacy, research and policy initiatives, and championing sustainable good practices.

The IHA Charter for Sustainable Hydropower symbolises the commitment of the association, and its members, to the responsible development of hydropower. In September 2021, IHA launched the Hydropower Sustainability Standard at the World Hydropower Congress. The standard will help ensure that hydropower projects across the world are recognized and certified for their environmental, social, and governance performance. IHA also launched the San José Declaration on Sustainable Hydropower at the Congress. The declaration, based on a public consultation, puts forward a new set of fundamental principles and recommendations to shape hydropower's contribution to global climate goals.

### EU: What is your general viewpoint about the South Asia region with regard to availability of hydropower resources in its countries?

**Roger Gill**, president at IHA said in an interview that the Hydropower in Central and South Asia is affected by the diverse topography and hydrologic conditions, which has meant that hydropower resources are unevenly distributed. However, it remains the dominant form of electricity for Georgia, the Kyrgyz Republic, Tajikistan, Afghanistan, Nepal and Bhutan. While fossil fuels like natural gas, coal and oil provide the majority of generation, hydropower

contributes 11 per cent of annual generation, making it the predominant renewable energy source. The South Asia region has an immense potential for hydropower deployment.

### EU: How do you rate the efforts of Pakistan to tap the hydropower potential of the country?

**Gill:** Pakistan has considerable water resources. According to Pakistan's Water and Power Development Authority (WAPDA), there is 60,000MW hydropower potential in the country, of which around 10,000MW has been developed. Pakistan's government appears to be committed to providing more hydropower over the coming decade and has announced 10 new hydro projects that will be completed in a phased manner between 2023-2029 which will lead to an additional 9,000MW power. Of these, four projects alone will lead to more than 8,000 MW.

### EU: What policy interventions Pakistani government and the power sector regulator should make to ensure maximum utilization of hydropower resources?

**Gill:** The Government of Pakistan is emphasizing development of hydropower potential to produce indigenous clean, green, and affordable electricity. To fulfill this ambition, the government has relied heavily on foreign investment from private investors, foreign governments and multilateral development banks. The regulatory regime for private sector investors includes substantial incentives such as generous returns on equity, tax concessions and hydrological risk cover.

Pakistan has a rich tradition of recognizing environmental and social considerations

in hydropower development, dating back to the 1960s during the construction of Mangla Dam and Tarbela Dam. This was continued in the 1980s and 1990s when WAPDA adopted environmental management techniques during the project development stage of the Ghazi Barotha Hydropower Project. We hope to see Pakistan continue its efforts in this area and commit to the industry's Hydropower Sustainability Standard and the San José Declaration on Sustainable Hydropower.

### EU: Should Pakistan collaborate with the regional countries to tap hydropower resources?

**Gill:** Initiatives like the World Bank's South Asia Water Initiative (SAWI) provides regional support for sustainable hydropower development and sharing of resources.

### EU: What is your viewpoint about the general potential of Pakistan to produce renewable electricity?

**Gill:** In December 2020 at the Climate Ambitions Summit, Prime Minister Imran Khan announced that Pakistan would no longer have power based on coal, scrapping two planned coal-fired power plants to be replaced by hydroelectricity. He also announced that by 2030, 60 per cent of all energy will be clean renewable energy in Pakistan. This indicates that there is significant scope for Pakistan to increase its renewable generation from the cur



The Economist Report

# Karachi turns

# 5th least liveable city in world

Vienna clinches top spot from Auckland; Moscow's liveability ranking falls by 15 places; London becomes 33rd most liveable city

— EU Report —

**T**he Austrian capital Vienna has made a comeback as the world's most liveable city, according to an annual report from The Economist. The Ukrainian capital Kyiv was not included this year after Russia invaded the country in late February, while Russian cities Moscow and St Petersburg fell in the rankings over "censorship" and the impact of Western sanctions. Vienna clinched the top spot from Auckland, which tumbled down to 34th place due to coronavirus pandemic restrictions, according to the report by the Economist Intelligence Unit (EIU). "Vienna, which slipped to 12th place in our rankings in early 2021 as its museums and restaurants were closed, has since rebounded to first place, the position it held in 2018 and 2019," it said. "Stability and good infrastructure are the city's main charms for its inhabitants, supported by good healthcare and plenty of opportunities for culture and entertainment." Pakistan's financial center Karachi has been ranked fifth in the least liveable cities. In Global Livability Index 2022, the Pakistani metropolis was ranked the fifth least city in the world — only managing to fare better than Damascus, Lagos, Tripoli, and Algiers. Sindh capital was ranked 168 amongst 173 cities with an index score of 37.5. Karachi's healthcare score was 33.3, it scored 35.2 for culture and environment. For education, the mega city had a score of 66.7, and it earned a score of 51.8 in infrastructure. Other cities included in the list of the 10 least liveable cities include Tehran, Douala, Harare, Dhaka, and Port Moresby. Europe boasted six out of the top 10 cities. The Austrian capital was followed by the Danish capital Copenhagen and Switzerland's Zurich. Fellow Swiss city Geneva came sixth, Germany's Frankfurt seventh, and the Netherlands' Amsterdam ninth. Canada also did well. Calgary came in joint third position, followed by Vancouver in fifth place and Toronto in eighth. Japan's Osaka and Australia's Melbourne shared the tenth place. France's capital Paris came 19th, 23 places up from last year. The Belgian capital Brussels was 24th, just behind Canada's Montreal. The United Kingdom's capital London was the world's 33rd most liveable city, while Spain's Barcelona and Madrid came 35th and 43rd respectively. Italy's Milan ranked number 49, the US city of New York 51, and China's Beijing came 71st. Lebanon's capital Beirut, which was ravaged by a 2020 port explosion and is battling a crippling financial crisis, was not included in the ranking of business destinations. Neither was the Ukrainian capital Kyiv, after the Russian invasion on February 24 forced the EIU to abort its survey of the city. Russia's capital Moscow saw its liveability ranking fall by 15 places, while St Petersburg slipped by 13 places. "Increased censorship accompanies the ongoing conflict," the report noted. "Russian cities are additionally seeing restrictions on culture and environment as a result of Western economic sanctions." Other cities in eastern Europe were considered less stable following "raised diplomatic tensions" due to the war in Ukraine.

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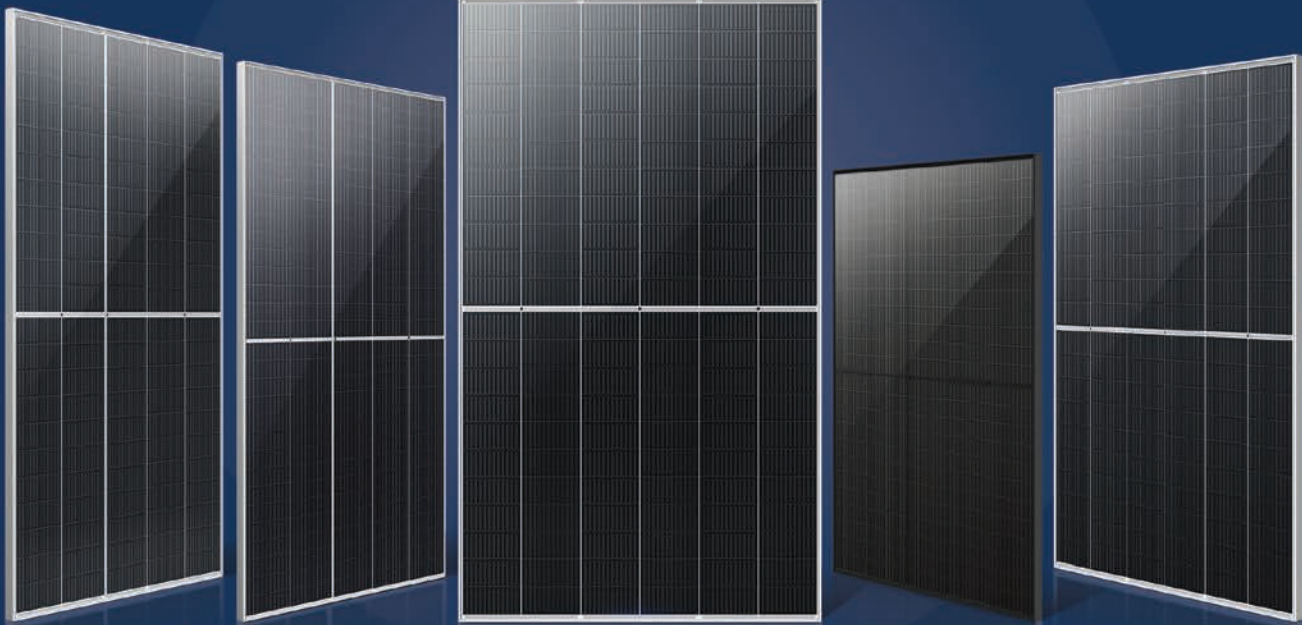


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— Antonio Guterres —

**N**ero was famously accused of fiddling while Rome burned. Today, some leaders are doing worse. They are throwing fuel on the fire. Literally. As the fallout of Russia's invasion of Ukraine ripples across the globe, the response of some nations to the growing energy crisis has been to double down on fossil fuels — pouring billions more dollars into the coal, oil and gas that are driving our deepening climate emergency.

Meanwhile all climate indicators continue to break records, forecasting a future of ferocious storms, floods, droughts, wildfires and unlivable temperatures in vast swathes of the planet. Our world faces climate chaos. New funding for fossil fuel exploration and production infrastructure is delusional. Fossil fuels are not the answer, nor will they ever be. We can see the damage we are doing to the planet and our societies. It is in the news every day, and no one is immune.

Fossil fuels are the cause of the climate crisis. Renewable energy is the answer — to limit climate disruption and boost energy security. Renewables are the peace plan of the 21st century. But the battle for a rapid and just energy transition is not being fought on a level field. Investors are still backing fossil fuels, and governments still hand out billions in subsidies for coal, oil and gas — some US\$11 million every minute.

There is a word for favouring short-term relief over long-term well-being. Addiction. We are still addicted to fossil fuels. For the health of our societies and planet, we need to quit. Now. The only true path to energy security, stable power prices, prosperity and a livable planet lies in abandoning polluting fossil fuels

and accelerating the renewables-based energy transition.

To that end, I have called on G20 governments to dismantle coal infrastructure, with a full phase-out by 2030 for OECD countries and 2040 for all others. I have urged financial actors to abandon fossil fuel finance and invest in renewable energy. And I have proposed a five-point plan to boost renewable energy round the world.

First, we must make renewable energy technology a global public good, including removing intellectual property barriers to technology transfer.

Second, we must improve global access to supply chains for renewable energy technologies components and raw materials. In 2020, the world installed 5 gigawatts of battery storage. We need 600 gigawatts of storage capacity by 2030. Clearly, we need a global coalition to get there. Shipping bottlenecks and supply-chain constraints, as well as higher costs for lithium and other battery metals, are hurting deployment of such technologies and materials just as we need them most.

Third, we must cut the red tape that holds up solar and wind projects. We need fast-track approvals and more effort to modernize electricity grids. In the European Union, it takes eight years to approve a wind farm, and 10 years in the United States. In the Republic of Korea, onshore wind projects need 22 permits from eight different ministries.

Fourth, the

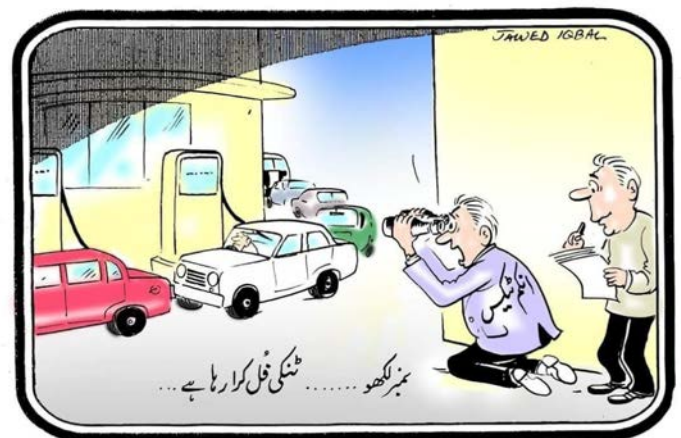
## World is burning **Renewables revolution needed**

Fossil fuels causing climate crisis; rapid renewable energy transition must

world must shift energy subsidies from fossil fuels to protect vulnerable people from energy shocks and invest in a just transition to sustainable future. And fifth, we need to triple investments in renewables. This includes multilateral development banks and development finance institutions, as well as commercial banks. All must step up and dramatically boost investments in renewables.

There is no excuse for anyone to reject a renewables revolution. While oil and gas prices have reached record price levels, renewables are getting cheaper all the time. The cost of solar energy and batteries has plummeted 85 per cent over the past decade. The cost of wind power fell by 55 per cent. And investment in renewables creates three times more jobs than fossil fuels.

Of course, renewables are not the only answer to the climate crisis. Nature-based solutions, such as reversing deforestation and land degradation, are essential. So too are efforts to promote energy efficiency. But a rapid renewable energy transition must be our ambition. ■





# Neelum-Jhelum power project closed

—◆— Khaleeq Kiani —◆—

**A**mid countrywide electricity shortages, the 969MW Neelum-Jhelum hydropower project, completed at an estimated approved cost of about Rs508bn, has been closed due to major cracks in its tailrace tunnel.

“Neelum-Jhelum is unfortunately offline. Details of its suspension or fault have not been concluded yet,” Power Minister Khurram Dastgir Khan confirmed at a presser, adding that thorough investigations were currently under way of all its channels, which are deep and long, some of them under huge mountains.

The project’s construction was taken in hand in 2002 after 21 years of delay and completed in April 2018 — again with repeated cost overruns and missed deadlines. Major construction involving about 58 kilometres of tunnels was done by Chinese contractor CGGC-CMEC (Gezhouba Group), hired in December 2007. Despite its installed capacity of 969MW, the project has often exceeded its production level, touching 1,040MW. It



was providing more than five billion units of electricity, or kilowatt-hours (kWh), to the national grid a year at an average tariff of about Rs9 per unit at no fuel cost.

The Water and Power Development Authority (Wapda), which operates hydro-power stations, later also confirmed that the

project’s “tailrace tunnel has been blocked and as a result, the power station has been closed for safety reasons”. “The reasons for the closure of the tailrace tunnel are currently being investigated. Steps would be taken to remove the blockade of the tailrace once the reasons are known,” Wapda said in a statement. ■

## US shows interest in renewable energy

—◆— EU Report —◆—

A United States’ business delegation has shown interest in investing different sectors in Pakistan including renewable energy, textile, and agriculture.

The delegation headed by Dilawar Syed, State Department’s Special Representative for Commercial and Business Affairs held a meeting with Finance Minister Miftah Ismail at Finance, Division, where representatives of International Development Finance Corporation (DFC) and US Embassy were also present.

It was shared that the DFC is planning to revise the power purchase agreements (PPAs) of its sponsored wind power projects depending upon the support and cooperation of government of Pakistan. The finance minister welcomed the delegation and apprised them about economic challenges being faced by the government.

The chair also apprised delegation about reforms in policies that have been undertaken by the present government to tackle these challenges. During the meeting, Ismail shared that the reforms aimed at enhancing the GDP growth, attracting the Foreign Direct Investment (FDI) and augmenting exports of the country. The US delegation showed their interest in investments in various sectors including wind, renewable energy, textile and agricultural sector. ■

## Fans export surges 2.33pc in 11 months

—◆— EU Report —◆—

The exports of electric fan from the country witnessed an increase of 2.33 percent during the 11 months of fiscal year 2021-22 as compared to the corresponding period of the last fiscal year.

The country exported electric fans worth US\$28.520 million during July-May 2021-22 against the exports of US\$27.872 million during July-May 2020-21, showing growth of 2.33 percent, according to the Pakistan Bureau of Statistics (PBS).

In terms of quantity, the export of electric fans, however, decreased by 10.16 percent by going down from 1,782 to 1,601, according to the data.

Meanwhile, on year-on-year basis, the exports of electric fan grew by 51.85 percent during the month of May 2022 as compared to the same month of the last year. The export of fans from the country during May 2022 were recorded at \$3.646 million against the exports of \$2.401 million in May 2021.

On month-on-month basis, the exports of electric fan dipped by 11.78 percent during May 2022 as compared to the exports of \$4.133 million in April 2022, the PBS data revealed. ■



# Multi-storied building fire at Jail Chowranghi a lesson to learn

High-rise buildings need to strictly comply with building codes



◆ Engr Nadeem Ashraf ◆

**H**orrific fire incidents take place every now and then in a city like Karachi. But we seldom learn any lesson after such major fire incidents to avoid a similar disaster in the future. The recent fire tragedy at Chase Store in a multi-storied building in PECHS Block-3 near Jail Chowranghi, Karachi carries numerous lessons for us to avoid such a horrendous emergency in the future. We have analyzed the incident in detail and have got to know that it was simply a disaster-in-waiting. The building with residential flats, car parking, a departmental store, and its warehouse apparently lacked all the necessary fire safety provisions, and it was simply a recipe for disaster. We have talked to a number of concerned experts to know their opinion about the disaster. Following are the important excerpts from their interviews for our readers:

Muhammad Imran Taj, a renowned fire safety expert, said that every portion of the building should have separate fire protection measures to ensure the safety of the residents,

parking area, businesses, departmental store, and its warehouse.

He said the residents of the building should have been provided with a minimum of two fire emergency exits with fire-rated doors, a pressurized staircase and an exit discharge to fresh air. Similarly, emergency exits should have been present in the basement, ground floor, and mezzanine floor.

Taj said the building should have fire and smoke detectors to act as early warning systems to timely warn the occupants about the fire incident. The firefighting systems should have been installed in every portion of the building. A prospective resident or occupant shouldn't purchase a property or start residing in a building whose construction didn't follow the Fire Safety Provisions 2016 of the Building Code of Pakistan, he added.

The former fire chief of Karachi Metropolitan Corporation, Commander (ret'd) Muhammad Naeem Yousuf, said the basic reason behind a horrific fire that kept on raging at the Chase Store for several days was that its basement was stuffed with several grocery items including cooking oil.

Yousuf said the departmental store didn't have both the essential fire safety and

extinguishing equipment. He said the staff of the store wasn't trained to conduct firefighting operations. He lamented the situation that only one passage was available to enter and exit the basement of the store as there was no provision for an emergency exit. He said the basement didn't have any ventilation for smoke emissions. "This was a sheer violation of the building code," said Yousuf.

He emphasized that firefighters had faced immense problems due to a lack of smoke management and emergency exit in the basement. Resultantly, the firefighting operation took so much time, he added.

Hussain Sabzali, Director of Fire Protection Association of Pakistan, said the structure of the building at the Jail Chowranghi was not suitable for establishing any supermarket. The super store was set up in the parking, basement, and refuge area of the building.

Sabzali stated that many partitions had been introduced in the said space because of which it had been converted into cages. Resultantly, it was next to impossible for the firefighters and rescue staff to get emergency access to the troubled spot. This situation had delayed the firefighting operation, he said.

The FPAP Director said the departmen-





tal store didn't have any sprinkler system, which otherwise could have played a primary role in extinguishing the fire at its initial stage. He said the sprinklers could have played a vital role to prevent the spread of the fire till the firefighting teams had reached the troubled site.

He said the staff of the supermarket didn't have any training to deal with fire emergencies as resultantly, neither they were able to act as the first responders after the fire started nor were they in the position to properly brief the firefighters about the nature and cause of the fire when they had reached the site. Sabzali said the fire had become uncontrollable for the firefighters due to the presence of plenty of combustible material at the departmental store including plastic, wood, fibre, paper, cloth, liquid fuel, cooking oil etc.

He said the fire emergency teams were not well equipped with modern firefighting gears, resultantly, they were unable to penetrate the troubled spot amid dense smoke. Sabzali suggested that high-rise buildings and supermarkets in Karachi should develop a fire prevention strategy besides investing in the installation of safe electrical systems.

He said that all such buildings should comply with the building codes with provisions for proper emergency exits, fire detection, warning, active monitoring, and fighting systems. The staff deputed at these buildings should be properly trained to deal with fire emergencies, Sabzali added.

Naseeruddin Humayun, the Principal Consultant at Mosh Consultants, said the high-rise buildings should strictly comply with the building codes along with due observance of all the relevant provincial laws for ensuring fire protection. He said that such buildings should have firewater tanks, fire hydrant systems, automatic sprinkler systems, fire detection and alarm systems, automatic fire pumps, handheld extinguishers, fire-safety kits, emergency doors etc.

He said the departmental stores' management for ensuring fire protection at their premises should avoid stockpiling combusti-

ble material, should do segregation of stocks, limit the visitors, ensure proper checks of the parking space, install public address systems on all the floors, and provide compulsory fire safety training to the staff.

Humayun suggested that the competent authority should do a proper inspection of the stores present in the basement or ground floor of the high-rise buildings for fire risk assessment. The commercial license of such stores should be cancelled, which didn't have proper fire safety provisions. He further suggested that all high-rise buildings having more than 13 floors should have fireproof rooms having the strength to withstand fire for two hours as is the case of the refuge rooms of Burj Khalifa.

Tariq Moen, a renowned fire safety expert, said the firefighters hadn't found the prompt way to enter the troubled spot of the building. Had there been proper entry / exits in the basement the same could have been used by the firefighters to enter the premises. The situation was highly precarious because there were limited opportunities to enter and leave the premises. The smoke emerged as the biggest hurdle in the way for the firefighters to enter the building.

Moen said the firefighters should have proper breathing apparatus and safety gear to enter the building amid massive smoke. He suggested that the building control authorities should pay urgent attention to implementing Building Codes of Pakistan (BCP) Fire Safety Provisions 2016 to ensure fire-safe structures. The fire brigade should also have a Fire Prevention Bureau with qualified engineers to ensure required arrangements towards permission before the buildings are occupied.

This is the way fire safety is ensured in buildings in other countries. In our country, basements of multi-storied buildings are often used to build rooms, offices, and warehouses despite they are originally built for parking only. It seems that the building control authority has been functioning not to ensure implementation of the law but to violate it. The staffers of the civic authorities are known for getting bribes for granting approvals to the buildings. An experts' advisory council should

be formed by the government for its assistance and close monitoring of the implementation process, he added.

Saeed Jadoon, former fire chief at the KPT, said that it seemed that due fire safety measures were not adopted after stockpiling such a massive quantity of cooking oil in the basement. He was of the view that no effective emergency response was dispatched soon after the fire started; otherwise, the fire incident wouldn't have become so horrendous.

He said the building was simply a recipe for disaster as the same premises had been used for accommodation, parking, departmental store, warehouse, and related processing unit. Such a building is governed by around 18 to 20 different standards but no one knew with authority as to how many of these standards were being implemented when the basement caught fire. It was the collective responsibility of all including the state, building owners, occupants, and super store proprietors to ensure that all the fire safety provisions were duly implemented.

It was imperative to know when the last fire safety training session was held for the staff of the departmental store and whether or not a fire safety audit of the building was ever conducted. The fire kept on raging for three days despite the building was in the centre of the city with Mazar-e-Quaid situated within three kilometres radius. The building was situated at an important road intersection in the city and in front of the central jail.

The city went through this tragedy, agonising situation for so many years. The situation was really embarrassing for all the concerned stakeholders. He emphasised that an open public inquiry should be conducted into all such tragedies as their findings should be known to everyone. He said that anyone concerned should get the chance to give his or her input to beef up the inquiry process. He said that findings of such inquiries were deliberately kept secret by the relevant officials to strike a deal to prevent the demolition of the high-rise building after it was affected by a fire tragedy. ■

*The Writer is Vice President NFEH*

# CFE and IEP, Karachi Center conducted an awareness session on coal usage for power generation

◆ EU Report ◆

Coal remains the largest and the one of the cheapest source of energy in the world today. It fulfils 40% of the world's energy requirement, generating 2 million MW of electricity. It is the major energy provider for most of the industrial nations of the world, with US generating 30 % (232,772 MW) of its electricity through coal, China 68% (1,046,893 MW) and India 73.5% (233,077 MW). The combined usage of these three industrial powerhouses amounts to 70% of the world coal utilization. Other industrial nations are also not behind, with South Africa producing 90% of its electricity through coal plants, Australia 60%, Indonesia 58 %, South Korea 44%, Germany 38% , Japan 32%, and so on. Thus we can see that coal energy has been the workhorse, on the back of which nations have achieved industrial greatness. In this scenario, should Pakistan abandon this cheap source of indigenous energy, or forever remain hostage to costly energy alternatives, the price of which will always be determined by external factors.

At present Pakistan is using coal energy to meet only 14% of its electricity generation, but is sitting on proven coal reserves of 3,377 million tons, equivalent to 331 years of its annual consumption.

Pakistan has only 12 coal-powered units, producing a paltry 5,500 MW of electricity. Compare this with China having 1,110 units producing 1.1 Million MW, India with 285 units producing 233,077 MW and USA with 240 units producing 232,772 MW. Even globally there has been a +0.24% increase in the number on units and +0.56% increase in plant capacity. The numbers may be small, but it shows an upward trend.

In light of these figures, should Pakistan revisit its policy of December 12, 2020, when it decided to no longer build new coal-fired power plants.

Should Pakistan, in a knee-jerk reaction, ban all coal fired plants, and let our precious resource go to waste buried in the earth, or we go for sustainable development, where we can utilize our natural wealth while mitigating its adverse environmental effects.

To answer these questions, "Citizens For Environment" in collaboration with the "Institute of Engineers, Karachi Chapter" arranged a



seminar on 24th June 2022, where enlightened honourable speakers gave their expert opinion, espousing both sides of the arguments on the future of coal energy for Pakistan.

It was the first in a series of seminars that CFE intends to hold with IEP and other professional bodies, to highlight the various issues dealing with the environment and the problems of this city in particular and the country in general.

Engr. Sohail Bashir of IEP welcomed the participants and outlined the objectives of the event, which was to raise the awareness level through advocacy so that people can make an educated opinion, and in turn influence the policy makers. Only an informed and aware citizenry can decide what is best for itself, and the future of the next generation. He gave a brief background of the establishment and working of IEP, and the purpose behind creating it. On the subject topic, his was the opinion that, after hydel power, coal is the cheapest source of energy, and Pakistan as a developing nation should use all its indigenous resources to achieve industrial growth.

The speakers were an eclectic group of experts belonging to academia, professionals, environmentalists and stakeholders. An abstract of each speakers' presentation is given herein;

Dr Abdul Azim Akbar is an expert in Energy, Oil, Gas, Petrochemicals, Coal, Technological Developments. He spoke about great Opportunities for Pakistan to utilise Thar Coal in the fields of Energy, Petrochemicals, Liquid Fuels production and other areas which can bring great prosperity to Pakistan. He also highlighted the Challenges such as Environmental concerns which Pakistan faces in this

regard and how to overcome them.

Dr. Nuzhat Khan, former Director General, National Institute of Oceanography, and now founder and CEO BlueNet+, an ocean advocacy and stewardship forum. According to her Ocean is the mother of all energy sources, as it is a vast reservoir of fossil fuel, and oceanographers will be the next custodians of the world's energy needs. While highlighting the economic benefits of coal as a cheap source of energy, pointed out to the numerous damaging environmental impacts of coal that occur through its mining, preparation, combustion, waste storage, and transport, such as: air pollution from coal-fired power plants and coal mining, Black carbon resulting from incomplete combustion, Coal sludge, also known as slurry. She advocated Clean Coal Technologies For Sustainable Power Development, Increased use of Advanced Fossil Fuel Technology and Conversion Technologies Supercritical, PFBC and IGCC, Post combustion cleaning Particulate and gaseous pollutants removal.

Rashid Yahya Usmani, Director of Enviro-Maritime Capacity Building Institute is a Marine Engineer & Environmentalist by profession. Speaking on "Harnessing The Coal Phobia", while recognizing the adverse impacts of industrial usage of coal, he advocates its use in a sustainable manner considering the economic aspects of available natural resources viz-a-viz import of liquid fuels. He suggested measures through which these ill effects can be minimized. The benefits of coal as a fuel, if managed meticulously, outweigh the environmental depreciation.

Zeeshan Liaqat, Head of Commercial, Pakistan International Bulk Terminal (PIBT), said that PIBT is the only purpose-built ter-





minimal to handle dirty cargo in the country. It is fully equipped with modern standards and has state-of-the-art equipment to handle coal. He said that the terminal is ready for Lignite exports from Thar, boosting Pakistan's economy to its peak and earning foreign exchange. He said that PIBT is cognizant of the environment while managing coal at its terminal. The terminal has its own sewage treatment plants, and the best dust suppression systems compared to the industry globally, such as water sprinkling systems, wind fences, etc. Since its inception, PIBT has successfully handled more than 34 million tons of imported coal in less than five years of its operations and has benefited more than 150+ clients by handling, storing and dispatching the coal and paid royalty of USD 80 million to the national exchequer on sea-bound coal imports handled at PIBT.

Faisal Iqbal Siddiqui, General Manager Technical, Sindh Engro Coal Mining, spoke about the vast potential of Thar Coal, and how SECM has been able to exploit this vast natural energy source, and at the same time mitigate the environmental effects associated with coal-usage. He also debunked the myth associated with the low quality of coal available at Thar reserves, and said the lignite available in Pakistan, and especially in Thar, is as good as anywhere in the world. Thar has the potential to solve the energy crises of Pakistan for ages to come.

After the presentations by the erudite speakers, the floor was opened for open discussion. An animated Question-Answer session was witnessed, where an equally learned audience debated and argued on various aspects of coal usage, handling and transportation, especially those occurring in the immediate vicinity of human habitat. One question was raised regarding the under-ground gasification of coal, and what potential it has to solve the energy crises. It was stated that in the presence of tried and tested power generation through coal- power plants, under-ground gasification is a tricky method, which still needs more development to be able to match the power generation capacity of coal power-plants.

Another member of the audience raised



a very pertinent question, that a few years back the Supreme Court stopped coal activity at KPT declaring it as injurious to human health and being in close proximity to human habitat. However, KPT is still importing Petcoke, whose physical properties are very near to that of coal dust, and equally injurious to human health. Is the handling of Petcoke at KPT, a precursor to KPT restarting Coal handling at their terminal. Mr Rashid Usmani, the environment consultant, who had done an EIA report for the coal- handling at KPT, responded by saying that KPT is following the SC ruling in toto.

In response to another question regarding the quantity and availability of water used for sprinkling as a precursor to coal-dust suppression, Zeeshan Liaqat of PIBT informed the audience that the water is being supplied by Port Qasim Authority as per their commitment.

Engr. Nooruddin Ahmed, Chairman "Citizens For Environment" gave the 'Vote of Thanks' to the speakers and the audience, with the commitment that this series of professional discourse would continue as a regular feature in collaboration with the various professional bodies. ■



# New dimension of natural disasters

Glaciers play a vital role in Pakistan's ecological sustainability

— Bilal Anwar —

**L**ive video-stream of the collapse of Hassanabad bridge in Gilgit-Baltistan on 7th May, 2022 caused by glacial lake outburst flood (GLOF) from Shishper glacier in Hunza instantly went viral globally. It drew attention of the world to Pakistan warranting that glaciers are feeling the heat due to rise in surface temperature and could potentially result in more intense and frequent GLOF events causing largescale disasters. And the biggest factor responsible for such disasters is the climate variability.

Over the past decade, Pakistan's northern region has become a live demonstration lab of impacts of increasing concentration of greenhouse gasses into the atmosphere and the disasters it can cause, establishing a nexus between climate change and natural disasters. Pakistan's climatic vulnerability is explicable based on two critical factors: its geographical location and associated unique ecological conditions; and its limited adaptive capacity to deal with such enormous and complex challenges. Pakistan's northern region houses over 5,000 glaciers, some of which are among the world's largest, oldest and currently under critical threat.

Glaciers play a vital role in Pakistan's ecological sustainability and economy in diverse ways. Setting aside economic and ecological benefits, Pakistan's water resources are highly dependent on melting of glaciers in a subtle weather-driven phenomenon. But global warm-

ing and associated climatic impacts are causing dramatic temperature rise with fluctuations in glacier melting. A number of previously non-existent lakes have been formed in the northern region, indicating increasing risks of sudden water outbursts and flood situations.

As per a study, the Shishper glacier had been surging at an exceptional rate for many years, and the formation of lakes during cold seasons represents a constant threat of GLOF in Pakistan's north. Glacial fluctuations and their associated impacts are not the only climatic challenge facing Pakistan. A complex but unquestionably atmospheric cryosphere interaction is resulting in an increase of average surface temperatures in the mountainous region shifting to downward plateaus in the form of higher than average surface temperatures.

Recent heatwave in many parts of India and Pakistan, causing casualties and serious disruptions in economic activities, is another emerging climate challenge which remains highly underestimated. Scientific reports show that intensity and frequency of heatwaves are likely to exacerbate in the coming years.

A recent study by Friederike Otto, a climate scientist, highlights the crucial nature of heatwave in India and Pakistan: "Climate change is a real game changer when it comes to heat waves. It's really a major factor." Economic dependence on climate sensitive sectors such as agriculture and low socio-economic indicators

of large segments of population render low adaptive capacity to climate change. In March, Pakistan experienced the world's highest temperature with 62% less rainfall, which is alarming.

Wheat production is estimated to be 10% lesser than in previous year due to extreme weather conditions. In terms of geographical and climatic features and socio-economic conditions, Pakistan is a highly diverse country. Consequently, the impacts of climate change and capacity to cope is unlikely to be uniform across different regions. At present, global warming and climate-induced disasters are global phenomena. However, given the varying adaptive capacity, some countries, like Pakistan, remain more at risk.

Pakistan needs to improve preparedness and implement early monitoring and forecasting systems comprising timely identification of climate risks through monitoring and observation; institutional strengthening and capacity building; and empowerment of local government. National Disaster Risk Management Fund (NDRMF) — a government-owned entity mandated to build climate resilience in Pakistan — is actively engaged with a number of national, regional and international entities focusing on upcoming threats and challenges and orienting its funding and technical support functions accordingly to address the impacts of climate change and minimise disaster risks. ■

# CLIMATE CHANGE



—◆— Mansoor Ahmad —◆—

**T**he IMF deal and subsequent expected foreign inflows will save Pakistan from default but will not bring smiles on faces of men on the street who may get relief after a year, provided the government stays on its reformist agenda.

It is for the first time in our history that the ruling elite is not promising a moon to the electorate. It has taken some very tough decisions that no democratic government ever dared to make.

We are being told to come out of fantasy. The aim to gather more taxes from the rich is commendable. Let us see how this objective is attained. Accumulation of wealth in few hands does indicate that lower strata of society have remained deprived of adequate share that allows them to live comfortably.

But proposed taxing of the rich would not protect the poor from some other necessary steps taken to reduce burden on the government. Decisions like an increase in petrol rates would impact the entire society. But there was no other way. Government must peg the petroleum rates with the global prices of this imported fuel.

LNG rates have quadrupled and blank subsidy to the exporters would not be possible. Producing power from imported LNG would be very costly. Moreover, LNG is not readily

## Luxurious lifestyle of rich must be curbed

available in the market as the Europeans are buying it from Asian suppliers at very high rates as supplies from Russia have dried after sanctions.

Increase in power and gas rates is inevitable. All these measures would hurt the common men. So, even by taxing the rich more and providing subsidies to the poor, the cost of living is going to be very high in the near future. Our economic conditions have reached a stage where subsidies and no taxes on the poor would hardly provide them the needed comfort.

The first goal of the state was to avoid default. Its second responsibility is to probe the factors that led us to the verge of default. It should avoid committing those mistakes to ensure that we do not have to face this situation again.

Austerity would only nominally resolve the issue. Taxing the people based on income and wealth might resolve the issue of resource crunch.

The culture of public appeas-

ing policies that have adverse impact on our resources must be reviewed.

The amount, if available must be spent on development projects that ensure future prosperity of the nation. Luxurious lifestyle of politicians and bureaucrats must be curbed. The rich can show off their wealth, but must pay the state higher taxes for luxury.

State is operating on borrowed money. It must generate resources from the rich and tax dodgers. It has shown intention to do that. How far it succeeds in this endeavor is yet to be seen. It needs nerves of steel to force the rich (who are highly influential as well) to part away from a fraction of their wealth. The common man will not benefit from this exercise. Improvement in their lives would come if the country embarked upon a sustainable growth path.

Investment would start pouring if the reforms are strengthened and not reversed. Till then tough times are ahead for the majority of the population. ■

## Need to conserve energy

—◆— Ahmed Bashir —◆—

That there is a need for conserving energy is a fact, which cannot be overemphasised in view of a variety of highly plausible reasons. What's wrong if all commercial activities in big and small cities are brought to a halt every day by sunset or one hour later. Not only will this help reduce consumption of electricity markedly, it will also help curtail use of petroleum and products. The traders' community, which is against early closure of markets, must not lose sight of the fact that we have already compromised national energy security due to a host of reasons, including our fast depleting foreign exchange reserves that we always need to buy oil and other items from global markets.

The situation requires all of us to tighten our belts. The government has to lead the nation in this regard. It must reduce its current expenditure in a meaningful manner to set a healthy precedent. Efforts must be made to attract FDI on a large scale.

Exports are needed to be boosted in order to fetch more foreign currency. Remittances, too, deserve attention. The government is required to pull its socks up without any loss of time. Last but not least, Punjab government deserves praise for embarking on an energy conservation plan in a big way. According to it, all businesses will remain closed on Sundays.



**Tough times  
AHEAD**

# Crisis slide

## Pakistan is fast reaching tipping point

—◆— Aisha Khan —◆—

**G**ame theory is described as “a branch of applied mathematics that provides tools for analysing situations in which parties, called players, make decisions that are interdependent. This interdependence causes each player to consider the other player’s possible decisions in formulating strategy”.

While game theory is primarily a mathematical framework, it has found application in many fields to make optimal rational choices, given a set of circumstances. If global warming is regarded as an existential threat, then it should be used as the pivot around which all decisions are weighed and made in order to avoid known causes of planetary warming or greenhouse gas emissions (GHG), and to prepare coping strategies to deal with the projected impacts of climate change (adaptation).

From the Stockholm Convention 50 years ago (1972), and the Earth Summit in Rio 30 years ago (1992), it took the global community another 23 years to finally reach an agreement at the Paris Summit (2015) on recognising that climate change is the result of human activity and requires urgent action in reducing emissions to save the planet.

If human security is predicated on the state’s ability to meet the food, water and energy needs of the people, then we need to reset our priorities. However, despite the formal process of negotiations that started in 1995 with the first Conference of Parties (COP1), we are nowhere near keeping temperature increases within the safe threshold of 1.5 degrees Celsius.

While the parties talk, emissions keep increasing and now climate change has out-paced negotiations. At COP26 last year, the critical questions of ‘loss and damage’ and ‘climate finance’ were left as unfinished

agendas to be taken up at COP27.

This does not mean that money is not available for climate correction. It is only an indication of the competing demands on global finance and strategic investments as demonstrated by the assistance for Ukraine — US (\$40 billion), EU (€2bn) and UK (£33.5 million).

While reducing GHG emissions is a global compact, the fact remains that the future of the world is in the hands of the top seven emitters: China (10bn MTCO<sub>2</sub> or metric tons of carbon dioxide), US (5.4bn MTCO<sub>2</sub>), India (2.5bn MTCO<sub>2</sub>), Russia (1.7bn MTCO<sub>2</sub>), Japan (1.2bn MTCO<sub>2</sub>) Germany (0.75bn MTCO<sub>2</sub>). The scientific community agrees that climate change is occurring faster than anticipated, and be-

tween ocean acidification, land degradation and threat of extinction to a massive number of species, the future of the planet hangs by a thread.

The per capita water availability has fallen to 900 cubic metres and contribution of agriculture to GDP has dropped to 19pc. The predicted future decrease in the 138MAF (million acre feet) in the Indus that derives 40pc of its water from snow and glacial melt can trigger a food and water scarcity crisis.

The total groundwater potential of Pakistan is about 68 billion cubic metres (bm<sup>3</sup>) of which 60bm<sup>3</sup> is currently exploited, indicating that the

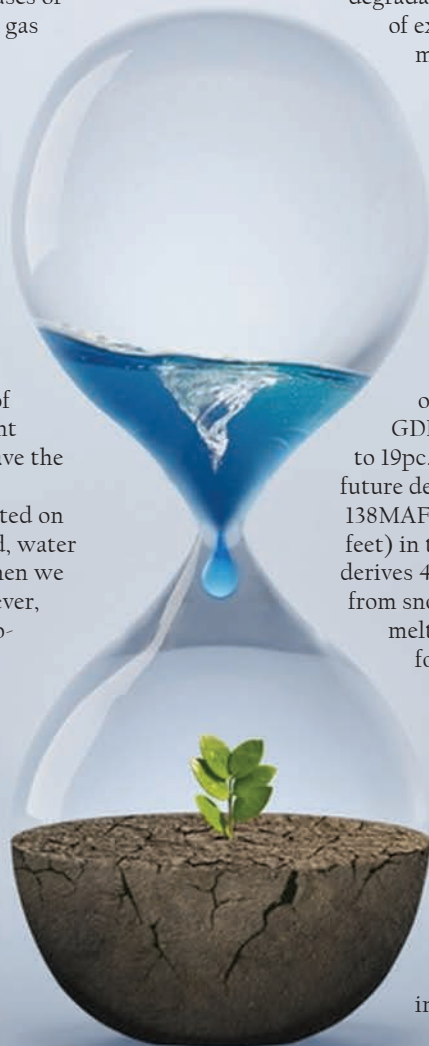
groundwater resource is almost exhausted. Though facing the threat of food and water scarcity, we continue to produce high-water-consumptive and low-value crops, with four major crops accounting for 80pc of the water but contributing less than 5pc to GDP.

The energy deficit continues and is likely to increase as a result of the gap between supply and demand. Our reliance on fossil fuels constitutes 86pc of the total supply and will require a monumental effort to decarbonise. Hydro-metrological disasters remain a recurring threat and are projected to increase in frequency and intensity between now and 2040.

The outbreak of forest fires and ranking of three Pakistani cities (Jacobabad, Sibi, Nawabshah) as the hottest places in the world this year are manifestations of a warming world. As part of the Global South, we demand climate justice but game theory requires that we play out the possibility of not getting the monies that we have indicated in our 2021 Nationally Determined Contributions to meet Pakistan’s mitigation and adaptation needs. Presently, we are largely looking at external finance (\$7bn-14bn annually) to cope with adaptation and \$40bn annually to meet NDC mitigation targets.

On a crisis slide, there is a point of inflexion beyond which recovery becomes irreversible. Pakistan is fast reaching the tipping point and must take stock of its policies and priorities on adaptation. Presently, vulnerabilities are increasing at a disruptive pace that can challenge our capacity to manage uncontrollable chaos. ■

*The writer is chief executive of the Civil Society Coalition for Climate Change.*





# Power shortfall hovering over 7,000MWs



—◆ Munawar Hasan —◆

**H**igh fuel prices, liquidity crunch and lesser energy supply in global chain have been hampering power generation badly, which translates into electricity loadshedding of 6-14 hours daily in various parts of the country.

According to information shared by the Prime Minister's Office, loadshedding today is almost entirely caused by acts of omissions and commission of the previous government during 2018-22. Coupled with high and rising energy prices in the international market, Pakistan's power sector is greatly suffering.

Consequently, power shortfall has been hovering over 7,000 MWs in the country. People are braving long power cuts across the country with power shortfall surging to 7,787 MWs. The total demand for electricity in the country is said to be 29,000 MWs and the total power generation in the country is 21,213 MWs.

In the ongoing power crisis, the natural gas-fired power plants, especially, became victim of high import price of Liquefied Natural Gas (LNG) import price and its dearth in the international market.

The present government has been facing immense hardship in sourcing LNG from the international market. Against the demand of up

to 14 cargoes a month, the government has been able to source 8-12 cargoes on monthly basis, leaving a huge shortfall in LNG supplies for power generation.

During the ongoing tenure of incumbent government, spot purchasing of LNG was made

for enhanced Regasified Liquefied Natural Gas (RLNG) supplies to power sector.

The present government spent US\$573 million on LNG spot purchases during May to June 2022. For procurement of LNG, PLL was granted exemptions from PPRA Rules on 28th May 2022 for July 2022

onward delivery cargoes. Accordingly, PLL started procurement of July 2022 cargoes after 28th May 2022, with three tenders closing in June 2022. However, due to downgrade in credit rating of the country and LC confirmation issues, participation by suppliers remained less. To fill the gap in LNG supply, the present government gives priority to arranging liquid fuel for power generation. The Petroleum Division has been playing its role for arranging the Residual Fuel Oil (RFO) requirements as per demand placed by the Power Division.

Another issue that negatively contributed in ongoing electricity shortfall crisis has been slow-paced under-construction power projects. The delay in commissioning of these projects denied Pakistan cheaper and indigenous power. Two projects namely Karot Hydro and Shanghai Thar were delayed: first on account of lack of ownership and project monitoring and the second because of failure to fulfil contractual commitments on already completed projects, thus delaying financial close.

Likewise, another high efficiency project namely Punjab Thermal RLNG Power Plant at Trimmu, Jhang (1,263 MW), has been delayed for more than three years by the PTI government, first due to its ill-placed enthusiasm for witch hunt through NAB and then by its deliberate delay in achieving financial close.

Had these three projects of 3,200 MWs capacity been completed in time, loadshedding in urban Pakistan would not have been witnessed despite high energy prices in the international market. ■



engro

## Engro issues progress report

—◆ EU Report —◆

Engro Fertilizers issued a sustainability report highlighting the company's progress toward environmental stewardship, social responsibility, and governance (ESG) goals.

Key highlights of the report include prioritisation of UN Sustainable Development Goals (SDGs) to address education, healthcare, gender equality, clean water and sanitation, decent work and economic growth, responsible consumption and production, climate action and forging partnerships for the realisation of SDGs.

The report also highlights the company's measures to safeguard interests of farmers and national food security through farmer education, free of cost soil testing, and product delivery through an extensive distribution network of more than 100 warehouses and

According to the report, in 2021, women made up 15 percent of new hires at the company, with placements in unconventional roles as trade apprentices, graduate trainee engineers, workshop supervisors, warehouse in-charges and field-sales.

The company secured first runner up position in the category of leadership commitment at the UN Women 2021 Asia-Pacific WEPs Awards. The report added that the company had also been recognised at CFA Society Pakistan Annual Excellence Awards 2021 and Global Diversity, Equity, and Inclusion Benchmark (GDEIB) Conference and Awards 2021, winning ten awards in different categories. ■



# 30 countries attend wind energy conference

— EU Report —

The World Wind Energy Association and ANEV welcomed the presence of delegates from almost 30 countries attending the 20th World Wind Energy Conference Collaborating for a Renewable Future in Peace.

The conference appreciated that delegates from around the world have participated and made it a truly international meeting, in spite of many more potential delegates having been prevented from attending the conference because of the direct and indirect impact of Covid.

In addition, the conference has been held at a time when the Russian war against Ukraine has revealed to the general public that the fossil and nuclear energy system leads to geopolitical imbalances and eventually represents a threat to peace in the world. Only a 100% renewable energy world will allow the world to get rid of international dependencies and to reduce international tensions.

The conference appreciates the support of many organisations, especially the IRENA Coalition for Action, the REN Alliance including the International Geothermal Association, International Hydropower Association, International Solar Energy Society and World Bioenergy Association, REN21, the Global 100% Renewable Energy Platform, Energy Watch Group, the Global Women's Network for the Energy Transition, the World Council for Renewable Energy, Eurosolar, EREF, RCREEE, RES4Africa, AIEE, ISES Italia, Comune di Rimini, all media partners and all organisations and individuals enhancing the Conference.

The conference underlined that the emergency of the climate crisis as well as the energy and security crisis have all been mainly driven by fossil and nuclear fuels and that the only feasible response to tackle these crises is the immediate rollover to 100% renewable energy globally. A renewable energy world can provide for not only a sustainable life but also equal opportunities for people all over the world.

It understood the huge potential of offshore wind in particular in Italy and in the Mediterranean and the Conference welcomed the Italian Offshore Wind Manifesto which has been published on the occasion of WWEC2022, describing the main barriers and solutions needed for a rapidly developing offshore wind industry. The Conference welcomed

the making of the World Wind Energy Award to Hans-Josef Fell for his political achievements and the recognition of the need for governments

to act and to Heinrich Bartelt for his decades long work and achievements as pioneer, entrepreneur and NGO representative. ■

## Fire at Guddu power plant causes Rs15b loss to national exchequer

Senior engineer says restoring plant operations would take nearly one month



Sources say there were no fire extinguishers in the power plant. A four-member team led by chief engineer has started investigation.

The Guddu power plant was burned to the ground during the Eid ul Ada holidays due to a fire, causing a loss worth Rs15 billion to the national exchequer.

According to the sources, due to a fire that broke out in the plant on the night of Eid, 747 megawatts of power went out of the system and the fire caused a loss worth Rs15 billion. Sources added that there were no fire extinguishers in the power plant and

the staff members were not on duty when the fire broke out. A four-member team led by the chief engineer has started investigating the incident.

A senior engineer said that the generators were flooded due to heavy rains, adding that the fire was caused due to an accident. He, however, added that a probe has been launched into the matter.

He further said that restoring plant operations would take approximately one month. "The damage incurred is not as severe as is being reported, and those responsible will be identified," he said. ■



# Experts oppose expansion of gas-LNG infrastructure

WB urged to support use sustainable and renewable energy

◆ EU Report ◆

International and local experts raised alarm on expansion of gas and LNG infrastructure in Pakistan in a webinar on Wednesday, saying it would pose threat to Paris Agreement goals and lead to a climate change crisis in the country.

Discussing findings of a research study by Recourse, a Netherlands-based non-profit organisation, experts urged the World Bank and International Finance Corporation (IFC) to stop investing in costly LNG imports and gas expansion and support Pakistani government to use its own indigenous, sustainable, and renewable sources of energy such as wind and solar.

The research study, titled 'The Trouble with Gas in Pakistan: How the World Bank's support for fossil gas has imperiled Pakistan's transition to clean energy' was launched in the webinar. It was organised by Alliance for Climate Justice and Clean Energy, a coalition of civil society organisations working on energy transition in Pakistan.

"The World Bank and IFC continue to support gas and LNG expansion in Pakistan, leading the country to another unsustainable fuel-based energy model that is likely to lead to stranded assets," said Fran Witt, senior consul-

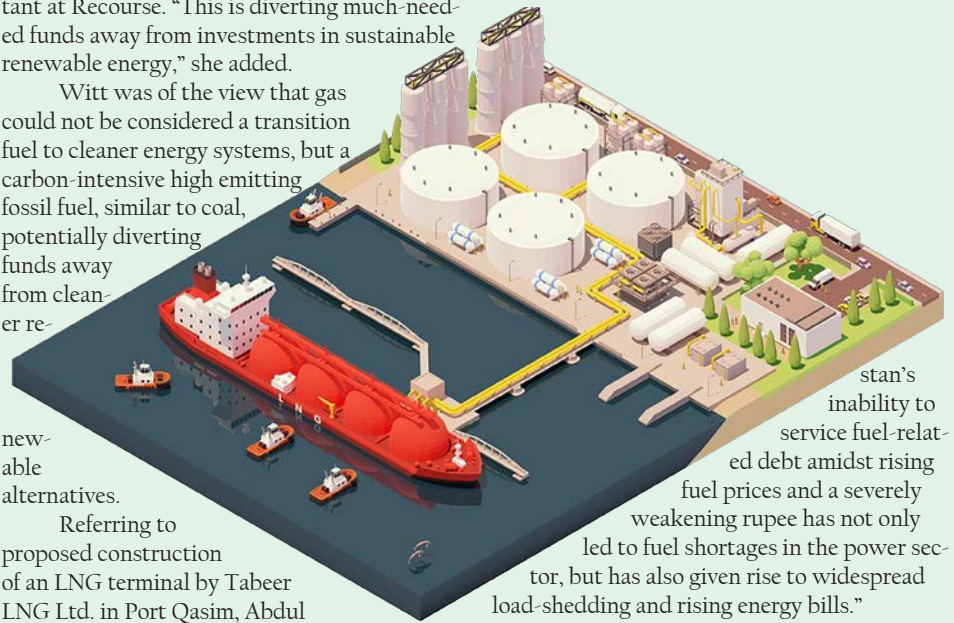
tant at Recourse. "This is diverting much-needed funds away from investments in sustainable renewable energy," she added.

Witt was of the view that gas could not be considered a transition fuel to cleaner energy systems, but a carbon-intensive high emitting fossil fuel, similar to coal, potentially diverting funds away from cleaner re-

newable alternatives.

Referring to proposed construction of an LNG terminal by Tabeer LNG Ltd. in Port Qasim, Abdul Rafay, Associate at Alternative Law Collective, said expanding gas infrastructures pose a costly threat to biodiversity and marine life. Mangroves, which are already in severe distress owing to unchecked industrial excesses in the area would be affected more, he added.

Haneea Isaad, Energy Finance Analyst at Institute for Energy Economics and Financial Analysis, a US-based think tank, said, "Paki-



stan's inability to service fuel-related debt amidst rising fuel prices and a severely weakening rupee has not only led to fuel shortages in the power sector, but has also given rise to widespread load-shedding and rising energy bills."

Isaad pointed out that Pakistan procures almost 44 percent of its LNG on the spot market, where recent volatility has led to the country procuring fuel upwards of \$30/mmbtu, a cost that is directly transferred to the consumers, she added. Average cost of electricity in the country has risen to Rs25/KWh from Rs15/KWh with no relief in sight for poor, she stated.

## SDPI, GIZ host workshop on green finance

◆ EU Report ◆

A capacity building workshop on green finance was organized by Sustainable Development Policy Institute (SDPI) and GIZ (German Cooperation) at a local hotel in Karachi. Special Assistant to Prime Minister Romina Khurshheed, acting Governor State Bank of Pakistan Syed Murtaza and other experts attended it.

"It is imperative to mobilize multiple green finance options, especially private sector finances to support Pakistan in achieving the Nationally Determined Contributions (NDCs) in terms of reduction in carbon emissions by 2030," said the experts at the workshop for Im-

plementation of Green Financing Mechanisms in Pakistan.

Romina Khurshheed Alam said that although the COVID-19 emerged as an unprecedented challenge for the international community but it also opened a window of opportunity for green recovery and green financing. She further said that Pakistan's progress towards clean energy transition was relatively slow, especially in context of the unsustainable high fuel import prices.

She stressed the need for research support for parliamentarians so they can take up informed deliberations and debates to positively influence the policy making process.

Antonia Peters from the Germany Embassy in her welcome remarks expressed that

Germany was keen on supporting Pakistan in achieving the Nationally Determined Contributions by mobilizing resources as Pakistan only had 50% of the required financing capacity.

Dr. Murtaza Syed said that the central bank was actively trying to explore the international financing opportunities like Sustainable Banking and Finance Network and Network for Green Financing System. At the domestic level, SBP is promoting green financing by providing financing guidelines and regulatory frameworks, he added.

Roberto Aparicio from EU delegation to Pakistan; Dr Abid Suleri, Executive Director Sustainable Development Policy Institute; Dr Barbara Berkel also spoke on the occasion.

# Clean and green

—◆ Mark Z Jacobson —◆

The world is experiencing unprecedented fuel price increases, energy blackmail between countries, up to seven million air pollution deaths per year worldwide and one climate-related disaster after another. Critics contend that a switch to renewable energy to solve these problems will create unstable electricity grids and drive prices up further. However, a new study from my research group at Stanford University concludes that these problems can be solved in each of the 145 countries we examined – without blackouts and at low cost using almost all existing technologies.

The study concludes that we do not need miracle technologies to solve these problems. By electrifying all energy sectors; producing electricity from clean, renewable sources; creating heat, cold, and hydrogen from such electricity; storing electricity, heat, cold and the hydrogen; expanding transmission; and shifting the time of some electricity use, we can create safe, cheap and reliable energy everywhere.

The biggest reason for the cost reduction is that a clean, renewable energy system uses much less energy than does a combustion-based energy system. In fact, worldwide the energy that people actually use goes down by over 56 percent with an all-electric system powered by clean, renewable sources. The reduction is for five reasons: the efficiency of electric vehicles over combustion vehicles, the efficiency of electric heat pumps for air and water heating over combustion heaters, the efficiency of electrified industry, eliminating energy needed to obtain fossil fuels, as well as some efficiency improvements beyond what is expected.

On top of that, a new system also reduces

the cost per unit energy by another 12 percent on average, resulting in a 63 percent lower annual energy cost worldwide. Adding onto that health and climate cost savings gives a 92 percent reduction in social costs, which are energy plus health plus climate costs, relative to the current system.

The energy-producing technologies considered include only onshore and offshore wind electricity, solar photovoltaics for electricity on rooftops and in power plants, concentrated solar power, solar heat, geothermal electricity and heat, hydroelectricity, as well as small amounts of tidal and wave electricity. The most important electricity storage technology considered was batteries, although pumped hydroelectric storage, existing hydroelectric dam storage and concentrated solar power electricity storage were also treated. We found that no batteries with more than four hours of storage were needed. Instead, long-duration storage was obtained by concatenating batteries with four-hour storage together. In a sensitivity test, we found that even if battery prices were 50 percent higher, overall costs would be only 3.2 percent higher than their base estimate.

We also considered seasonal heat storage underground in soil plus short-term heat storage in water tanks. Seasonal heat storage is useful for district heating. With district heating, heat is produced and stored in a centralized location then piped via hot water to buildings for air and water heating. The alternative to district heating is using heat pumps in each building. The study found that the more district heating available, the easier it was to keep the electric grid stable at lower cost since it reduced the need for batteries to provide immediate electricity to heat pumps. Batteries are more expensive than underground heat storage. ■

*Courtesy: Commondreams.org*

## IMF client states' condition People forced to skip meals, sell kidney

—◆ Farrukh Saleem —◆

Pakistan imports coal and the price of coal in the international market has gone up by 5 times. Pakistan imports gas and the price of gas in the international market has gone up by 10 times. Pakistan imports oil and the average international price of crude has gone up from \$65 dollar per barrel in 2018 to \$120 per barrel. Over the past year, Pakistan's oil import bill has gone up a whopping 100 percent.

Pakistan's largest export items are bed linen, table linen, toilet linen and kitchen linen collectively worth roughly \$4 billion. Pakistan's next biggest export is rice, around \$2 billion. Then there's non-knit men's wear around \$1.7 billion followed by non-knit women's wear around \$1 billion.

The prices of Pakistan's major imports from the international market have gone up in price many times over. The prices of Pakistan's major exports to the international market have gone up only marginally. Result: In May 2022, Pakistan's current account deficit hit a high of \$1.4 billion compared to \$640 million in May 2021; up 2.2 times in just one year.

Clearly, the prices of Pakistan's major imports from the international market are not in Pakistan's control. Then there's an 'ex-energy commodity supercycle'. Remember, Pakistan imports some \$8 billion of food items-wheat, edible oil, tea and pulses.

The energy price shock in-tandem with the commodity supercycle is causing chaos across the developing world. External accounts of almost all non-oil exporting developing countries are under severe strain. There are protests and social unrest in Sri Lanka, Ecuador, Nepal, Argentina, Ghana, Egypt, Zimbabwe, Laos, South Korea, Spain, Yemen, Myanmar, Haiti, Kenya, Tunisia and Burkina Faso. IMF client states, Argentina, Ecuador and Zambia risk potentially disastrous defaults.

Fuel bills and food costs are going up like never before. According to the IMF "global economic growth is projected to slow by 40 percent, to 3.6 percent this year and next."

In IMF client states people are being forced to skip meals. In IMF client states people are being forced to sell their kidneys. And the IMF has been churning out a new list of 'prior actions' almost on a monthly basis. ■

*Courtesy The News*





# Sale of over 66pc KES Power stake in K-Electric Shanghai Electric must get green light within three months: PM

◆ Mushtaq Ghumman ◆

**P** rime Minister Shahbaz Sharif has directed the task force on KE headed by former Prime Minister Shahid Khaqan Abbasi to resolve all outstanding issues of KE within three months, aimed at giving green signal for sale of over 66 percent shares of KES Power to Chinese firm Shanghai Electric Power.

A high-level delegation of KE comprising its shareholders from Kuwait and Saudi Arabia who are making efforts for years to get the issues of power utility resolved was in federal capital to muster support for resolution of issues being faced by the power utility. The government of PML(N) in its last days in 2018 made all-out efforts to ink deal on sale of 66.40 shares of KES Power to Shanghai Electric Power but the bureaucracy of that time did not cooperate due to NAB fear.

According to KE spokesperson, a delegation of K-Electric's majority shareholders representing Saudi Arabia's Aljomaih Holding Company, Kuwait's National Industries Group (NIG) and Infrastructure Growth and Capital Fund (IGCF) called on Prime Minister Shehbaz Sharif on June 23. The delegation was led by Sheikh Abdulaziz Aljomaih – Managing Director of Aljomaih Holding Company, one of the strongest conglomerates in Saudi Arabia with interests in diversified industries along with Riyadh Edrees – CEO of NIG.

Sharif highlighted that he had constituted a task force headed by former Prime Minister Shahid Khaqan Abbasi to resolve the concerns related to K-Electric for improving the power utility's cash flows and streaming generation of electricity from its power plants. The task force members including Shahid Khaqan Abbasi, Federal Minister for Finance, Miftah Ismail, Minister for Petroleum, Dr. Musaddiq Malik and Special Assistant to the Prime Minister, Ahad Cheema were also present.

## Cash flows, power generation: Khaqan-led body to help resolve KE disputes

**T** he delegation briefed the premier about the utility's achievement in the last 17 years. "We enjoy good brotherly relations with Pakistan. This is

why we opted to invest in the power sector – which is the backbone of any economy – of Karachi, which holds a special place as Pakistan's financial and industrial hub," highlighted Aljomaih who was also the first Chairman of the company post-privatization.

"Aljomaih and I have been part of the KE journey since 2005. As part of the largest investment group of Kuwait, we are ambassadors of Pakistan in investment circles across the GCC. KE's continued success can be instrumental in generating interest in Pakistan's energy distribution sector," shared Riyadh Edrees. Post-privatization, over \$ 4 billion has been invested in KE's value chain, enabling it to upgrade the power infrastructure including addition of new power plants.

The operational improvements since privatization have resulted in savings of \$ 5 billion to the national exchequer. Today, the company has doubled the number of customers, delivers twice the amount of energy units and has halved the transmission and distribution losses as compared to 2005. The investors further informed that the transformation's success has attracted investors like Shanghai Electric Power (SEP), one of the major players in the global energy sector. However, the acquisition process – which was formally initiated in 2016 – remained stalled due to unresolved issues, they added.

The delegation also expressed its concerns over the industry's growing challenges that are affecting KE's financial sustainability. The delegation sought support from the premier on the resolution of long standing issues such as the Power Purchase Agreement (PPA) and the arbitration of

historical dues between KE and various government entities, which are deterrents towards the sale of KE's majority shares. The group of investors was accompanied by Mark Skelton, Director of Infrastructure Growth Capital Fund, Shan Ashary, the Chairman of KE's Board and Syed Moonis Abdullah Alvi, CEO K-Electric.

The delegation also called upon Dr Shahid Khaqan Abbasi, Minister for Energy (Power Division) Khurram Dastgir as well as Tauseef H Farooqi, Chairman National Electric Power Regulatory Authority (Nepra).

During the meetings, KE's investors acknowledged Pakistan's importance as an investment destination. They expressed that considering the historical ties and brotherly relations between Gulf countries and Pakistan, the investment was made at the time when the government was actively looking for investment in the power sector. The delegation also reiterated its firm commitment to resolving the challenges. ■

*Courtesy Business Recorder*





# Solar energy package on the cards

◆ Zafar Bhutta ◆

**T**he government is working on a comprehensive solar energy package comprising tax waivers and concessionary loans for consumers in a bid to overcome the prolonged power outages that have stalled life in the country. The solar package will also include a short-term plan for shifting government offices on to solar energy. It involves preparation of a plan for helping small consumers to switch over to solar energy with the help of subsidy or concessionary loans.

The government is planning to waive general sales tax on all the components used in generating solar energy. It may also allow net metering on single phase connections. First, a standard meter will be installed and then a meter will be placed for net metering.

The energy task force, chaired by MNA Shahid Khaqan Abbasi, reviewed the solar power plan in a recent meeting. The prime minister constituted the task force on solar energy initiatives with a vision to promote sustainable and green energy. Members of the task force included Minister for Finance and Revenue Miftah Ismail, Minister for Planning,

Development and Special Initiatives Ahsan Iqbal, Minister for Information and Broadcasting Marriyum Aurangzeb, Minister for Power Khurram Dastgir Khan, Minister of State for Petroleum Musadik Masood Malik and power secretary.

Its first meeting was held recently under the chairmanship of Shahid Khaqan Abbasi to consider the initiatives required for promoting solar energy. Skyelectric CEO Amin Sukhera, representing the private sector, also attended the meeting on the invitation of committee chairman. ■

*Courtesy Express Tribune*

## SECMC uses 11m tonnes of coal

Sindh Engro Coal Mining Company (SECMC), a partner of the provincial government, has so far unearthed 11 million tonnes of coal to generate electricity, which saved \$700 million per annum for the country.

This was disclosed at a meeting held under the chairmanship of Sindh Chief Minister Syed Murad Ali Shah at the CM House on Thursday.

The meeting was attended by Energy Minister Imtiaz Shaikh, Advisor Law Murtaza Wahab, Chief Secretary Sohail Rajput, PSCM Fayaz Jatoti, Secretary Energy Abu Bakar, Engro Energy CEO Ahsan Zafar Syed, SECMC CEO Amir Iqbal and others.

Energy Minister Imtiaz Shaikh and Engro Energy CEO Ahsan Zafar told the chief minister that 11 million tonnes of coal had been unearthed and fed into the (coal-fired) power plant, which generated 10.5 million units (KWh).

Shaikh said the power plant would generate 1.3GW by the end of December 2022, which was critical for national energy security. The CM was told that the 11 million tonnes of coal supplied to the power plant saved \$700 million per annum for the country. "The saving would be doubled by December 2022 as the mine would expand from 3.8 mtpa to 7.6 mtpa," the minister added.

## Indeed Allah is the Best Planner!!

THERE IS A REASON FOR EVERYTHING

**A**fter the attacks of September 11, a company that had its offices at the World Trade Center invited its executives and employees who had for some reason survived the attack to share their experiences.

People were alive for the smallest reasons were small details like these:

- \_ The director of a company was late because it was his son's first kindergarten day;
- \_ A woman was delayed because her alarm clock didn't ring in time;
- \_ One was late because he was stuck on the road where there was an accident;
- \_ Another survivor missed the bus;
- \_ Someone threw food on themselves and needed the time to change;
- \_ One had a problem with his car, which did not start;
- \_ Another one returned to answer the phone;
- \_ Another one had a baby!
- \_ Another didn't get a taxi.
- \_ But the story that impressed the most was that of a man who put on a new pair of shoes that morning, and before he got to work he had a blister. He stopped at the pharmacy for a band aid and that's why



- \_ when I return to answering a phone;
- And many other things that desparate me, I think first:  
This is the exact place you should be right now ^...
- Next time your morning seems crazy, the kids take time to get dressed, don't find the car keys, find all the red lights...- don't get angry or frustrated.

YOU ARE IN THE RIGHT PLACE...  
AT THE EXACT TIME



# Tidal energy can meet Karachi's 25pc electricity need

Creeks in Indus Delta have potential to generate 727MW: moot told

◆ M Waqar Bhatti ◆

**A**t least 25 per cent of Karachi's electricity needs can be met by tapping the tidal energy potential along the Indus Delta, especially in the creeks around Port Bin Qasim.

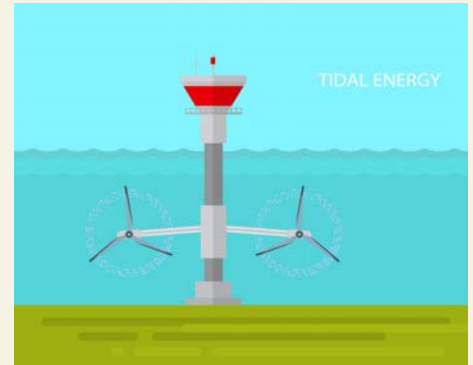
This was said by experts from the National Institute of Oceanography (NIO), University of Karachi (KU) and COMSATS University Islamabad at a seminar titled 'Assessment of Tidal Energy Potential along Indus Delta' organised by the NIO.

The event was told that creeks in the

Indus Delta had the potential to generate around 697 to 727MW of power. Speakers said that around 25 per cent of the total energy requirement of Karachi could be met by producing clean power through tidal energy by just one-time investment. These experts, however, did not elaborate the expected cost of per megawatt electricity through tidal energy.

Presenting the findings of his study, Dr Ibrahim Zia from the NIO said many countries of the world were producing electricity with the help of tidal waves in their creeks such as France, South Korea and China, whereas, India had recently completed a study on it.

He added that there was a potential for generating around 727MWs of electricity at



least from four creeks in the Indus Delta near Karachi. "Now advanced technology is available and highly efficient turbines are capable for converting 65 per cent of the tidal energy into electricity. Hundreds of turbines can be installed in these creeks to generate power," Dr Zia. Dr Imran Shahzad from the COMSATS University Islamabad was of the opinion that 697.2 MWs of electricity could be generated in the Indus Delta by using advanced technology and added that this could require only one-time investment, which would produce energy for many years to come.

## ECC approves Rs133bn for K-Electric, IPPs

**F**Undecided whether to pass on to consumers or absorb Rs90 billion outstanding cost of electricity consumed by Karachi residents five years ago, the Economic Coordination Committee (ECC) of the cabinet has approved charging 57 paise per unit recent quarterly adjustments in July, August and September.

Presided over by Finance Minister Miftah Ismail, the ECC also approved a total of Rs177bn supplementary grants, including the payment of Rs37bn to K-Electric for the tariff differential subsidy (TDS) and Rs96bn to 11 independent power producers (IPPs) set up under the 2002 power policy as the second instalment of the committed payments under the 2021 renegotiated agreements.

"The ECC approved tariff rationalisation for K-Electric by way of adjustments of increase Rs0.571 per unit with a recovery period of three months," said an official announcement. This increase in tariff is on account of quarterly adjustments for July-September 2021. ■

*Courtesy Dawn*

## Sindh plans floating solar power plant on lake

Project will generate 500MW electricity after completion within two years



**S**indh Energy Minister Imtiaz Ahmed Sheikh said that country's first floating solar power project of 500MW would be launched soon on Keenjhar Lake for which the Letter of Intent (LoI) has been issued.

"Work on the feasibility report of the project is in full swing and it is hoped that the project will start generating electricity in two years after going through the approval stages," he said. The Sindh energy minister continued that Go Company, working on the project, is expected to invest \$400 million in the project which would start generating electricity in the

next two years.

The energy minister said this while talking to the officials of power companies in his office.

He said that this first and unique floating solar power plant project of its kind in Pakistan would not only provide 500MW of environmentally friendly electricity but would also create employment opportunities in the province and will promote tourism at Keenjhar Lake and help in minimising the load shedding, he added.

"This 500MW eco-friendly power project is another milestone of the achievements made by the Sindh government," he added. ■

# Why new oil, gas discoveries are 'mere drops in the ocean'

— Kazim Alam —

**O**il and gas discoveries by exploration and production (E&P) companies have become more frequent of late, but we have yet to see them translating into something meaningful.

The Oil and Gas Development Company Ltd (OGDC) announced last week that its drill test in a Tando Allah Yar field tested 1,400 barrels of oil per day (bpd) and 5.02 million cubic feet of gas per day (mmcf). It was followed by Mari Petroleum Company Ltd (MPCL), which announced the discovery of gas and condensate in North Waziristan with a flow of 50mmcf and 300bpd, respectively.

But how meaningful are these numbers in the larger context? Apparently, not a lot. Despite small discoveries here and there, the country's oil and gas production has remained in consistent decline.

According to the latest Energy Year Book published by the Ministry of Energy, the average production of crude went down for five years by an annual average of four per cent to 76,739bpd in 2019-20. Similarly, natural gas production has been decreasing for five years at an annualised rate of 2.2pc. It was 3,597mmcf in 2019-20.

"Our discovery size is very small compared with the international standard. We had a few big discoveries like Sui and Mari back in the 1950s, but there's been nothing

significant since then. Even Qadirpur (in Sindh) is mid-sized," said Muhammad Azfer Naseem, CEO of Alpha Capital Ltd, a Karachi-based brokerage and advisory firm.

Data compiled by AKD Securities shows oil reserves held by Pakistan Petroleum Ltd (PPL), OGDC and Pakistan Oilfields Ltd (POL) went down 24pc, 14pc and 28pc, respectively, on an annual basis. Only MPCL showed a 7pc increase in its oil reserves.

As for gas reserves, OGDC, MPCL and POL reported an annual decline of 4pc, 4pc and 5pc, respectively. Only PPL managed to increase its gas reserves by 1pc year-on-year. As a result, the country's total hydrocarbon reserves have a life of 15 years.

The average size of discoveries is expected to go down further with the passage of time. The most attractive prospects within a new field are always drilled first in the hope of a big discovery. Accordingly, the discovery size tends to go down as the drilling density goes up.

A game changer may emerge from the unexplored frontier basin. The largest province of Pakistan in terms of area has an extremely low drilling density, thanks to poor law and order and a lack of road and pipeline infrastructure. Analysts see the recent discovery of gas in Margand promising, with production possibly going up from 30mmcf to 250mmcf if the field is developed properly. ■

*Courtesy: Dawn*



## To boost science and technology PAEC chief seeks world cooperation

**P**akistan Atomic Energy Commission (PAEC) Chairman Dr Raja Ali Raza has emphasised the need for maximising international cooperation in all spheres of science and technology, saying building bridges to the world's scientific community will help transform the country into a developed society.



Speaking at the annual event 'International Nathiagali Summer College on Physics and Contemporary Needs', the PAEC chairman said the increasing level of interaction with foreign research and development institutions will lead to acceleration in the process of transforming Pakistan into a dynamic hub for science and technology.

In this regard, he mentioned the ongoing cooperation with the European Organisation for Nuclear Research (CERN), Abdus Salam International Centre for Theoretical Physics (AS-ICTP), the International Atomic Energy Agency (IAEA), Institute of High Energy Physics (IHEP), and the Synchrotron-Light for Experimental Science and Applications in the Middle East (SESAME).

The PAEC chairman expressed the hope that collaboration with these institutes would continue to grow for the nation's benefit and foster the growth of science and technology. Dr Raza urged the youth to pursue scientific knowledge to become useful, productive and rational citizens of a modern Pakistan.

The PAEC, he added, is engaged in multi-disciplinary programmes. About electricity generation, Dr Raza said four nuclear power plants at Chashma were contributing 1330MW and two power plants in Karachi were providing 2200MW to the national grid.

In the health sector, he said, 19 nuclear medical centres were providing state-of-the-art nuclear techniques for diagnostics and treatment of cancer to about 80 per cent of reported cancer patients in Pakistan. Existing cancer hospitals are being upgraded and new state-of-the-art equipment is being installed. In the field of agriculture and biotechnology, the PAEC chief added, over 132 varieties of various crops, including rice, wheat, cotton, sugarcane brassica, moong bean and lentils had been developed. ■





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I look forward to welcoming my fellow ministers to Abu Dhabi and ADIPEC, as well as the global energy industry, with whom UAE shares a common goal of diversifying the energy mix to reach our climate ambitions. The critical discussions that will take place at ADIPEC 2022, around the role of oil and gas in the energy transition, are even more important as we pivot to cleaner forms of energy and reduce our carbon footprint. //

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**Suhail Mohamed Faraj Al Mazrouei**  
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# Winning back the Fund – and the people

Pakistan meets technical needs to exit FATF grey list

◆ Dr Abid Qaiyum Suleri ◆

**T**he good news is that the Financial Action Task Force (FATF) has formally recognized that Pakistan has completed its two action plans covering 34 action items. With this, Pakistan met all technical requirements to exit from the FATF's list (grey list) of countries with serious deficiencies in anti-money laundering (AML) and counterterrorism financing (CTF) framework.

Exit from the 'grey list', after satisfying the onsite visit will be a significant achievement. On top of it, completing all action points will also help in the much-needed resumption of Pakistan's stalled IMF programme, as this was one of the 21 agreed structural benchmarks with the IMF.

The bad news is that the positive development on the FATF front alone will not reduce Pakistan's economic woes. For macro-economic stability and to halt its nosediving exchange rate, Pakistan would have to win back the trust of the IMF.

It must be noted that the previous government deviated from the fiscal side policies it agreed to in the IMF's last review, partly through energy and fuel subsidies. Consequently, the IMF programme was halted. However, it must also be noted that despite the repeated statements of the finance minister about rolling back energy subsidies, the coalition government kept providing these subsidies for almost seven weeks after coming into power, widening the trust deficit between the government and the IMF.

The coalition government was asked to complete three prior actions for getting the IMF's next tranche: remove all energy subsidies and levy petroleum development levy; reform (increase) personal income tax (PIT); and avoid the practice of issuing new preferential tax treatments or exemptions.

The fuel subsidies have been removed in three phases, and an increase in electricity and gas tariffs is on the cards. The remaining measures were to be taken in the federal budget for FY23. However, contrary to its commitments to the IMF, the government took the opposite measures in the budget. It proposed relaxations in PIT, tax holidays/reduced taxes

for certain sectors, and GST exemptions for sectors like agricultural equipment, seed, solar panels, etc.

There is nothing wrong with the relief measures proposed by the government in the budget, provided it had or could generate the revenue to fund them, and revenue generation is the most challenging part. Let me explain why:

The difference between income and expenditure in the budget stands at Rs4,598 billion. The fiscal gap would increase further as (like always) the income is overstated, and the expenditures are understated. Rs800 billion is estimated in the budget as provincial surplus, Rs200 billion as Gas Infrastructure Development Cess, and Rs750 billion as petroleum development levy. The estimated revenue from these three heads – Rs1.75 trillion – is overstated by at least one trillion rupees. The IMF found the budget numbers neither clear nor credible and asked Pakistan to compensate for this shortfall through increased tax revenue and controlling current expenditures (revision in budget numbers before parliament passes it).

There is a growing consensus now that to avoid a balance of payments crisis, Pakistan needs to shift from consumption and import-driven growth and build foreign currency reserves (which are barely sufficient for 5-6 weeks of our imports now). The IMF advises that in the medium-to-long run, we should bring structural changes in the quality of our growth. In the short run, it asks Pakistan to follow a prudent monetary policy stance with positive real interest rates, focus on foreign currency reserve building, and stop the central bank's forex interventions to stabilize the exchange rate artificially. According to the Fund, negative interest rates, and an overvalued rupee ultimately leads to a balance of payment crisis.

The IMF also advises cutting current expenditures and stepping up social safety nets by broadening population coverage under the Benazir Income Support Program (BISP). It also suggests increasing educational transfers, advancing structural reforms, improving the state-owned enterprises' governance and business climate, and stepping up to the challenges posed by climate change.

Almost all of the IMF's recommendations



are valid. The Fund has been giving such suggestions in all its 22 programmes that Pakistan has availed. However, there is a twist in the story: in the past 22 programmes, our successive governments, none of which went to the IMF on its own choice or politically owned it, breached the commitments made with the Fund. As a result, Pakistan has lost its credibility – hence the demands from the IMF for frontloading and prior actions before releasing any tranche are increasingly increasing.

The incumbent government is revising the budget numbers to address the IMF's queries and concerns before parliament approves it. Stepping up for the required reforms through political courage, persuasion, and policy ingenuity, the government of Pakistan should win back the trust of its development partners and donors – but most importantly, it should win back the trust of its people.

Amidst the 'triple C' (Covid, Conflict, Climate change) crisis, the IMF is clear that budget disciplines are important but not at the cost of targeted subsidies for the poor and downtrodden segments of society. All that governments like ours need to do is prioritize spending to prove that the fiscal deficit they are accruing is due to their pro-poor expenditures. ■

*The writer heads the Sustainable Development Policy Institute. He tweets @abidsuleri*





# Energy sector turns largest bank defaulter

SBP report says non-performing loans rise 3.8% in 2021

— Salman Siddiqui —

Pakistan's energy sector continued to remain the largest defaulter in the repayment of loans to banks in calendar year 2021, as banks' non-performing loans (NPLs) increased 3.8% (or Rs31 billion) during the year.

"Sector-wise analysis indicates that the rise in overall NPLs (the loans which corporate and individuals fail to repay on time) and flow was mainly driven by the energy sector, which observed an increase in NPLs of Rs20 billion during the reviewed year," the State Bank of Pakistan (SBP) said in its latest Financial Stability Review 2021.

To recall, energy prices had remained on lower side in 2021 due to partial closure of the world to fight against the then Covid-19 pandemic. Accordingly, the profit margins of energy firms including oil and gas exploration and marketing companies had dipped in the year, it was learnt.

The energy prices, however, increased significantly in the current calendar year 2022. The spike is expected to have improved their profit margins during the year. Also, one-third rise in NPLs was contributed by increase in rupee value of overseas NPLs which primarily rose due to depreciation in exchange rate. "Rupee depreciated against US dollar by 9.4% during calendar year 2021."

Electronic applies were also among those failed to repay debt on time to banks in 2021. The pace of growth in NPLs for sugar sector, however, slowed down significantly, according to the report.

On the other hand, textiles and agri-business sector managed to retire their debt in pending during the year. "Textiles and agribusiness observed highest contraction in NPLs. Robust performance maintained by the textile sector during CY21 explains healthy asset quality dynamics...Textiles exports increased by 32.4% during CY21."

NPLs in agri-business sector, unlike previous year, contracted primarily owing to compliance to SBP regulations and better recovery efforts. "Surge in (corporations') profitability translated into improved repayment



capacity of the corporate sector."

Persistently low interest rates until September 20, 2021 remained one of the key drivers to boost economic activity. Resultantly, the latest available statistics show that corporate sector's earnings (after tax) sharply rose by 46.5% during CY21 (year-on-year basis).

Credit risk of the banking sector, however, largely remained muted during 2021. "Stock of NPLs increased by 3.8% as compared to 8.9% in CY20. Over the past three years, NPLs have observed persistent deceleration," the central bank said in the report.

Cement sector remains a significant borrower of the banking industry. During CY21, this sector posted growth in profitability and operational performance. The fiscal year ended up with healthy growth as the government incentivized the construction activity to revive the economy thus increasing the demand for cement, the central bank said.

"However, demand remained relatively low in the second half of CY21 due to slowdown in construction activities on the back of higher input cost and cut of Rs300 billion in Public Sector Development Program (PSDP) amid the government's drive to seek fiscal consolidation in the wake of emerging imbalances." Banks are known for lending money to

corporations and individuals; however, their reliance on borrowing from the central bank and from among themselves surged significantly in the under review year.

"Banks' (net) borrowings rose by Rs1.5 trillion during CY21 reflecting the necessary funding needed to support the balance sheet expansion. More than 50% borrowings pertained to SBP. In addition to the repo and OMO borrowings, increased borrowings from SBP illustrated the impact of TERF (temporary economic refinance facility) funding," SBP said.

The central bank had launched subsidized loan scheme called TERF for businesses to set up new production lines and/or expand the existing ones in March 2020. The scheme was launched help businesses to continue implementing their investment decisions during Covid-19 pandemic that otherwise impossible. Commercial banks disbursed Rs436 billion to businesses for new investments under the time-barred scheme TERF. ■

Courtesy: Express Tribune

# Govt asked to consider green energy options

—◆— EU Report —◆—

**P**akistan is facing severe natural gas shortage over the last few years and is growing its dependence on liquefied natural gas (LNG).

The government needs to explore alternative energy sources to save the environment as well as spending on LNG imports. It should consider transitioning to green energy options like solar and wind that can provide cheap and environment-friendly energy sources to the consumers.

These were the findings of two reports “Gas Monitor – Pakistan” and “Tabeer LNG Terminal, Socio-Economic and Environmental Analysis”, launched on Friday by a civil society

organisation – the Indus Consortium.

The event was attended by the academics, independent researchers, renewable energy supporters and others. These reports highlight Pakistan’s gas sector and investigate the green initiatives underscoring core social responsibility of the government and civil society.

University of Sindh Jamshoro Centre for Environmental Sciences Director Dr Amanullah Mahar said LNG being fossil gas was a very high carbon-intensive fuel and could not be called the “transition fuel source” to a cleaner energy system.

“Fossil gas (methane) may be leaked from re-gasification, transport, consumption and processing. It is the second most abundant

anthropogenic greenhouse gas after carbon dioxide and responsible for 20% of worldwide atmospheric emissions. It is 25 times more potent than CO<sub>2</sub> as the atmospheric heat absorber,” he explained.

Independent sustainability consultant Fatima Fasih pointed out that by looking at the global LNG markets and their volatility, it was clear that LNG was no longer a financially viable source of fuel.

“Instead of focusing on short-term monetary gains and quick gains for the economy, the public and private institutions should focus on building stronger energy security within Pakistan and develop a greener economy through an equitable transition towards renewable energy. ■



**PSO has achieved yet another milestone by enhancing its storage infrastructure and adding motor gasoline and diesel tanks at the company’s Machike Terminal having capacities of 19,800 MTs & 22,500 MTs respectively. This terminal is of strategic geographical importance, providing fuel to more than 300 PSO retail outlets in northern Punjab and suburban areas i.e. Sheikhpura, Lahore, Gujranwala etc.**

## CMEC to commission power plant unit

China Machinery Engineering Corp (CMEC) has successfully concluded a seven-day long reliability test run of the first unit of the 1,263 megawatt thermal power plant in Jhang district of Punjab province.

The 400 MWs Gas Turbine 1 will start commercial operation on July 6 after some heat and cooling-related tests on stopped machines, an official said. The plant also successfully went through the initial capacity test and achieved 403 MWs capacity against a guarantee of 400 MWs, the official said. The unit has already been connected to the national grid, he added.

# PEDO to increase cheap electricity

Pakhtunkhwa Energy Development Organization (PEDO), a subsidiary of Department of Energy and Power KP, is working hard to generate affordable hydropower in the province. It is the largest revenue generating agency with annual revenue of over Rs5 billion, which is currently generating 161MW of cheap electricity that will be increased to 224MW next year, according to an official communiqué.

In this regard, the annual revenue is expected to increase from about Rs5 billion to Rs10 billion. New employment opportunities

are being created in the province for the development of the industrial sector by generating cheap electricity through the wheeling model and selling it at cheap rates.

Syed Imtiaz Hussain Shah addressed the review meeting on ongoing energy projects of PEDO. It was mentioned that after the successful transfer of the CM House and Secretariat, as well as civil secretariat, to the solar system, additional power generation through net metering is saving millions of rupees in terms of electricity bills.

In the province, 4440 mosques, 8000 schools and 187 basic health units (BHUs) are also being shifted to the solar system while 13 solar mini-grids are being constructed to promote commercial activities in newly merged districts.

In addition to this, 302 mini micro-hydel stations have been completed in the backward areas of the province that are deprived of the blessings of electricity. About 29MW of cheap electricity is being provided to the poor people at the village level.



# Two IPPs oppose amendments to ITO 2001

— Mushtaq Ghumman —

The Orient Power Company Limited and the Saif Power have opposed some amendments to the Income Tax Ordinance (ITO) 2001, which may hit incentives available to Independent Power Producers (IPPs), increase circular debt in power sector, further tighten liquidity for the power companies and power purchaser, and lead to net

negative revenue for GoP.

This apprehension was conveyed by CEO Orient Power Company Limited, Kashif Bashir Ran, and Sohail H Hydari of Saif Power in different letters to Managing Director PPIB, Shah Jahan Mirza. The wording of both letters is same in which the companies said they entered into Power Purchase Agreement (PPA) on November 8, 2006, as amended from time to time and Implementation Agreement (IA) November 10, 2006 as amended from time to time. Tariff of the company has been determined by National

Electric Power Regulatory Authority (NEPRA). The PPA, IA and tariff are for a term of 30 years from Commercial Operation Date (COD), as extended in accordance with the terms of PPA and/ or IA.

According to the company, PPA of the company has already been extended by over six months pursuant to PPA Amendment on February 11, 2021. The company maintains that certain changes have been proposed in the Finance Bill 2022 that are relevant to it and the IPPs. ■

*Courtesy Business Recorder*

## IMF reaches agreement with Pakistan for \$1,177m loan

The International Monetary Fund (IMF) has reached staff-level agreement on the combined seventh and eight reviews for Pakistan's Extended Fund Facility, however the agreement is subject to approval by the IMF's Executive Board following which about \$1,177 million loan will become available for Pakistan, bringing total disbursements under the program to about \$4.2 billion. According to a statement issued by IMF, high international prices, and a delayed policy action worsened Pakistan's fiscal and external positions in FY22, leading to a significant exchange rate depreciation, and eroded foreign reserves. The immediate priority is to stabilize the economy through the steadfast implementation of the recently approved budget for FY23, continued adherence to a market-determined exchange rate, and a proactive and prudent monetary policy. It is important to expand social safety to protect the most vulnerable, and accelerate structural reforms including to improve the performance of state-owned enterprises (SOEs) and governance. Additionally, in order to support program implementation and meet the higher financing needs in FY23, as well as catalyze additional financing, the IMF Board will consider an extension of the Extended Fund Facility until end-June 2023 that that will bring the total access under the loan to about US\$7 billion. Pakistan is at a challenging economic juncture. A difficult external environment combined with procyclical domestic policies fueled domestic demand to unsustainable levels. The resultant economic overheating led to large fiscal and external deficits in FY22, contributed to rising inflation, and eroded reserve buffers. To stabilize the economy and bring policy actions in line with the IMF-supported program, while protecting the vulnerable, policy priorities. The budget aims to reduce the government's large borrowing needs by targeting an underlying primary surplus of 0.4 percent of GDP, underpinned by current spending restraint and broad revenue mobilization efforts focused particularly on higher income taxpayers. Development spending will be protected, and fiscal space will be created for expanding social support schemes. The provinces have agreed to support the federal government's efforts to reach the fiscal targets, and Memoranda of Understanding have been signed by each provincial government to this effect.

## CPEC's Karot Hydropower Plant put into 'full commercial operation'



Project serves as a bridge of friendship between China and Pakistan, says Chinese official

Karot Hydropower Plant, the first hydropower investment project under the China-Pakistan Economic Corridor (CPEC), was put into full commercial operations. Speaking at a ceremony held at the plant for announcing the commercial operations of the project, Wu Shengliang, chairman of the China Three Gorges International Corporation, said the project serves as a bridge of friendship between China and Pakistan. The start of commercial operations was the latest outcome of the construction of energy projects under CPEC, he said, adding the project provided quality and affordable green energy to support economic growth in Pakistan.

Located 55km away from Islamabad, the project is constructed by the China Three Gorges Corporation, with an installed capacity of 720,000 kilowatts. The plant will reduce 3.5 million tonnes of carbon emissions per year, and meet the power demand of about 5 million people, according to a handout by the project. Earlier, Chinese Foreign Ministry spokesperson Zhao Lijian had remarked that the project would not only meet the electricity needs of around 5 million local residents, it will also improve Pakistan's energy structure.

# Bahria Town Karachi succeeds in accumulating 167 million gallons in 12 mini dams

Bahria Town Karachi has succeeded in accumulating and storing rain water during this spell of monsoon rains. With total capacity of 167.6 million gallons, these 12 mini dams which were built in 2019 all around Bahria Town Karachi have successfully accumulated rainwater to its full capacity.

Rain water is harvested by taking it to the dams by using a complex water drainage system. One can easily assess the effectiveness of this drainage system by looking at the fact that Bahria Town Karachi succeeded in accumulating such a huge reservoir of rain water by effectively saving each and every drop of a few days of raining spell. Moreover, excess in natural water ways is also collected hence effectively reducing the chances of flooding and saving



villages from damages caused by floods and saving millions of gallons of water from emptying into the sea. Bahria Town Karachi use these



water reserves for its horticultural needs and in construction process while conserving fresh drinking water.



## Indus Motors Partners with The ChildLife Foundation for a Child-Safe Pakistan

Indus Motor Company (IMC) joined hands with The ChildLife Foundation, pledging its support with a Rs 6.50 million donation, towards establishing the ChildLife Resuscitation Room - equipped with cutting-edge life-saving medical equipment - at the Children's ER (Emergency Room) at the Pakistan Institute of Medical Sciences (PIMS), Islamabad. In addition, this Resuscitation Room will also provide Telemedicine support through its Telemedicine Control Room at the Ruth Pfau Civil Hospital, Karachi. The facility is set to be operational in August 2022. The cheque was presented by IMCs Head of CSR and Media Management, Asad Abdullah to CEO, ChildLife Foundation, Ahson Rabbani at the Foundation's corporate office at Karachi. ChildLife provides life-saving treatment to more than 1 million children annually - free of cost. It manages 24x7 Children Emergency Rooms & Telemedicine Satellite Centers in 75+ public sector hospitals across Pakistan, in partnership with the government.

## Special logo 'Azm Aali Shan, Shad Rahey Pakistan' launched



عزم عالی شان شاد رہے پاکستان

Minister for Information and Broadcasting Marriyum Aurangzeb has announced that on the occasion of the completion of 75 years of creation of Pakistan, as part of Diamond Jubilee celebrations, a special 'Logo' has been launched under the title "Azm Aali Shan, Shad Rahey Pakistan".

In a tweet, she said that it was manifestation of the love for Pakistan and renewal of the determination with which brave and great forefathers and martyrs-built Pakistan.

"With the same determination, we will make it economically strong and self-sufficient, a welfare state and invincible in terms of defence in order to achieve the real goals of the establishment of Pakistan and bring facilities in the lives of the people as was envisioned by Muslims of the subcontinent," she said.

The minister said that with the vision of economic self-reliance, the youth of Pakistan would truly become the architects of the nation, reaping the fruits of national development. She said that the youth would be at the forefront of education, employment, business and all walks of life and become decision makers.

Addressing Quaid-e-Azam University ranking celebration ceremony here, the minister said that, however, there was need to prepare curriculum with futuristic approach for skill and human resource development to meet future requirements at the global level.



# 'Import expensive fuel or brave long outages'

—◆— Khaleeq Kiani —◆—

**W**hile finalising an unprecedented Rs7.90 per unit additional fuel cost adjustment (FCA) for distribution companies (Discos) for next month, the National Electric Power Regulatory Authority (Nepra) noted that Pakistan was left with no choice but to face loadshedding or generate electricity using expensive fuel oil.

At a public hearing on a petition for a Rs7.96 per unit increase in FCA for electricity consumed in May, Chairman Nepra Tauseef H Farooqui, who presided over the event, said though a formal notification would be issued later after verification of evidence, the minimum increase in FCA would be about Rs7.90 per unit for ex-Wapda Discos with a financial impact of Rs113bn during the upcoming billing month (July).

The Central Power Purchasing Agency (CPPA), on behalf of all ex-Wapda Discos

had sought about 134pc increase in their fuel price adjustment at the rate of Rs7.9647 per unit (kwh) for electricity sold in May. It said consumers were charged a reference fuel cost of Rs5.932 per unit in May, but the actual cost turned out to be Rs13.90 per unit, hence an additional charge of about Rs7.96 to consumers.

The regulator, however, finalised Rs7.90 per unit of additional FCA after minor disallowances. Responding to questions over expensive power generation, the CPPA officials explained that fuel prices had gone up by almost three times. They said the LNG was not available in the market as it was being picked by the European nations with deep pockets and even if an LNG cargo could be found, it was costing close to \$42 per mmbtu, which was not in the interest of the consumers.

The higher electricity rates would be charged to all consumers in the coming billing month (July), except to those using fewer than 50 units per month. This tariff is not applicable to KE consumers directly, although a part of it subsequently becomes part of KE's tariff adjustments on account of its import from the national grid.

The hearing was told that almost 54pc of power generation came from cheaper domestic resources with static prices. Data showed that the share of domestic fuel sources in overall power generation improved to a robust 54pc in May when compared to 50.58pc in April and 45pc in March. The share of hydropower supply in the overall basket improved to 24.5pc in May, from 18.55pc in April and 16.35pc in March. Hydropower has no fuel cost.

The share of nuclear power dropped significantly to about 13pc in May, against 17.4pc in April, mainly because of maintenance of one of its large plants. Yet, nuclear power maintained its second place among domestic fuels.

The second biggest contribution to the overall power supply of about 23pc came from

imported RLNG in May, against 19.4pc in April and March. The share of domestic gas in power generation slightly increased to 10pc in May from 9.85pc in April.

The share of coal-based power plants came down to 13.8pc in May from 16.74pc in April and 25pc in March because of low coal stocks amid the financial limitations of power producers and higher global prices. Coal-fired generation provided 33pc and 32pc of total power supply in January and February, respectively. The cost of power generation from domestic gas increased to Rs10.12 per unit in May compared to Rs8.4 per unit in April and Rs7.75 per unit in March. ■

*Courtesy: Dawn*

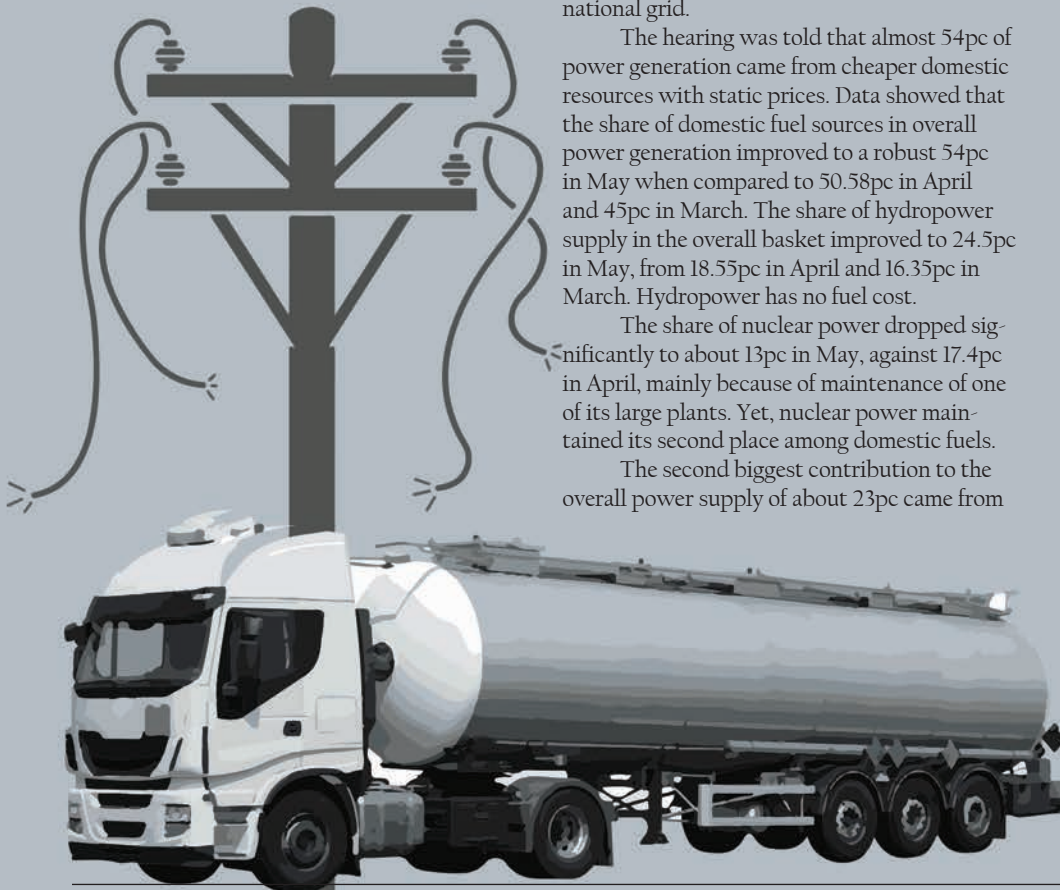
## CDWP approves power line for Gwadar

—◆— EU Report —◆—

The Central Development Working Party (CDWP) has approved a 132KV transmission line from Jiwani to Gwadar. The CDWP meeting was convened under the chairmanship of Secretary Planning Syed Zafar Ali Shah, which approved 13 projects including the 132kV line for Gwadar worth Rs34.8 billion.

As per details, the project namely the Construction of 2nd Circuit Stringing of 132KV, transmission line from Jiwani to Gwadar (94km), will be completed with Rs2,322.940 million. The 2nd Circuit Stringing of 132KV will be financed through the Public Sector Development Programme (PSDP).

In the FY 2022-23 budget, the government has earmarked Rs83,101.262 million for various ongoing and new schemes in the power sector. PSDP is an important policy instrument aiming to achieve sustainable economic growth and socio-economic objectives of the government. Gwadar relies on imported electricity from Iran and with the construction of the 132KV line, the port city will be connected to the National Grid for the first time. ■





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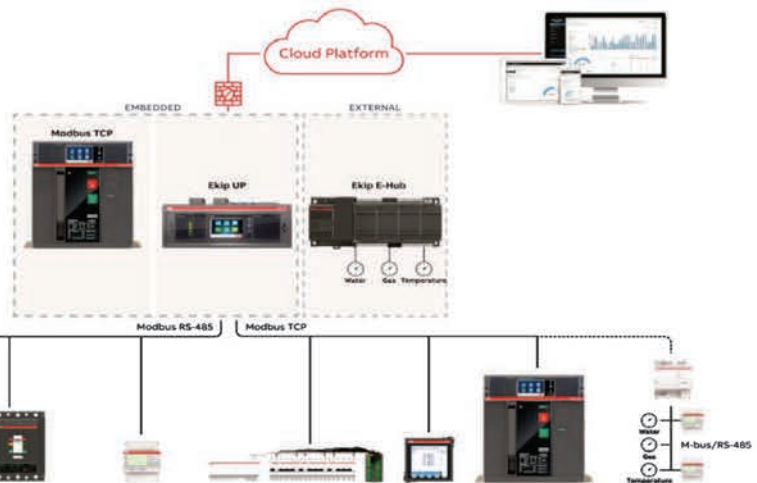


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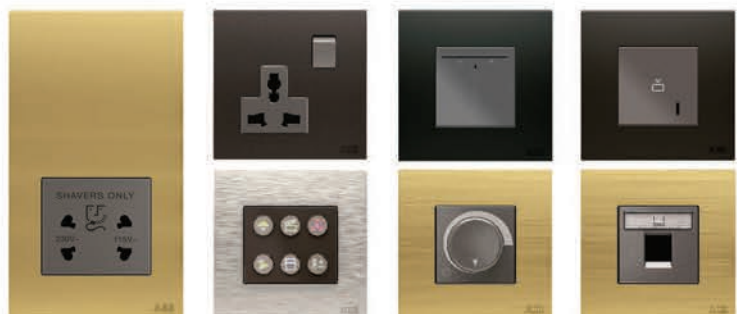
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