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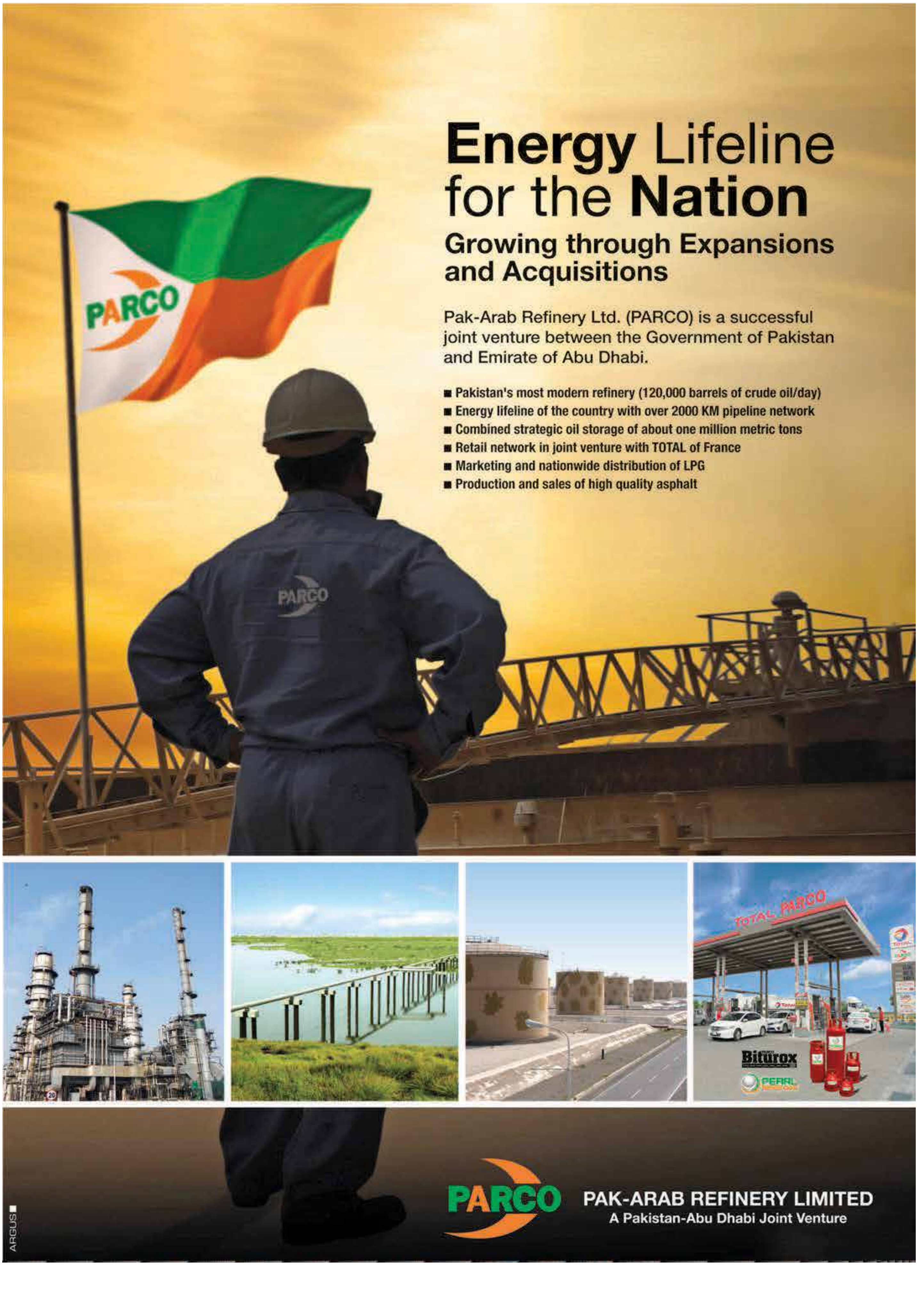
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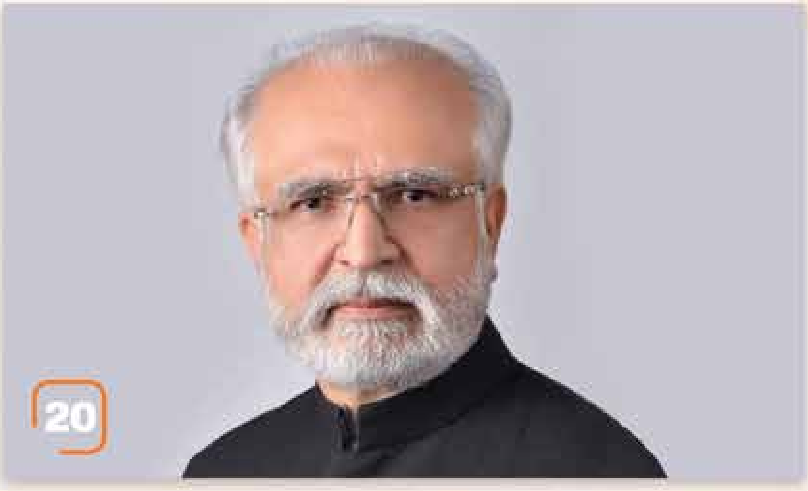

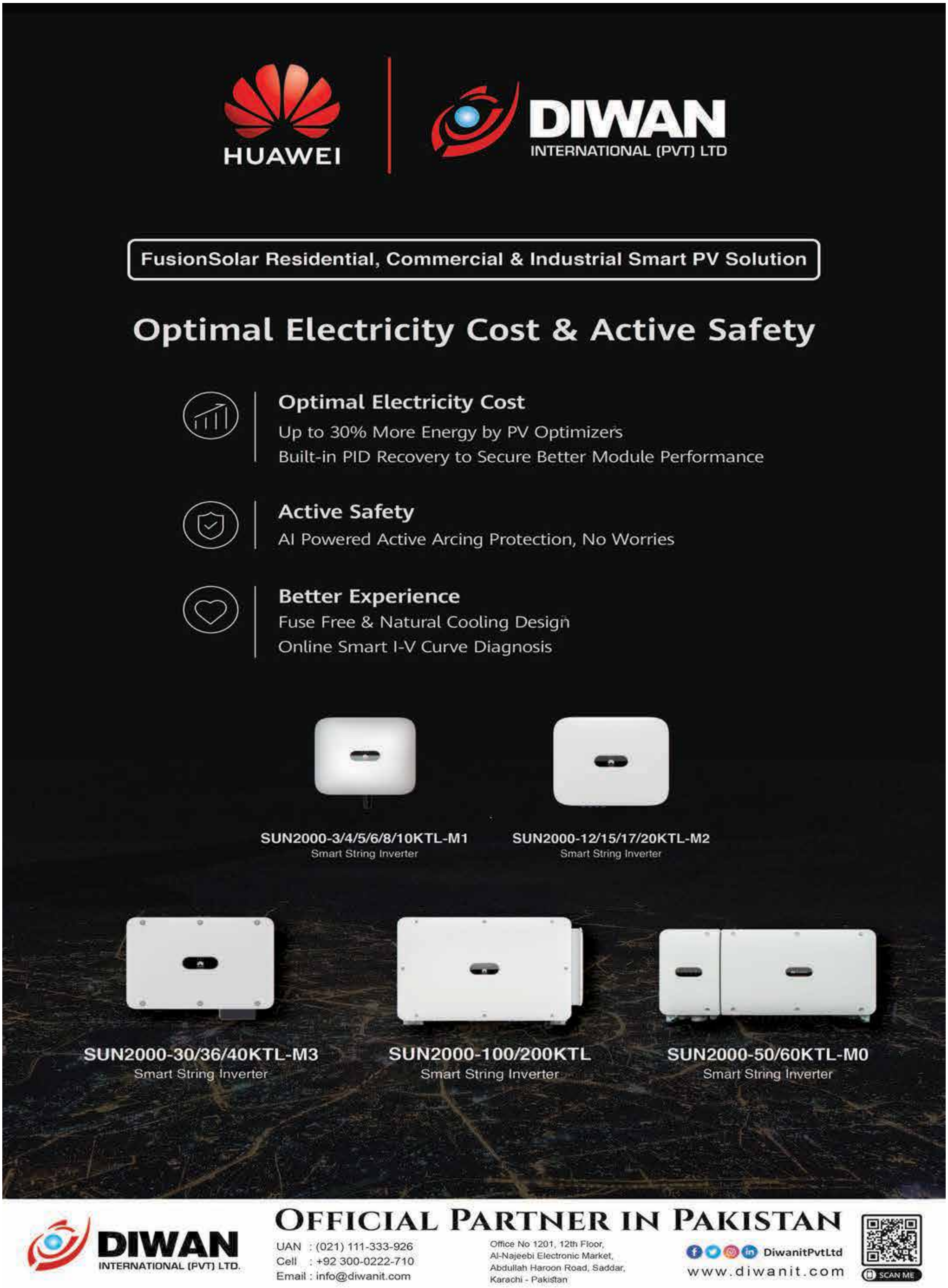
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SCAN ME

FROM THE EDITOR'S DESK...

Price hike spins out of control

Despite reduction in petroleum products' price by Rs10 per litre and electricity tariff by Rs5 per unit, price hike in the country, particularly mega city Karachi, still goes uncontrolled, posing serious threat to fragile national economy and badly affecting social and business life.

It is amazing that PM Imran Khan announced Rs5 per unit cut in power tariff this month, but NEPRA rose power tariff by Rs5.94 per unit on March 10, contradicting the PM's relief announcement. This act seems to be negativity of PM's decision and deceit to people.

The situation has turned so worst that shopkeepers, vendors, milk sellers and other retailers are continuously raising prices of essential commodities on their will. This all is because of the fact that price control authorities are not taking action against profiteers while at government level, IMF-dictated policies are being implemented to raise prices of power, gas and other commodities.

The most severe effect of inflation is on the country's foreign loans and public as lion's share of our budget goes to foreign lenders - World Bank, International Monetary Fund (IMF) and Asian Development Bank in loan repayments- while people continue to suffer from the torments of skyrocketing price hike.

The commodity prices have continuously risen at their fastest rate since the PTI-led government took over the country. Ghee and cooking oil prices raised by Rs12 per kg in Feb 2022. Again on March 17, ghee prices were increased by Rs8 before.

Furthermore, the rupee weakened to an all-time low against the US dollar at Rs179.44 in the inter-bank market on March 16.

As per latest report of Pakistan Bureau of Statistics of March 10, the year on year trend of Sensitive Price Indicator (SPI) depicts an increase of 16.49%, tomatoes (169.79%), LPG (74.78%), garlic (62.44%), mustard oil (56.77%), vegetable ghee 1 kg (46.83%), cooking oil 5 litres (46%), vegetable ghee 2.5kg (43.69%), washing soap (38.87%), pulse masoor (35.73%), petrol (33.42%), beef (25.50%) and diesel (23.75%).

Controlling inflation is one of the main tasks of the federal government while the provincial governments are also responsible to control prices of commodities at taluka, district and divisional levels to provide relief to the people who are worst affected by rising inflation.

The rising inflation has been driven by supply chain disruptions and sales which are also unchecked. There is no check and balance by the price control committees of the provincial governments. It seems that there is no rule of law in this country.

There is dire need to devise effective coping strategies to pull the country out of the worst economic crisis.

The government ought to focus on raising exports and reducing imports. It should establish its own industries for manufacturing computers, mobile phones, cars, buses, coaches and other vehicles because much of the national income goes to foreign countries for purchasing these items. There is also dire need to take opposition on board to stabilize prices of the commodities besides getting rid of IMF dictations about our economy.

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SCAN ME

PAKISTAN ACHIEVING N-POWER CAPACITY MILESTONE

Third plant at Karachi connected to national grid for testing

Engr Hussain Ahmad Siddiqui

This month is marked with Pakistan achieving milestone of 3,635-MWe cumulative nuclear power generation capacity as the third nuclear power plant at Karachi is connected to the national grid for testing that will shortly commence commercial operations.

Commonly known as Kanupp-3 or K-3, it is of 1,145-MWe generation installed capacity and 1,100-MWe net capacity, which had attained criticality last month, and was undergoing safety tests and procedures. Generation cost is about Rs 9.59 per KWh (levelised). The foreign exchange portion of the project, which is about 80 percent of total cost, has been financed through a loan from the China' state-owned The Export-Import Bank of China.

With the addition of K-3 nuclear power plant, currently there are total seven nuclear power plants installed in the country, out of which six, of cumulative installed capacity of 3,635-MWe, are in operation. The first–ever nuclear power plant constructed in the country, Kanupp-1 (K-1), has been permanently shut down. With the commencement of commercial operations of K-3, the share of nuclear energy in overall generation mix from all resources at national level has significantly increased, to over 9.1 percent. This share, which was 1.1 percent in 1990, has gradually and steadily increased in later years to 7.1 percent in 2020, before achieving the present level.

These nuclear power plants, established with technical and economic support of China, are owned and operated by the Pakistan Atomic Energy Commission (PAEC), and regulated by the Pakistan Nuclear Regulatory Authority (PNRA) under the safeguards of the International Atomic Energy Agency (IAEA). These facilities are located only at two sites — Chashma (District Mianwali) and Karachi. There are four nuclear power plants, namely Chasnupp-1 (C-1) of 325-MWe installed capacity, and plants C-2, C-3 and C-4, each of 340-MWe capacity.

These four plants at Chashma were commissioned in the years 2000, 2011, 2016 and 2017, respectively, and their corresponding operating licenses are valid until December 2030, 2026, 2026 and 2027. Pakistan has an impeccable record of safety and security in operating these nuclear power plants, as it follows best practices and standards set by the IAEA. Pakistan is currently ranked 17th out of 25 countries on Nuclear Materials Safety Index in terms of safety, and security and is placed above India.

Karachi Coastal Power Complex consists of two units of 1,145-MWe each installed capacity, known as K-2 and K-3 for which China has provided $6.5 billion loan on soft terms. The earlier unit K-2 was connected to the system of the National Transmission and Despatch Co (NTDC) in May 2021. These are third-generation nuclear power plants developed and tested by the Chinese as “Advanced China Pressurized ACP-1000”. Electricity transmission infrastructure for evacuation of power from these plants include additional 550kv and 220kv transmission lines of 16-km that have recently been completed by the NTDC at a cost of Rs5.6 billion.

Currently, plan for decommissioning process is in hand under the guidance of the IAEA. There are various decommissioning and dismantling strategies that have its own merits and demerits, considering factors such as economic viability, local conditions, and availability of site for re-use. PNRA has thus prepared a decommissioning plan based on the deferred, or “safe enclosure”, dismantling of structures in phases. The nuclear facility will be locked for a period of about 30-50 years, thus ensuring progressive and systematic reduction of radiological hazards.

Expansion of nuclear power capacity has long been a central element of Pakistan energy policy. According to the Energy Security Plan 2005-2030, another five nuclear power plants each of about 1,000-MWe will be constructed by 2030 at sites that have been already identified; achieving a cumulative installed capacity of 8,800-MWe by then. Thus it was planned to increase the existing nuclear power generation capacity to 4,630-MWe by 2024, constructing a 1,100-MWe unit (similar to K-2 and K-3) at Chashma (C-5), but it would be delayed as project construction has not yet started.

Likewise, the planned project of constructing a 1,100-MWe reactor at Muzaffargarh (Taunsa-Punjnad Canal) to be operable by 2025 may not be able to achieve the target timeline. Given self-reliance and growing demand for electricity, Pakistan should accelerate the addition of nuclear power capacity as planned. ■

The writer is retired chairman of State Engineering Corporation

Pakistan, Barrick and Balochistan agree in principle to restart Reko Diq Project

Hammad Azhar praises three state-owned enterprises including OGDCL for shortly arranging US $ 900m standby LC for becoming part of project

Pakistan, Barrick gold and the, and Govt of Balochistan have reached agreement on a framework that provides for the reconstitution of the Reko Diq project in the country's Balochistan province. The project, which was suspended in 2011 due to a dispute over the legality of its licensing process, hosts one of the world's largest undeveloped open pit copper-gold porphyry deposits.

The reconstituted project will be held 50% by Barrick and 50% by Pakistan stakeholders, comprising a 10% free-carried, non-contributing share held by the government of Balochistan, an additional 15% held by a special purpose company owned by the government of Balochistan and 25% owned by other federal state-owned enterprises. A separate agreement provides for Barrick's partner Antofagasta PLC to be replaced in the project by the Pakistani parties.

Barrick will be the operator of the project which will be granted a mining lease, exploration licence, surface rights and a mineral agreement stabilizing the fiscal regime applicable to the project for a specified period. The process to finalize and approve definitive agreements, including the stabilization of the fiscal regime pursuant to the mineral agreement, will be fully transparent and involve the federal and provincial governments, as well as the Supreme Court of Pakistan. If the definitive agreements are executed and the conditions to closing are satisfied, the project will be reconstituted including the resolution of the damages originally awarded by the International Centre for the Settlement of Investment Disputes and disputed in the International Chamber of Commerce.

Barrick's president and chief executive officer Mark Bristow hailed the agreement as an important step towards the development and operation of Reko Diq and a tribute to the decisions of all parties to work towards a mutually beneficial outcome in a spirit of partnership.

"Barrick has successfully partnered with host countries worldwide and our philosophy of sharing the economic benefits our mines generate equitably with core stakeholders is also evident in the ownership structure of the new Reko Diq. This is a unique opportunity for substantial foreign investment in the Balochistan province and will bring enormous direct and indirect benefits not only to this region but also to Pakistan for decades to come.
In addition to local employment and skills development, local procurement, infrastructure upgrades and improved medical and education systems, Reko Diq could also be the springboard for further exploration and other mineral discoveries along the highly prospective Tethyan Metallogenic Belt," he said.
On closing, Barrick will start a full update of the project's 2010 feasibility and 2011 expansion prefeasibility studies, which envisaged a conventional truck-and-shovel open pit operation with comminution and flotation processing facilities producing a high-quality copper-gold concentrate. Bristow said that if all went according to plan, Reko Diq could be in production within five to six years.

ddressing a press conference, after signing the agreement, Federal Energy Minister, Hammad Azhar, said the three subsidiary companies of the Petroleum Division would pay the US $ 900 million or Rs 150 billion to have 25 per cent shareholding in the Reko Diq project. These three Petroleum Division companies are Oil and Gas Development Company Ltd, Pakistan Petroleum Ltd, and Government Holding Private Limited.

The Energy Minister said the share of the Balochistan government in the Reko Diq project had increased from 15 per cent to 25 per cent without paying extra money as payment on its behalf would be paid for the purpose by the federal government and these state-owned enterprises (SOEs).

e hoped that the presence of the biggest mining company in Pakistan that had joined hands with these SOEs would go a long way to attract massive foreign investment to extract the mineral and natural resources of Pakistan. He praised the boards of the three SOEs for arranging a standby letter of credit of US$ 900 million in the shortest possible time to become a part of this historical transaction structure. ■

Shifting to Thar lignite termed good progress

Thar lignite coal producing synthetic natural gas, fertilisers

Syed Akhtar Ali

Pakistan has 180 billion tonnes of lignite coal deposits, which have the potential of firing 1800 power plants of 1000 MW for 30 years or 500 power plants for 100 years. These deposits are more than the combined oil and gas resources of Iran and Saudi Arabia – although I haven't personally verified this claim.

Unfortunately, the world has turned against coal and even gas and oil. Last year, China announced that it would not finance coal-based power plants abroad anymore, although it would continue to do so within its country. What can we do? We do not have enough money or technology. Insensitive and unrealistic targets regarding the adoption of renewable energy have already created instability in the oil, gas and coal markets, resulting in unaffordable high prices; no end appears in sight. Poor countries and the poor are suffering great enormous difficulties, and even people from rich countries are facing financial inconveniences.

We have installed only one or two Thar coal-based small power plants, and a few are in the pipeline, which may not exceed 5000 MW in total. There are three big 1100 MW coal power plants based on imported coal which are draining our foreign exchange reserves even though they are producing relatively cheap electricity. Thar coal had the potential for supplying a significant portion of our energy needs and saving our foreign exchange. Oil and gas resources are also dwindling, and no new resources could have been found in reasonable quantities. Our energy future does not appear to be bright in these circumstances.

But there is some good news as well: identifying the possibilities of making some other high-value products from Thar coal. Besides producing electric power, Thar lignite coal has been producing synthetic natural gas (SNG), fertilisers (urea and others), ammonia and other chemicals. Limitations on coal use will restrict the production of all these products.

Products that will be discussed are those that cannot possibly be restrained from production through coal. Another important aspect is that although lignite coal is considered to be inferior – as it has high moisture and low energy content – recent discoveries suggest that this coal is more useful than other types of coal.

Lignite can be used for making graphite. Researchers in North Dakota recently found out that lignite coal is much more amenable to graphitisation than the more expensive Bituminous and Anthracite coal – these coal types do not lend themselves to graphitisation at all. Graphite is a high-value product used in nuclear power as a neutron moderator, electrodes in arc steel making, electrodes in both conventional and EV batteries, graphite lubricant roads, plates, tubes, etc. The selling price of graphite is around $16,000 per tonne and the price of lignite – used as a raw material – is around $30 per tonne.

Also, lignite coal may contain trace elements called rare earth elements (REEs). Lithium is one of such REEs. Li-ion batteries are the most popular EV batteries whose demand is expected to grow exponentially in the future. Battery-grade LiOH has been trading at $46,000-65,000 per tonne, as compared to $7,000-10,000 per tonne of copper.

At present, only China is supplying lithium, but its lithium resources are not expected to continue for long – unless new resources are discovered. Other countries are also in their exploration phases for this natural resource. It has been found that North Dakota lignite contains up to 500 ppm of lithium, leading to a total of 3,600 tonnes as against the total global production of 70,000 tonnes per year. Thar lignite may not necessarily contain lithium, but since lignite coal's geographical location does not affect its properties, it may be possible that Thar lignite coal contains lithium.

Serious geological studies should be commissioned, possibly involving the geological agencies of North Dakota, which have experience in such research. There are other foreign agencies, especially in China, which may be helpful.

Humic acid and leonardite are well-known. Leonardite is naturally oxidised lignite and rich in humic acid. It is found close to the surface of lignite mines. Humic acid is used as a soil conditioner in agriculture and leonardite is used in oil and gas drilling mud. India is exporting leonardite at $1,400 per tonne. These are final products for markets, and the authorities must pay attention to them.

Pakistan imports 19 million tonnes of coal per year – half of which is likely to be consumed by imported coal power plants – and the other half by cement plants. International coal prices and shipping costs have quadrupled –$400 per tonne as opposed to the previous $80 per tonne. Cheaper imports from Afghanistan and some local production from Balochistan saved Pakistan's cement and construction industries. Afghanistan's coal sector is not integrated with international markets yet and sells its product at much lower prices. It is in the interest of the local cement industry to develop local coal supplies, which would be cheaper and stable.

Thar lignite coal can be used for the production of both high- and low-value products. High-value coal products are required for the production of electrical vehicles, and they are likely to be accepted by the international climate lobby – which may oppose energy products. Let us try out this low-hanging fruit as the windows of opportunity are closing one by one. ■

The writer is a former member of the Energy Planning Commission and author of 'Pakistan's Energy Issues: **Success and Challenges'**

EXCLUSIVE INTERVIEW

OGDCL to help nation overcome energy needs

Syed Khalid Siraj Subhani

Managing Director OGDCL

M. Naeem Qureshi

Energy Update: What reforms and improvements have so far been adopted in OGDCL's strategy to accelerate its core E&P activities to help Pakistan overcome its acute energy shortfall, especially during winters?

Khalid Siraj Subhani: OGDCL has taken steps to enhance production by employing compression projects at Uch/Dhakni/KPD/Nashpa. It intends to enter security sensitive blocks to help the nation overcome its energy needs. We are also trying to diversify our business so that energy requirements of Pakistan can be overcome.

EU: As a leading expert and top professional of energy sector what reforms you would like to suggest for a country like Pakistan for improving its E&P policy and regulatory regime?

KSS: Regulatory regime actually should work as a facilitator to help improve OGDCL enter the security sensitive areas of Baluchistan. There must be a clear long-term policy at least of 20 years so that investors can be attracted.

EU: Given the situation of worsening gas crisis in Pakistan during winter, what should be the ultimate solution for domestic consumers to fulfill their household cooking and heating fuel needs?

KSS: Investments in alternate energy should be made like biomass/biogas/wind energy etc. For example: one ton of municipal waste generates approximately 40m3 of biogas resulting in approximately 20m3 of methane gas. The domestic consumers shouldn't use geysers on gas, but instead, they should use solar geysers like in China every house has solar geysers.

EU: What special measures have been adopted by OGDCL to safeguard environment and workers' safety in relation to its core operational work?

KSS: Floating treatment wetlands plants are being used to treat/neutralize the produced water/drilling waste. Ambient air monitoring of plants and surrounding areas is being carried out on regular basis. Indoor air monitoring at Head Office is also being conducted besides conducting tree plantation campaigns, initial environmental examination and environmental

impact assessments. OGDCL integrated HSE management system covers the safety requirements and reporting requirements related to employees' safety.

EU: Brief us about the salient features and achievements of CSR-related work of OGDCL?
KSS: There are many projects OGDCL has undertaken. It earmarks 01% of its profit amount as CSR fund annually. Some of the projects are as below:

- 54 surgical eye camps & 45 mammography camps (no of beneficiaries approximately 40,000).
- 15 basic state of the art life support ambulances at various DHQs.
- Linear accelerator radiation machine along with allied facilities for Cancer Care Hospital Lahore.
- Scholarships for 878 students of IBA Sukkur (Talent Hunt Program).
- Scholarships for 27 students for Baluchistan & KPK of IBA Karachi (Talent Hunt Program).
- One year internship program (300 internees each year).
- Establishment of 15 non-formal schools through Child Care Foundation for 525 students.
- Installation of 159 solar panels/ lights/RO plants/pressure pumps, and solorization of schools
- Seven water supply schemes in Dera Bugti.
- Supply of clean drinking water through bouzers/tankers to local communities across OGDCL fields
- Plantation as part of 'Clean and Green Pakistan'.
- Free health facilities for locals of the area through 17 social welfare dispensaries.

EU: Share value of global E&P companies have increased internationally due to hike in crude oil price but OGDCL share price has not changed much. Any specific reasons?
KSS: (i) The main reason is the incessant buildup of circular debt. As of 31st December 2021, OGDCL's receivables to the tune of Rs500 billion are stuck-up in circular debt.

(ii) Fast depletion in major mature fields and insufficient reserve replacement.

EU: What are your plans to handle circular debt issues?
KSS: We are constantly in touch with the Government for working out a permanent solution to the issue of rising circular debt in the energy sector. A number of options are being discussed with the Ministry of Energy and Ministry of Finance.

EU: In your opinion, what may be the greatest risk to growth of OGDCL in next 5 to 10 years?
KSS: The following may be the greatest risks or challenges to the growth of OGDCL:

1. Shortage of exploration block inventory.
2. Security situation, particularly in Balochistan and Tribal Areas.
3. Inadequate reserve replacement due to absence of sizeable discoveries.
4. Lack of experienced manpower due to fast retirement of mature population.
5. Dwindling natural supply of hydrocarbons.

PAEC connects 1100MW K-3 nuclear power plant to grid

Pakistan Atomic Energy Commission (PAEC) has connected Karachi Nuclear Power Plant Unit-3 (K-3) to the national grid. The 1,100 megawatts generation capacity nuclear power plant (NPP) had achieved criticality on 21st February and was undergoing certain safety tests and procedures before it could finally be connected to the grid. The plant has been connected to the grid on testing basis and is expected to be inaugurated soon after attaining full power. It is pertinent to mention that K-3's addition to the national grid will surely help reduce electricity tariff in the country. K-3 is one of the two similar NPPs located near Karachi. The other one, named K-2, was inaugurated by Prime Minister of Pakistan, Imran Khan on 21st May last year. The ground breaking of the project was performed on 26th November 2013 and the construction started after getting approval of Pakistan Nuclear Regulatory Authority (PNRA). The fuel loading of the plant started in December 2021 after getting clearance from the PNRA. PAEC is now running six NPPs in the country. Two of them are located in Karachi and are named K-2 and K-3, while four in District Mianwali are named Chashma Nuclear Power Plant Unit 1-4. ■

Petrol pricing: Hope the last option

The government circles have shown surprise over the reaction on the recent petroleum price hike. The merits of the criticism aside and whether Karma is paying the PTI back – the magnitude of increase itself warrants a proportionate reaction. The use of "petrol bomb" will never stop if it has not in more than a decade. Life has come full circle for the ruling party on this front too. What needs to be brought home is the point that petroleum pricing remains a revenue call. The country's perennial fiscal crunch ensures there is never a good time to let go of easy revenue. And no revenue comes easier than petroleum's. In absolute terms, Rs18/liter the government is charging in lieu of Petroleum Levy (PL) pales in comparison to what was being levied for most of 2020 till mid-2021. ■

Kazakhstan to help in energy sector

Kazakhstan has reiterated its resolve to extend all out cooperation to Pakistan to meet its growing energy needs which is indispensable for economic growth. The Kazakh Ambassador to Pakistan, Yerzhan Kistafin, in an exclusive interview said both countries are working to materialize all energy related projects including CASA-1000 and TAPI gas pipeline project. He said that Pakistan would emerge as hub of economic activities in future after completion of CPEC projects and regional connectivity would expedite trade with central Asian republics. The Kazakh Ambassador said both countries were also working to increase bilateral trade volume which was currently less than one billion dollars and major companies of Kazakhstan were keen to invest in diverse sectors of Pakistan. ■

Engaging private sector to tackle climate change

Taha Hashmi

Climate change is arguably the biggest threat the world is facing right now and its effects are all around us. The melting of glaciers and the warming of seawater have pushed global sea levels up by an average of 8 to 9 inches since 1880. Nearly 70% of this increase has occurred in the last three decades, indicating the impact of anthropomorphic activities.

A large chunk of the heat radiated from our planet is being pushed back into the ocean, instead of rising into space, thanks to the increase in greenhouse gas emissions. The global weather, meanwhile, is getting more and more extreme, with frequent droughts, heatwaves, snowstorms, and other similar climatic events.

Climate change is not only affecting animal life but also human prosperity. The rapidly shifting weather patterns are hurting agriculture everywhere while crop yields are facing growing threats from floods, reduction in water supplies, and pests. Meanwhile, the increase in pollution is affecting everyone's health. Pakistan has been hit particularly hard by these factors.

Not only are we facing extreme weather conditions in every corner of the country, the alarming decline in air quality and the emergence of smog in urban centres have also made life difficult for the residents. In several cities, including Karachi and Lahore, the Air Quality Index (AQI) reading, released by the global environmental forum IQAir, persistently stays above the unhealthy range. In Lahore, the metric occasionally rises to alarming highs of more than 500 – a point where even the healthiest of individuals could face respiratory problems.

The good thing, however, is that the PTI-led government has recognized the seriousness of this issue and has taken various steps to tackle climate change. The government first launched the Billion Tree Tsunami program in Khyber Pakhtunkhwa in 2014 at the provincial level and later, in 2019, after the PTI won the general election and formed the national government, the 10 Billion Tree Tsunami project was launched. This will surely go a long way in reversing the adverse effects of climate change.

On the policy front, the government has also taken various initiatives, such as updating the nation's climate action plan - Nationally Determined Contribution (NDC) – which now aims to reduce the country's emissions by 50% by 2030 (15% unconditional cuts in emissions and 35% conditional on the availability of resources).

Although the government is leading the way, the private sector, particularly the leading corporations, will also have to play its part. There are various benefits of engaging the private sector to tackle climate change. First and foremost, this can significantly increase financial resources earmarked for protecting and preserving the environment. Moreover, the authorities can also make use of the private business's technical expertise and capabilities.

In Pakistan, Cnergyico Pk Limited (formerly Byco Petroleum), which is one of Pakistan's largest petroleum companies, is one of the few energy companies that has been actively participating in the environmental initiatives. Mr. Azfar Saeed Baig, Cnergyico's Vice President of Information, said that by working together, "the private and public enterprises can do a better job of mobilizing the civil society and develop innovative solutions to fight climate change."

Cnergyico carries out various kinds of activities under the banner of Corporate Social Responsibility, ranging from preserving marine life to supporting COVID-19 vaccination campaigns. The company has long been a proponent of improving access to clean drinking water, which is in line with the United Nation's Sustainable Development Goals

(Goal number 6: Clean Water and Sanitation). "Polluted and contaminated water is one of the biggest sources of diseases, like diarrhoea and hepatitis A," Mr. Azfar Saeed Baig explained, "but by providing clean drinking water, we can prevent diseases and improve quality of life in our local communities."

Cnergyico has made arrangements to provide clean drinking water to every single family in five villages that surround its oil refining complex in Hub, Balochistan by installing solar-powered RO plants at different locations, thereby serving 12,000 individuals. The company has also partnered with United Nations Development Programme (UNDP) on Water Conservation initiatives at its petrol pump in Quetta by installing a water recycling plant. Moreover, Cnergyico has also taken steps that promote women's empowerment and help in achieving the UN Sustainable Development Goal of achieving gender equality (Goal number 5). The company supports vocational training courses and skill development programmes for women by collaborating with TAF Foundation.

However, "our focus has been on planting trees to aid the government's large scale restoration initiatives and substantially increasing the country's forest cover." The country's forest cover is just around 5%. However, Mr. Azfar Saeed Baig believes that "by planting thousands of trees and working together with the government agencies and civil society, we can play our part in increasing the nation's forest cover to more than the global average of 31%."

Cnergyico was the first major company in Pakistan to start planting trees using the novel Miyawaki Method of afforestation. In 2018, the company sponsored the first Urban Forest Park in Clifton, Karachi, and since then, it has planted thousands of trees in the city as well as near its refinery in Balochistan. Other major corporations have also started following in Cnergyico's footsteps by planting trees across the country using the Miyawaki Method.

The private sector is responding to the government's call and the policymakers should further increase their engagement. Climate change is quickly emerging as an existential threat to everyone. But through effective public-private partnerships, we can mitigate the impact of climate change and prepare a better world for tomorrow. ■

COAL POWER

Unviable power

Gwadar coal-fired power project to continue

Simon Nicholas & Haneea Isaad

The city of Gwadar remains unconnected to the national power grid, and its residents suffer regular power cuts. However, a planned coal-fired power plant is not the best answer to the city's problems.

It has been reported that 300 megawatts (MW) Gwadar coal-fired power project will continue with higher priority. This is despite the prime minister's announcement in December 2020 that Pakistan "will not have any more power based on coal." President Xi also announced that China would no longer construct coal-fired power overseas in September 2021.

On the face of it, this power plant may seem the answer to Gwadar's power problems. Gwadar lies along the southwestern coast of Balochistan, which is not connected to the national grid. It receives its electricity supply through Iran, but that too has been dwindling in recent years as Iran experiences low hydel levels.

Meanwhile, there has been recent local discontent over restriction of economic activities. Access to electricity has among the many demands placed before the government. It is worth remembering that the Gwadar coal power plant hasn't even reached financial close – it is many years away from producing electricity. The people of Gwadar need a much quicker solution.

In addition, the residents of Gwadar don't just need a reliable power supply; they also need that power to be affordable. During his visit to China, the prime minister was reportedly to draw attention to "the exceptional rise in capacity payments because of the near simultaneous arrival of new capacity from projects undertaken under CPEC."

Capacity payments -- which have to be made to power plants whether they are generating electricity or not -- have been growing alarmingly in recent years and are set to continue rising fast as under-construction power plants are completed. The payments are on course to reach $10 billion by 2023.

These payments raise the per unit cost of power generation, which in turn worsens the circular debt crisis, and has led to the IMF insisting on large consumer power tariffs to try and address the problem.

Furthermore, the Gwadar coal plant will be fuelled by imported coal, further exposing Pakistan to volatile fossil fuel prices, especially in the wake of recent global geopolitical tensions amidst the Russia-Ukraine war.

The risk of relying on imported coal is now proving to be very real. Prices were already very high even before the Russian invasion of Ukraine, but they have now spiked significantly as buyers seek alternatives to imports from Russia. Most coal imports into Pakistan come from South Africa where prices have suddenly more than tripled to almost US$400/tonne in early March.

Coal power development in Gwadar would be susceptible to price volatility linked with imported fossil fuels and require significant investment in grid connectivity. A 700km transmission line has been planned from Gwadar to the city of Karachi, but that will take at least 3-4 years to build.

The invasion of Ukraine has led to fossil fuel price and supply issues around the world, demonstrating the vulnerability of power systems dependent on such imports.

It is already looking like one direct consequence of the invasion will be the acceleration of the global transition towards renewable energy as countries prioritise energy security -- nobody can cut off a nation's supply of sun and wind.

The geographical location of the Gwadar port puts it in an ideal zone for solar and wind power development, as the region enjoys high solar irradiation and wind speeds up to 6 m/s. Additionally, solar and wind power plants are cheaper, quicker to build out, and capable of supplying power to remote areas disconnected from the grid.

Floating solar could be another option worth exploring. China recently deployed the world's largest floating solar plant in Shandong. Surely, the investment bookmarked for the Gwadar Coal Power plant could be repurposed towards greener technology.

Renewable energy hints at a better solution to Gwadar's power woes. Any new solution to the city's electricity supply issues should focus on 21st century technology, not the coal technology of the previous century. ■

LAHORE'S environmental woes

Lahore's distinction as the cultural capital of Pakistan may be well known but it's also infamous as a den for playing havoc with mother nature. If the sporadic smog crisis wasn't enough, a latest study conducted by Britain's University of York declared the Ravi River as the most polluted river globally. Certain pharmaceutical drugs, caffeine and other toxic waste have reportedly been found in the river which implies the level of danger for surrounding settlements. On the other hand, the government is adamant to develop a riverfront development project on Ravi's basin which might generate economic prosperity but the environmental cost would be insurmountable. Pakistan is already amongst the most water-stressed countries in the world which are at the brink of drought and famine if sustainable measures aren't taken under the UN's Sustainable Development Goals (SDGs) to contain the impending consequences. One of the key reasons is a population boom which resulted in horizontal developments of unplanned nature to emerge in some instances that caused higher environmental damage. Ideally, vertical housing and corporate developments should have been promoted with countermeasures in place in case of natural calamities such as earthquakes. While national and provincial legislations such as the National Water Policy and the Punjab Water Act are in place, they mostly look good on paper given the nature of inefficient and corruption-ridden governance. Lahore's groundwater is already at a critically low level and any further misuse of scarce resources shall prove detrimental. Other cities such as Karachi have their stories to tell which point out how resources are mismanaged. It all points towards a crisis which has the potential to lead to a civil conflict or even military skirmishes with India over scarce resources. While Prime Minister Imran Khan is amongst the leading voices globally when it comes to tackling climate change, his stance on Ravi's urban development project needs immediate reconsideration for the sake of ecological factors. ■

Flagship visit of Austrian Foreign Minister, business delegation to WAPDA House

Keen interest shown for partnering in construction of WAPDA Projects

Austrian Foreign Minister Mr. Mag. Alexender Schallenberg accompanied by Austrian Ambassador to Pakistan Mr. Nicolaus Keller and a high-level Austrian business delegation today visited WAPDA House to explore ways and means for partnering with WAPDA in construction of its mega projects in water and hydropower sectors. This was the maiden visit of such a high-profile dignitary from a European country to WAPDA House along with a large delegation comprising senior officials of leading firms hailing from Austria. The significance of this visit can be gauged from the fact that the Austrian Ambassador, in his conversation with WAPDA Chairman Lt Gen Muzammil Hussain (Retd), declared it their "flagship visit". WAPDA Chairman and Members of the Authority welcomed the delegation at WAPDA House. ■

PAEC Congratulates the Nation on
Pakistan Day
by Gifting 1100 MW Electricity to the National Grid

K-3
Nuclear Power Plant Inauguration Soon...

PET-CT Scanner Inaugurated by President at KIRAN Karachi

CNPGS Supplying Electricity to National Grid at Highest Capacity Factor

IAEA Awards Pakistani Agricultural Scientist for Research

19th Atomic Energy Cancer Hospital Inaugurated at Gilgit

Pakistan Atomic Energy Commission
Committed to Serve the Nation

14th CSR Summit and Awards

"Govt to Establish hub for combining CSR resources"

80 Companies Conferred CSR Awards for best performance

The present government has the intention to establish a centralized hub for letting the corporate organisations combine their resources and work together to carry out the uplift work in the sectors that urgently deserve development.

This was stated by State Minister for Information and Broadcasting, Farrukh Habib, while speaking as the chief guest at the 14th Annual International CSR (corporate social responsibility) Summit and Awards-2022 organised by the National Forum for Environment and Health (NFEH).

He said that holding the CSR summit by assembling under one roof representatives of leading companies was one major step towards providing a common forum to different key players in the corporate sector to connect with each other and strive collectively for the shared social uplift goals for the betterment of the society.

The State Minister said that human resource development and capacity building of the youth should be one major area of focus by the corporate sector for doing CSR-related work.

He said the companies whose profits maximised during the last one year and earned billions of rupees were under the obligation to increase their spending for the progress and uplift of the backward areas.

He said the present government gave value to and extend utmost support to the corporate sector entities doing efforts and spending their resources for the uplift of the downtrodden communities.

He said that Prime Minister Imran Khan also fully understood the importance of CSR owing to his extensive social welfare work in the fields of education and health.

Habib eulogized the philanthropic services of the companies in the far-flung areas of the country that didn't have the basic necessities of life and infrastructure to carry out such work.

He said the present government initiated its Ehsaas flagship programme to implement its vision to transform Pakistan into a welfare state. He informed the audience of the programme that a massive allocation of Rs 260 billion had been reserved to carry out work related to 34 different initiatives related to the Ehsaas programme.

The State Minister said that a major initiative of the Ehsaas programme stood for providing 92,000 scholarships to the students of deserving families to get higher education in the public sector universities.

He said the universal health insurance coverage was another major drive of the present government to fulfil the basic needs of the people.

Also speaking on the occasion, Federal Railways Minister, Azam Khan Swati, appreciated the efforts of the corporate sector to serve humanity at large and lessen the miseries of the underprivileged communities.

He said the work of the corporate organisations in the areas of health, education, environmental protection, and other social sector deserved special praise.

He said the corporate entities through their CSR drive had become a partner with the present government's drive to transform the lives of common people.

Swati said the present government had initiated the drive to improve the working of Railways in accordance with the principles of the corporate sector so to ensure the welfare of the railway workers and their families.

Federal Minister for National Food Security and Research, Syed Fakhar Imam, told the audience about the initiatives of the present government to revolutionize the agricultural sector.

He emphasized that the youth in the country should be imparted proper education and skills for enabling them to play their due role in the advancement of the national economy.

Chairman of National Electric Power Regulatory Authority (NEPRA), Tauseef H Farooqi, said the drive launched by the NEPRA encouraged the power sector companies to invest Rs 4.5 billion as part of their CSR-related obligations.

He said the CSR activities by the power sector companies had benefited 13.7 million people, created 24,000 jobs through 390 different welfare projects.

He said that owing to the efforts of the NEPRA every power distribution company had now a separate HSE (Health, Safety, and Environment) Department for ensuring the safety of their employees.

Naeem Qureshi, NFEH President, in his welcome speech said that his non-governmental organisations had been extensively doing tree plantation drives as a partner of the Clean and Green Pakistan campaign of the present government. ■

Call to support transition to cleaner energy

Shah Munir Khan

BARACK Obama once said, "We are the first generation to feel the effect of climate change and the last generation who can do something about it." According to the World Energy Outlook, 2021, the global temperature has risen by 1.1 degrees Celsius since the pre-industrial era, leading our planet to its warmest level in over 11,000 years. At this pace, the increase in global temperatures will cross 1.5°C mark by 2030 and rise to 2.6°C by 2100. It will be catastrophic.

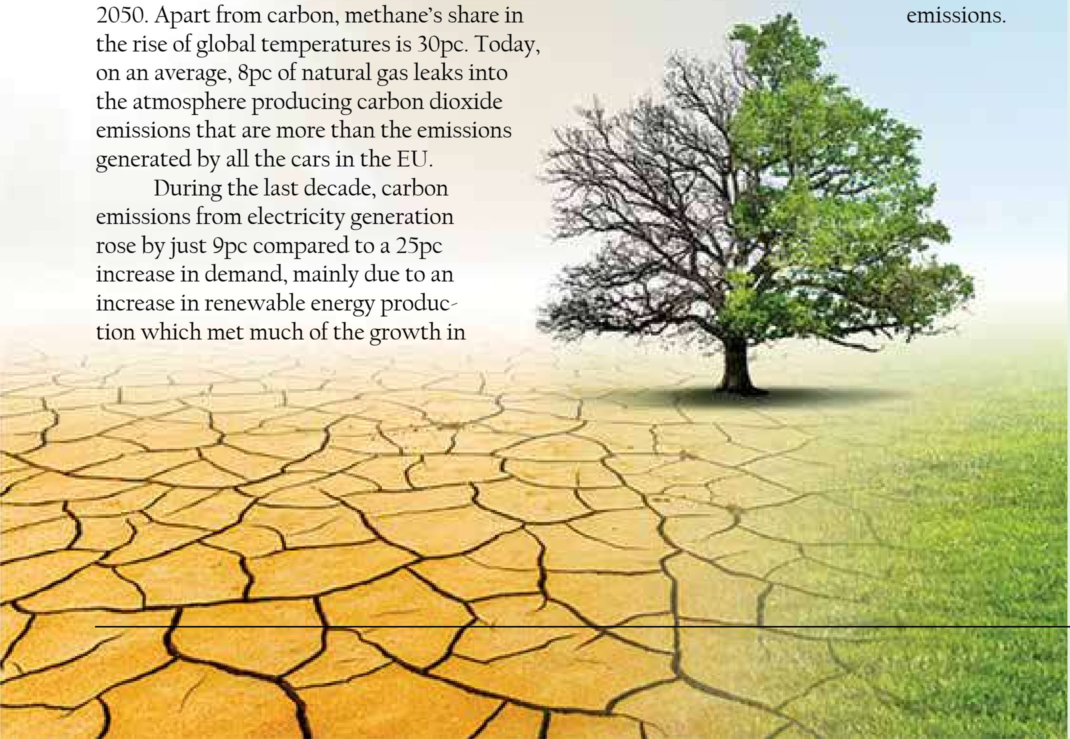
The report says that the rise in global temperatures will lead to the doubling of extreme heat events by 2050 which will be 120pc greater in intensity than now. Water shortage, droughts, flooding, wildfires, pest invasion, etc will become a frequent feature. Already polluted air is causing five million deaths every year. The energy sector is responsible for 75pc of greenhouse gas emissions that have led to higher temperatures.

The share of electricity in the final energy consumption is 20pc. Coal, which is the most carbon-intensive fossil fuel, is the single largest source of electricity production with a one-third share. But its share is three-fourths in carbon emissions, followed by natural gas. Natural gas is the largest source of electricity in advanced economies with its demand expected to grow by 15pc in 2030 and 30pc by 2050. Apart from carbon, methane's share in the rise of global temperatures is 30pc. Today, on an average, 8pc of natural gas leaks into the atmosphere producing carbon dioxide emissions that are more than the emissions generated by all the cars in the EU.

During the last decade, carbon emissions from electricity generation rose by just 9pc compared to a 25pc increase in demand, mainly due to an increase in renewable energy production which met much of the growth in demand. The sale of electric vehicles is expected to grow exponentially. Fossil fuel-based vehicles are being phased out. Technological progress has made the transition to renewable energy much cheaper and there has been a reduction of 90pc in the cost of solar PV. With current pledges, an additional 13m employment opportunities are expected in the renewable sector and it is estimated that 80pc of the energy efficiency potential can be reached by 2030 cost-effectively.

China, the world's largest energy consumer and carbon emitter, is currently leading in terms of renewable energy installations and has announced it will no longer finance coal plants abroad. Globally, coal-fired power plants are being retired and the use of coal in energy production has been on a declining path.

The role of individuals, societies and organisations is critical to mitigating the effects of climate change. However, the primary impetus should come from governments especially in the developing economies as advanced economies account for only one-third of the total carbon emissions. Feed-in tariffs should be introduced to support renewable energy projects and a long-term investment policy and clear direction should be set to support this transition. Emerging economies need to be supported in the transition to cleaner energy as the required investment in the latter is estimated to be $4 trillion in the next decade alone to be on the path of net zero emissions.



Subsidies and easy loans are a priority if we want entrepreneurs to follow green practices. Every crisis presents an opportunity and in this case, the path towards renewables should be seen as one. ■

Courtesy Dawn

K-Electric to refund Rs3bn to consumers

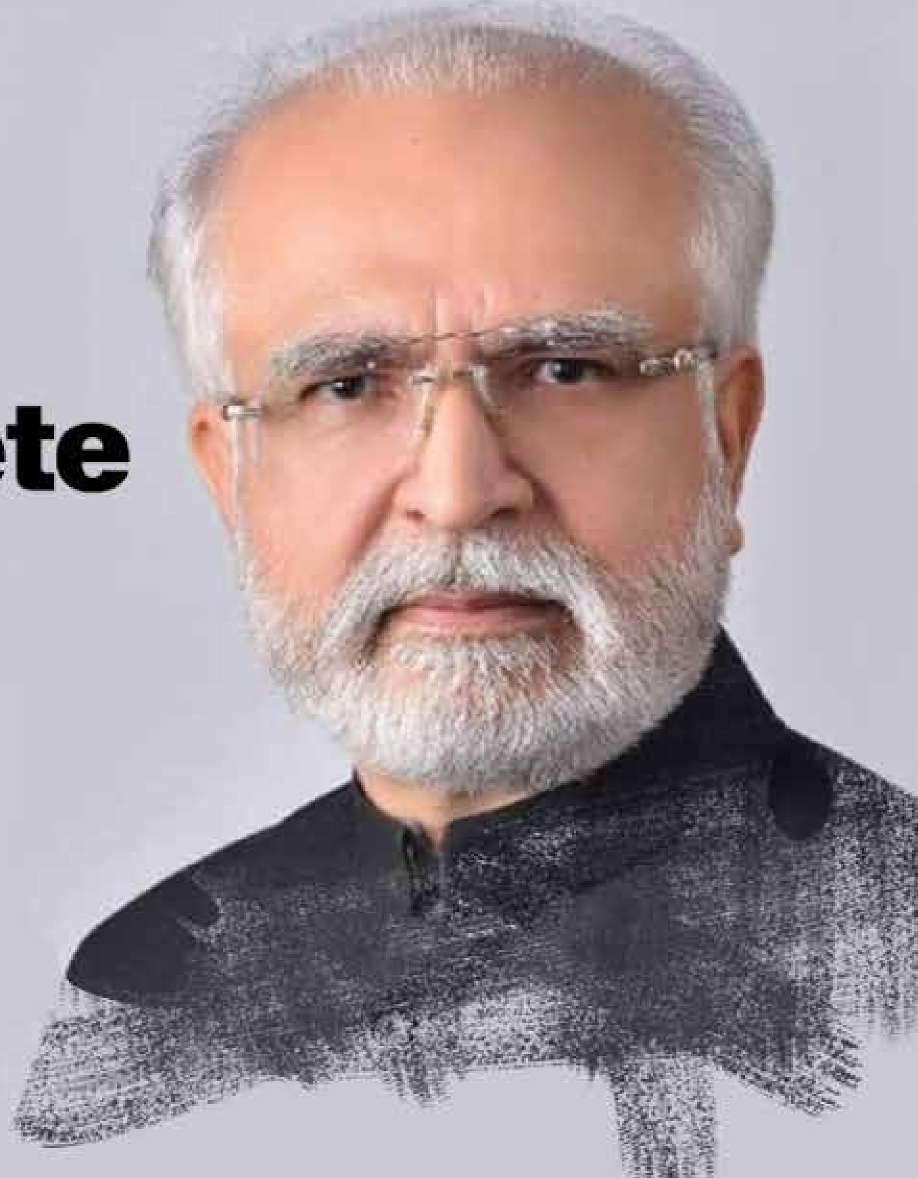
The National Electric Power Regulatory Authority (Nepra) has notified about Rs2.60 per unit relief to consumers of K-Electric in the next month's bills on account of lower fuel cost in December 2021.

"The authority has approved negative fuel cost adjustment (FCA) of Rs2.5953/kWh for December 2021 having an impact of Rs3.038 billion, to be passed on in the bills of March," Nepra said.

The regulator said the FCA will be applicable to all the consumer categories except lifeline consumers, domestic consumers consuming up to 300 units and agriculture consumers of K-Electric. The negative adjustment on account of monthly FCA will also be applicable to the domestic consumers having Time of Use (ToU) meters irrespective of their consumption level.

The public hearing on the subject was held on Feb 2. The KE had filed the petition for a reduction in FCA saying it had charged its consumers a reference fuel cost of Rs14.65 per unit in December 2021 which actually turned out to be Rs12.85 per unit. Therefore, it recommended a downward reduction of Rs1.80 per unit in FCA.

The regulator, however, said the scrutiny of data provided by the K-Electric worked out a reduction of Rs2.60 per unit on the basis of actual FCA for December came in at Rs12.06 per unit. In the case of application of the incremental industrial and winter incentive package, the amount of negative FCA allowed to such KE consumers would be adjusted in the subsequent bills. ■



Two LNG terminals to complete after one year

Interview with PM aide **Mahmood Moulvi**

M. Naeem Qureshi
Engr. Nadeem Ashraf

The construction of two new LNG terminals will be completed in next one-and-half-years to overcome natural gas crisis in the country, said Special Assistant to Prime Minister on Maritime Affairs, Mahmood Baqi Moulvi, in an exclusive interview with the Energy Update. He talked about the latest developments taking place in the ports and shipping sector of Pakistan. Following are the important excerpts from his interview for our readers:

Energy Update: What are the development activities being carried out by the present government in the ports and shipping sector?
Mahmood Moulvi: We have been carrying out a lot of development work in this sector. Two ships have been purchased by the Pakistan National Shipping Corporation (PNSC) in the last two years. They are starting the tendering process to purchase three more ships.

.... Tugboats have been bought by the Karachi Port Trust (KPT) and Port Qasim Authority (PQA) each. Earlier, a tugboat was hired by PQA against a daily rent of $28,000. As soon as the present government came into power, we decided to purchase the tugboats. A a bridge is also being constructed between the East Wharf and West Wharf as earlier such a facility wasn't available for last several years. The construction of the bridge will complete in one-and-half years and afterwards, the two wharves will become one. Two new LNG terminals are being built. Three multi-purpose terminals at the port are also being constructed.

EU: What is the progress so far achieved in building new LNG terminals in the country?
Mr. Moulvi: The government had to face a lot of pressure on this issue from different quarters.

We have carried out this project on a build, own, operate and transfer (BOOT) basis. Its operation will be on a take-and-pay basis. Bureaucratic hurdles also came in the way. Their construction will be completed in the next one-and-half years. We have received three to four more requests for setting up the new LNG terminals as these proposals will be evaluated after completing the work related to constructing the two new terminals. We have been trying our best that people will not face a gas crisis in the next winter.

EU: What efforts are being made by the present government to ensure transparency and merit in the working of the port authorities in the country?
Mr. Moulvi: Both PNSC and PQA are profit-making entities. The corrupt practices at the top level of the ports and shipping sector have come to an end. Earlier, there used to be illegal allotment of land pertaining to the port authorities as massive money was involved in that practice. We have yet to allot any piece of land pertaining to the port areas in the country. This is because of the reason that we have been drafting a transparent policy for the allotment of the land pertaining to the port authorities. The policy will introduce a transparent and merit-based mechanism for land allotment instead of allotting land without any lawful basis.

EU: What efforts are being done to carry out development works by the port authorities?
Mr Moulvi: The PQA has been going through the expansion process. Over Rs one billion is being spent just to build the dual carriageway in the area. The drainage and water supply systems are also being built. Other development works are also being carried out.

EU: Tell us about the recruitment process of the port authorities?
Mr Moulvi: The employments related to the ports and shipping sectors are being given purely on merit. The implementation of the regional quota in jobs is observed fully in accordance with the government rules as we couldn't change the government rules in this regard. New jobs in PQA and KPT are being given on a contractual basis. Earlier, a senior driver employed by a port authority was earning a monthly income as high as Rs250,000. Our government has done away with the policy of hiring people on a regular basis.

EU: What efforts are being made to tackle marine pollution?
Mr Moulvi: We have done full-fledged preparations to install the wastewater treatment plant at the Karachi port. The Sindh government will also establish its own treatment plant. The marine life and environment have come under much harm due to the constant discharge of untreated wastewater into the sea.

The marine life, including fisheries, have been adversely affected in up to three nautical miles area from Karachi port. Fisheries exports from the country have been badly affected due to the marine pollution. The provincial government is mainly responsible to tackle the environmental issue after the 18th Constitutional Amendment as we have been providing a helping hand in this regard.

EU: What is the progress achieved so far to enable Pakistan to launch its own ferry service to promote tourism in the country?
Mr Moulvi: We have inaugurated the ferry terminal at the KPT. The PNSC has been negotiating with different people who are desirous to launch the ferry service. The cruise ship and ferry services all over the world came to a halt due to Covid-19 as we will launch the service here in the country as soon this industry resumes its normal functioning.

EU: Tell us about the CSR-related activities being conducted by the port authorities.
Mr Moulvi: The PQA is going to gift 14 large buses as part of its CSR-related obligations to different universities in Karachi to fulfil transportation needs of their students. ■

Energy imports surge 125pc in July-January

Tanveer Malik

Energy imports billowed to a whopping 125 percent in the first seven months of this fiscal, compared to the corresponding period last year, totally in line with an intensifying demand in the country.

These imports increased to $11.67 billion in July-January FY2022 from $5.64 billion in the same period last year, contributing enormously to the trade deficit in the period. The numbers also revealed a significant increase in petroleum products in terms of value as well as volume.

The import of petroleum products in the period under review posted 125 percent growth in dollar terms and 25 percent in volume terms by surging to $5.734 billion from $ 2.549 billion in the same period last year. "The high import of petroleum products indicates that country consumed more products as well as rising prices of these products in the global market mainly added to the growth," said Fayyaz Hussain, Research Analyst at Sherman Securities.

However, the import of crude oil showed a slight decrease in the period under review, which showed the local production of petroleum products remained low, he said. "Highest ever monthly oil import bill for the seven months of FY2022 was due to 74 percent year-on-year jump in Arab Light prices along with 25 percent year-on-year volumetric growth," said Tahir Abbas, Head of Research at Arif Habib Limited.

The import of liquefied natural gas (LNG) also jumped 117 percent to $2.76 billion against $ 1.27 billion in the same period of last year. The import of petroleum products jumped 78 percent to $ 677 million in January compared to $381 million in the same month of previous fiscal. Rising global oil prices mainly increased the cost of petroleum products imports as volume were mostly flat.

The import of petroleum products in month of January decreased 25 percent compared to December. As a result of the government's flawed strategy, the country had imported huge quantities of energy products, especially furnace oil, in December.

The ill-planned import of furnace oil in December as well as November drastically decreased its domestic demand causing a huge buildup of stocks with the local refineries, which faced serious financial hardships and some of them were even shut down. ■

Controlling smog and air pollution direly needed

Low-grade fuel, particularly diesel, used in transport causes more smog

Dr Muhammad Khurshid

Pakistan faces significant air pollution and smog mostly in dry and cold months from November to January every year. The situation in central Punjab has worsened over the past decade as life comes to a standstill during prolonged dry and cold conditions in winter months in major cities like Lahore, Faisalabad and Gujranwala.

When the situation normalises, we forget the agony and wait for its reappearance next year. We have failed to tackle the problem based on scientific principles that other advanced countries did effectively in the past. Air quality in major cities of Pakistan does not conform to the air quality standards specified in the National Environment Quality Standards (NEQS) and the Pakistan Environment Protection Act 1997.

Recent reports and indicators like the Air Quality Index (AQI) show that Lahore with a reading of 158 is the unhealthy city and Islamabad with a reading of 149 is unhealthy for sensitive people. Major causes of poor air quality are industrial emissions, vehicular emissions, domestic emissions, construction-related dust emissions, smoke from brick kilns and soot of burning agricultural waste.

Polluted air being dense provides a platform for smog formation in winter months that causes heavy economic losses by disrupting communication besides loss of life due to poor health and accidents. Routine life is severely disturbed due to poor visibility in the wake of smog and associated disruption to transport, communication, health services and biodiversity, and ultimately human and economic losses.

It has been reported that 43% of smog is due to the use of low-grade fuel, especially diesel, in the transport sector. Pakistan is still using Euro-2 grade fuel as it could not revise its refinery policy since 1997. Consequently, we could not adopt the clean Euro-4 to Euro-6 fuels. Similarly, the recycling industry also use the degraded fuel for powering iron and steel and other industrial units, which are mostly located in urban areas.

Air pollution is mostly high in urban centres while rural areas are not significantly affected due to less sources of pollution and more open spaces where the pollution is diluted due to increased movement of fresh air. Smog is the direct result of industrialisation, which is a global problem. Europe faced heavy smog in the early 1950s as a result of industrial revolution. Similarly, major industrial hubs in the US and Japan grappled with smog in the 1960s and early 1970s because of industrial development. Air, road and rail transport had been disrupted for weeks and months and citizens used face masks to protect themselves. To control smog, they developed air quality monitoring system and air quality standards and regulations.

Implementation of such laws and strict monitoring has helped them in effectively controlling pollution and the associated smog. Pakistan is now facing the same situation which advanced countries encountered in the 1950s and 1960s. We must learn from the successful case studies and replicate these tools and techniques for controlling smog in the country. Well-equipped air quality monitoring stations were established at the borders of member countries and Pakistan has established two such stations, which still exist along the Pakistan-India border near Bahawalpur, Punjab and Tharparkar, Sindh.

The arrangement worked nicely till its fourth phase that ended in 2012-13. Since then no active phase has been undertaken, disrupting the trans-boundary monitoring system.This has proved to be an ideal system for air quality monitoring through data sharing and helped remove the blame game over the transfer of air pollution from one country to another in South Asia.

As sources of air pollution are known, their remedies can easily be found through effective monitoring and control. Good news is the availability of required institutional and legal frameworks at the federal and provincial levels in Pakistan. Environmental regulations are being enforced by the environment protection agencies (EPAs), although the drive is weak and sketchy. Besides poor capacity, the lack of required number of air quality monitoring equipment and poor support from the mainstream authorities are the major reasons behind the ineffective monitoring and control of air pollution.

Lack of awareness among communities and poor and delayed actions by the environmental tribunals have aggravated the problem. It has been observed that mostly the environmental tribunals are non-functional due to the lack of quorum.

Delays in disposal of registered complaints have always favoured the violators at the cost of air quality in urban centres. The fines imposed by the tribunals are so low that the violators are encouraged rather than discouraged from polluting the environment.

The air quality monitoring and control system needs to be improved in terms of capacity and enforcement powers. Consistency and continuity of effective air quality monitoring and control must be ensured for the provision of clean air to the citizens. ■

Courtesy Express Tribune

LNG CRISIS

Pakistan turns to expensive diesel: report

Russian invasion of Ukraine responsible for supply crunch

As a major supply crunch of liquefied natural gas (LNG) looms amid Russia's invasion of Ukraine, Pakistan is switching to expensive and dirty diesel fuel to generate electricity, according to a Bloomberg report.

Pakistan's diesel-fired power generation surged to the highest level in at least seven years in January, while LNG-based output dropped to the lowest in almost two years, according to government data compiled by Arif Habib Ltd. It is prudent to note that the two fuels each generated about 7pc of the South Asian country's electricity in January.

That's bound to continue as Pakistan has failed to find replacement LNG cargoes after long-term supplies were forced to cancel deliveries.

"LNG supply looks tight at the moment and LNG prices were expected to remain elevated even before the invasion of Ukraine," said Simon Nicholas, an analyst at the Institute for Energy Economics and Financial Analysis. "It's likely Bangladesh and Pakistan will need to continue to use more diesel and oil in power generation."

All of this comes when energy prices have already remained elevated due to imbalance between supply and demand as the world recovers from the pandemic. Given the current shortfall in supplies in global energy markets, the energy prices have been touching high following the invasion and severe sanctions on Russia in response.

Meanwhile, Pakistan's fuel costs doubled in January, compared with the same period a year ago, data from Arif Habib show. According to January data by the National Electric Power Regulatory Authority, Diesel is the most expensive fuel for power generation in Pakistan, costing 14pc more than fuel oil and 55pc more than LNG-based generation.

Diesel use also comes as the nation's refineries have been filled with fuel oil, meaning that there are other options for power, said Tahir Abbas, Arif Habib's head of research.

Liquefied natural gas imports into India, Pakistan and Bangladesh are expected to hit a low point in February due to unaffordable spot LNG prices, according to Bloomberg NEF. A total of 39 cargoes arrived in January, the lowest since February 2019. Bloomberg NEF estimates the share of spot volume in South Asia's total LNG imports fell to just 18pc of January supply, down from 25pc in the previous month.

Pakistan's growing gas shortage this winter forced consumers to turn to cylinders in Karachi and authorities offered a winter incentive package to make users switch from gas to electricity for heating rooms and water. The country's domestic gas production has fallen by about a fifth over the past two years, making LNG supply even more crucial.

Diesel is used only when there are constraints and largely for system stability and restoration in instances of blackouts and outages, Pakistan's energy ministry said in a response to questions. There is no requirement for diesel fuel for power generation until June, it added.

President Dr. Arif Alvi addressing the lauhching ceremony of "Aasan Karobar Programme" at Aiwan-e-Sadr Islamabad.

Call to ease criteria for gas allocation, management policy

Relentless guzzling of scarce natural resource weighing heavily on economy

Asif Abro

Pakistan is a fortunate country where every citizen can have an opinion on topics ranging from politics to economy. However, their opinions are swayed by their opinion leaders, amongst whom media is the most effective.

If there is a discussion on what is the biggest issue in the country, there would be voices claiming corruption as the biggest issue. Others would argue that 'incompetence', 'misgovernance' or 'delays in justice' are the biggest issues and so on. However, the media has almost succeeded in convincing the masses that the most disturbing issue currently in Pakistan is soaring commodity prices or 'inflation'.

The media is probably right! But then comes the question of what causes the inflation. Again, all sorts of opinions could be formulated. Those nearer to power corridors would quickly like to blame the previous rulers who, in turn, may like to claim incompetency of the current power merchants as the biggest reason that caused inflation. But howsoever big the list of opinions is, the fact remains that there must be a solution or a set of solutions to control the inflation. One of underlying contributors to inflation is high electricity cost, which is predominantly dependent upon imported fuels bought through expensive dollars.

Nevertheless, there are other reasons too for the high power tariff, one of which is 'imprudent allocation of pipeline quality gas' to power generating units which results in supply of precious pipeline natural gas resource to inefficient power generating units instead of efficient units. Because of this criteria, units 5 to 9 of GTPS Faisalabad power generation complex, whose best net efficiency remains at 21.1% [reference: page 127, State of Industry Report 2021 published by NEPRA], achieved 11th rank on the economic dispatch merit order for January 2022 [available on NTDC website].

Likewise, units 4 and 3 of Muzaffargarh Power Complex achieved 18th and 19th ranks on economic dispatch merit order for generating electricity even though the best net efficiency of Muzaffargarh Power Complex is only 32.51% [ibid]. This 32.51% net efficiency of Muzaffargarh is the best amongst the GENCOs (public sector power generation companies) barring Gudu Power complex's latest 747 MW CCP units. On the contrary, QATPL Bhikki power plant whose net efficiency is almost double — 61.60% [page 135, ibid] — is low on merit, ranked at 36. The only comprehensible reason for the lower position of QATPL Bhikki on dispatch merit order is allocation of comparatively very expensive imported reliquefied natural gas (RLNG) as the primary fuel instead of natural gas.

This relentless guzzling of scarce natural resource in the country is weighing heavily on the economy. Not only the same molecules of gas guzzled in the inefficient units of GENCOs could have produced more kilowatts of electricity by the efficient power plants such as QATPL Bhikki, their impact on total electricity price would have also been quite prominent. By way of example, one MMCFD of natural gas used at any power complex with 32.51 % net efficiency could produce only 80 megawatt-hours (MWh) energy in a day. On the other hand, the same quantity of gas could produce 151 MWh energy daily if used in an efficient thermal power plant with net efficiency of 61.6%.

On the cost front, if 32.51% net efficiency translates to Rs9.47/kWh, the efficient power plant with net efficiency of 61.60% would cost only Rs5.01/kWh — hence a saving of Rs4.46 for each replaced unit of electricity. With allocation of 300 MMCFD pipeline quality natural gas and 90% availability, the annual saving would be equal to more than Rs66.5 billion on account of cheaper units, whereas more than 7000 GWh additional units would also have been generated with the same quantity of precious natural resource. The savings would be more prominent when the more inefficient units, such as that of GTPS Faisalabad, are replaced or allocation of pipeline natural gas to efficient plants is increased beyond 300 MMCFD. This is just one simple example and many other analytical case studies and price sensitivities may be commissioned to get a clearer picture.

Instead of a rigid criterion, policy should be amended to make flexible criteria based on availability of resource and its optimum usage mainly relying on efficiency and maximum benefits to the economy. ■

Courtesy Express Tribune

No let-up in gas crisis

LNG firms renege on commitment to provide cargoes

Khalid Mustafa

The ongoing gas crisis is unlikely to subside when the mercury rises as LNG trading companies, Italy-based ENI and Singapore-based GUNVOR, have cancelled their term LNG cargoes, which were scheduled to be delivered in the first and second week of March 2022 respectively.

"This will be the fourth time when ENI will back out of delivering the term LNG cargo. However, GUNVOR will default for the second time as it earlier defaulted in November 2021. Both the LNG trading companies have emerged as habitual defaulters, which is simply unacceptable," a senior official at the Ministry of Energy told The News.

He said that both the LNG trading companies are involved in selling term cargoes of Pakistan in the spot market for monetary gains by repeatedly selling wherein LNG prices hover at $25-27 per MMBTU. "We will never allow them to make profit out of our term cargoes and to this effect a legal battle against both the two companies will start soon."

The News sent a question to both the Federal Minister for Energy and the spokesman of the Petroleum Division if ENI and GUNVOR had cancelled the LNG cargoes to be delivered in March, but both didn't respond.

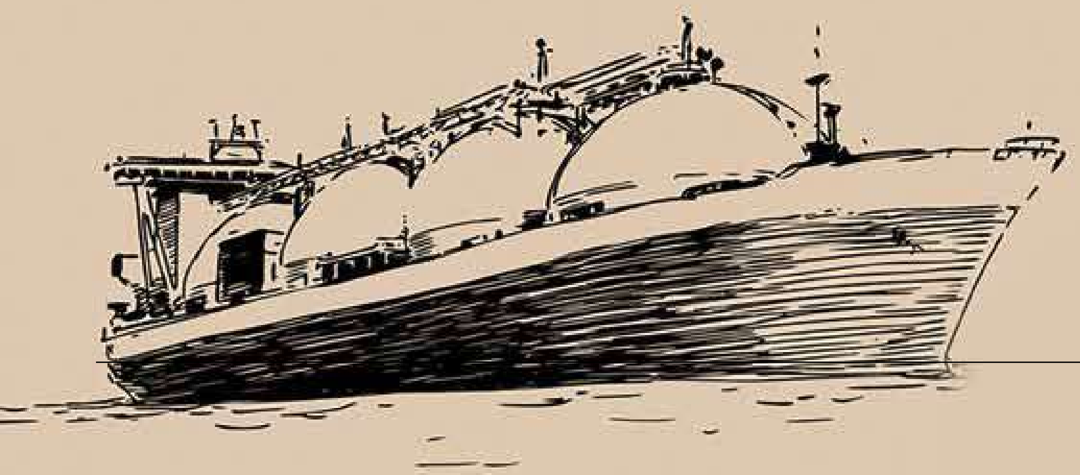
However, officials in Sui Gas companies on condition of anonymity confirmed that both the LNG cargoes have been cancelled, saying that the gas crisis will stay in March.

In March, on LNG Terminal-2 owned by PGPCL, only one LNG cargo from Qatar Gas Company would be offloaded under the 10-year agreement at the price of 10.2 percent of the Brent and two LNG cargoes, one from GUNVOR and other one from ENI, have been cancelled. And there is no arrangement by the Pakistan LNG Limited to arrange LNG cargo by purchasing it in the spot market. So the PGPCL terminal would in March remain over 80 percent underutilized. The PLL has inked the term agreements with both the companies in 2017 to avoid purchase of LNG cargoes at higher prices, but both the companies have backed out and defaulted on the agreements for monetary gains in spot market.

Meanwhile, a high-level meeting in the Petroleum Division took place with Federal Minister for Energy Hammad Azhar to review the winter load management plan 2021-22. It decided that the CNG sector will remain closed till further orders despite the decision of ECC under which after February 15, the CNG sector will be provided sgas. But the sources said that because of non-availability of the two LNG cargoes, the gas crisis would continue to haunt the people of Pakistan even in the month of March 2022. When contacted, official sources in the Pakistan LNG Limited (PLL) also confirmed the development about cancellation of the two LNG cargoes. They said that the PLL was making its mind to initiate a legal fight against the two LNG trading companies for perpetually breaching the agreements signed in 2017.

The term agreements with ENI and GUNVOR signed in 2017 are flawed and not in the interest of the country, an official in the Petroleum Division told The News. "In case LNG trading companies commit default, Pakistan LNG Limited (PLL) can impose a penalty of 30 percent of the term cargo price and not more than that." However, he said, the PLL is bound to pay 100 percent price of the term cargo under take or pay agreement if Pakistan, for any reason, cannot absorb the cargo in its system. In the wake of flawed agreement, both LNG trading companies do not hesitate to commit default as they are ready to pay 30 percent of the term cargo, which they sell in the market with windfall profit. ■

Courtesy: The News



Punjab set to receive cheaper gas

Punjab, the gas-starved province, is set to receive cheaper gas supplies after the Senate recently passed a bill for applying the weighted average cost of gas (Wacog).

In addition, the law will help the government to reduce circular debt in the gas sector while the share of liquefied natural gas (LNG) in gas supply will increase. At present, the share of LNG in gas supply stood at 24% in Pakistan despite the fact that different countries use only 5-6% as an ad hoc arrangement.

Pakistan State Oil (PSO) and Sui Northern Gas Pipelines Limited (SNGPL) have been burdened with a debt of billions of rupees due to the diversion of imported LNG towards the domestic sector. At present, PSO is to receive Rs439 billion from different companies, of which SNGPL is a major defaulter on account of LNG supply. The LNG bill of SNGPL crossed Rs100 billion over the past few winter seasons.

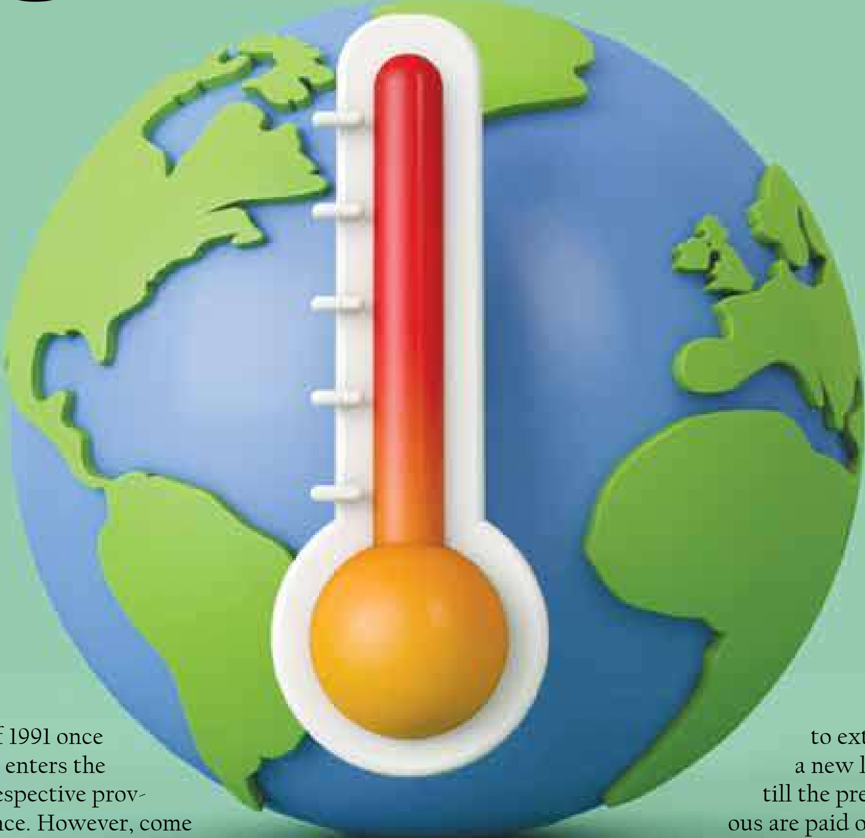
The company has estimated a rise of Rs50 billion in the LNG bill during the current winter season due to diversion of LNG to domestic consumers to overcome gas crisis. Now, parliament has empowered the government to apply the weighted average cost of domestic and imported gas to ease the burden of high prices of imported gas on certain sectors and reduce the circular debt.

The government is providing subsidy on supply of LNG to five major export-oriented sectors.

Recently, the government has estimated that it will pay Rs40 billion in subsidy from January to March 2022 on LNG supply to the export-oriented sector. In addition, there are other sectors like CNG stations and fertiliser plants that also consume LNG. ■

Iceberg in desert

Shahzad Sharjeel



WE know very well that poverty is not just lack of resources. It is also the lack of access and opportunity. We also know that in order to make people care about something passionately, one has to create a stake in it for them. Most of the time the 'stake' already exists, but the real challenge is to connect the right dots for it to become visible to all.

What do you think my village folk in Tharparkar would say if one were to bring up the largest-ever iceberg, with a surface area of 4,320 square kilometres, splitting from Antarctica in May last year due to global warming? Besides wondering what an iceberg is and where Antarctica might be, their biggest question would most likely be 'asaan jo cha wanjey' (why should it matter to us?) Here lies the rub. No, they are not ignorant. They may be unlettered but they are not slow. To the contrary, they are very smart. It is just that poverty has kept them in the rut of day-to-day survival where sick children, leaking thatched roofs and lack of anti-snake serum and dog-bite vaccines leave them no time to think of the larger existential issues.

Climate change smacks the rural poor in the face with much more ferocity and frequency than it does the urban population. Increasing water scarcity, both for drinking and irrigation, the rising temperature and its impact on crops, rising prices of inputs like seed and fertiliser and supply chain disruptions are all in one way or the other caused or exacerbated by the effects of climate change.

How can the poor hari or sharecropper help in any of that, one may ask? More importantly, who will connect all of these dots for her? The government will not because it is part of the problem. It employs thousands of agriculture extension services staff who, like some teachers of public-sector schools, sit at home and draw their salaries. Governments hire them to get votes and cannot fire them for non-performance as it makes them unpopular and impacts their electoral chances.

Climate change is far more devastating for the rural poor. The government is also part of the problem as it protects and supervises water theft. There is absolutely no accountability for what happens to the provincial share of water under the Irsa accord of 1991 once it enters the respective province. However, come the floods (an annual feature now) and the smallholders get more than their fair share of floodwaters that submerge standing crops and orchards because a) governments do not find drainage schemes 'sexy' enough for their vote-oriented tastes, and b) politically connected persons continue to encroach upon natural waterways and drains. Ill-conceived and politically motivated drainage fixes without any concern whatsoever for the LBOD's (Left Bank Outfall Drain) capacity lead to overflows and submerge agricultural fields and towns in Mirpurkhas and the adjoining districts in Sindh routinely.

While governments are hamstrung by political expediency, NGOs and civil society have also not graduated from organising raids on 'wadera jails' under the full media glare, leaving the 'rescued' families on the road as soon as the camera teams leave. These families go straight to another wadera and take another loan but are unable to pay it off as no NGO has ever helped them with family planning, and the sheer size of the family makes it impossible for them to make ends meet — despite getting a 50 per cent share from the crop proceeds. As they continuously need loans, at some point their landlord refuses to extend a new loan till the previous are paid off. A new wadera seems like the only option for a new loan; they move out without paying off their existing loan.

Access to agricultural loans, connection to markets, absolute accountability and equity in water resources, drainage schemes with proper social and engineering inputs, a gradual move away from the excessive use of fertiliser and pesticides, and an urgent demand for machinery to do away with the age-old practice of burning crop stubbles is the order of the day. For this to happen, we need to explain the iceberg and Antarctica to my village folk. ■

Import of LNG under G-to-G from Qatar

PSO underscores need for agreement ramp-up

Pakistan State Oil (PSO) has proposed to the government to request Qatar Gas for early ramp-up of second agreement from July-22 instead of July-24 for one additional cargo of Liquefied Natural Gas (LNG), aimed at bridging gap of demand and supply.

This proposal "import of LNG under G-to-G with Qatar" will be considered by the Price Negotiation Committee to enhance supplies from Qatar under existing contracts and possible implications of price review and renegotiation of existing Qatar contracts.

PSO under the agreement can ask for Annual Upward Flexibility Quantity (AUFQ) of five cargoes in a year before October 01 for the upcoming year; (i.e. three cargos against first contract and two cargos against second agreement).Qatar Gas (QG) shall accept such a request subject to delivery and operational capacity.

PSO says that in the event Qatar Gas accepts upward flexible cargoes, PSO cannot cancel such cargo once exercised during that year. All the additional cargoes will become part of the annual contractual quantity attracting take or pay clause of the agreement.

According to the Annual Upward Flexibility Quantity (AUFQ), in 2014, four cargoes of 12,800,000 MMBTU of LNG were imported, followed by one cargo of 3,200,000 MMBTU and one cargo of 3,050,000 MMBTU in 2021. However, in 2020, one cargo of 2,872,800 MMBTU was also imported under Annual Downward Flexibility Quantity (ADFQ).

During Sep-21 PSO exercised its option for 5 additional cargoes under both contracts upward flexibility clause during CY 2022. However, Qatar Gas has declined PSO's request on the basis of delivery capacity limitations.

According to the contract PSO can again request for additional cargoes from time to time subject to 90 days' advance notice and Qatar Gas can consider the same request on case to case basis subject to available operational/ delivery capacity. Considering non-obligatory option on part of Qatar Gas coupled with current market scenario, additional product availability situation remains uncertain.

Excess seller LNG and other provision of the agreement: - In case PSO desires to purchase LNG in excess of the existing contractual under both agreements, it may notify Qatar Gas the quantity of excess LNG required under the terms and conditions of these agreements. Qatar Gas, at its sole discretion, shall accept or decline to offer to sell such excess LNG quantity to the buyer within 30 days from the date of receipts such request.

Under the provision of "excess seller LNG", if the parties so agree, the excess seller LNG shall be added to the ACQ of each subsequent contract year during the course of the agreement.

According to clause 28.2 of the pact, the agreement may not be amended, modified, varied or supplemented unless agreed by the parties in writing.

However, clause 28.3 says no waiver is implied. The failure of either party to require the performance of any provision of the agreement shall not affect its right to require future performance pursuant to such provision.

The rights of a party shall not be prejudiced or affected by any delay for forbearance which it might allow or show in enforcing the same. Performance of any condition or obligation to be performed hereunder shall not be deemed to have been waived or postponed except by an instrument in writing signed by the party who is claimed to have granted such waiver or postponement.

Contract Price Review: Under both contracts either party may give a notice (price review notice) to the other party to renegotiate the contract price in March 2026; however, no review of contractual quantity is available.

Subsequent to the price review notice, the parties shall meet in good faith and discuss the matter with a view to agreeing what price adjustment (if any) is required. If the parties agree on the price revision same shall apply from the review date pursuant to clause 15.2.5 &15.2.6(e) for first and second agreements respectively. Once the price negotiation is exercised neither party is entitled to give a further price review notice to the other party till the end of contract. ■

Courtesy Business Recorder

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EVENT REPORT

International Solar And Wind Energy Summit and Expo 2022

Thought-provoking ideas achieved for clean power generation

Mustafa Tahir

The Energy Update out of its sheer concern for the continuous use of polluting fossil fuels for energizing the homes, office, and industries in Pakistan, organized two back-to-back conferences on two consecutive days to thoroughly discuss the progress so far made to generate electricity on the basis of clean power sources.

The 2nd International Solar Clean Energy Conference 2022 and the 5th International Wind Energy Summit 2022 were organized at a hotel on March 15 and March 16, 2022 which brought under one roof all the relevant energy experts and practitioners from across the country and abroad who have been working tirelessly to promote the consumption of the alternative energy sources in the country.

In this regard, the firmest assurance at the two-day moot came from the top-most relevant agency in the country, the Alter-

native Energy Development Board (AEDB) that is committed to the cause of increased reliance on clean sources of power generation in the country.

The AEDB assured the audience of the two events that it aimed to commence from April 2022 the process of competitive bidding for launching new solar and wind power projects to increase the share of clean electricity in the national energy mix to 61 per cent as per the Indicative Generation Capacity Expansion Plan (IGCEP)

International Solar And Wind Energy Summit and Expo 2022

2021-2030. This was stated by Chief Executive Officer of AEDB, Shah Jahan Mirza, while speaking as the chief guest at the Solar Energy Conference held on the day one.

Mirza said the AEDB had been well on track to achieve the targets given in the IGCEP i.e. 3,000MW of wind energy projects and 7,000 MW of solar power on-grid plants till 2030.

He said the current share of renewable power generation in the national energy mix stood at five to six per cent as around 2,100 MW clean electricity was being added to the national grid with the majority share i.e. 1,400 MW was of the wind energy projects.

He said the IGCEP's target of 61 per cent power generation on the basis of renewable electricity included hydropower as per the international energy sector practices as hydro-electricity all over the world was considered as a form of clean energy.

He conceded that the launching of the competitive bidding regime got delayed but the AEDB had completed all the homework and studies to launch the new auction system for upcoming wind and solar energy projects.

Mirza told the audience of the conference that net-metering was another system being used by the AEDB to promote the usage of renewable energy projects by individual consumers.

He said the AEDB had already introduced certifications and regulations for vendors involved in installing grid-connected solar systems under the net-metering regime.

He said the AEDB had the willingness to launch the system of third-party inspection for ensuring that quality solar equipment was only available to the prospective consumers willing to adopt the net-metering system. The AEDB chief said that they had also planned to conduct training and certification of 500 solar technicians in the major cities.

He emphasised that the AEBD had the resolve to do its work in collaboration with international partners including the USAID, World Bank, and the German government to promote the usage of clean electricity in Pakistan.

Also speaking on the occasion, Sindh Energy Secretary, Abu Bakar Madni, said the provincial government would approach the relevant federal authorities for minimising the taxes and duties on the renewable energy equipment to promote the installation of new wind and solar plants.

He said the Sindh government in collaboration with the World Bank had been implementing the US$100 million Sindh Solar Energy Project to build a solar park of 400MW generation capacity and provision of 200,000 solar home systems to off-grid houses in 10 districts. USAID Energy Director, Jeena Diallo, said that 70 million people in Pakistan were not connected to the national grid as renewable energy was the most effective method of energizing their homes.

She emphasized that the system of the National Transmission and Dispatch Company should be expanded for accommodating more renewable energy projects. He said the hybrid clean energy systems involving both the options of wind and solar power was the way forward to tackle issues like climate change.

Zaigam Mahmood Rizvi, Chairman PM's Housing Task Force, said that India had already met its target of generating over 100GW clean electricity through the solar energy systems whereas Pakistan's solar energy production was less than one GW despite having ideal geographical andweather conditions.

Noted industrialist, Zubair Motiwala, said that increase in solar-based energy production would reduce by 40 per cent the cost of electricity production as there would be a massive reduction in the oil import bill of Pakistan.

Naeem Qureshi, Chairman of organising committee of the conference, said the Energy Update would continue to organize such conferences every year for a thorough discussion on issues hampering the growth of the renewable energy sector in Pakistan.

Syed Salman Mohiuddin Country Manager Goodwe, Howard Fu Country Director Sungrow Power, Irfan Allah Wala CEO Mesol, M FaazDiwan Director Diwan International, Shaaf Mehboob CEO Adaptive Technologies, Zulfikar Lehri from JS Bank, Mr Waseem Qureshi CEO

International Solar And Wind Energy Summit and Expo 2022

Kilowatt Labs, Irfan Ahmed Director HESCO, Nick Bradford From IFS partner Kestral Digital, Dr Hina Aslam from SDPI, Dr Abid Qayyum Sulheri from SDPI, Hartmut Behrend, Talha Amjad, Ali Majid and others also address on the occasion.

On the second day of the event, the World Wind Energy Association (WWEA) urged Pakistan's government to preferably exempt the small and medium-sized power companies from the competitive bidding system soon to be introduced in the country for new renewable energy projects.

The WWEA put forward this suggestion as its Secretary-General, Stefan Gsänger, appeared via the video-link as the keynote speaker at the 5th International Wind Energy Summit 2022. The WWEA Secretary-General said the small and medium-sized power companies should be exempted from the competitive bidding mechanism for their sustainability as the key players in the energy sector.

He said the small and medium power entities should be given special concessions as being the domestic companies that should continue to play their important role in the growth of the energy sector.

"I could give you the example from my own country, Germany, where not just the discussion was taken place but the decision has also been taken to exempt certain types of the small and medium power companies from the auction tariff and go back to the system of the feed-in tariff," said the WWEA top office-bearer. He said the recent conflict in international relations had proved the notion that the countries around the world should aim to fulfil 100 per cent of their energy needs through renewable means for the sake of peace and their independence.

He said the WWEA was privileged to be associated with the growth of wind energy production in Sindh.

Gsänger recalled that it was because of the past deliberations organised by the WWEA, which enabled Pakistan to set the target of generating 30 per cent of the electricity on the basis of renewable energy sources.

He urged the Pakistani government to clear any confusion regarding the targets set for the renewable energy sector as part of the national energy plan so that all the concerned stakeholders could work together with full commitment to meet these objectives.

He said that for the past many years the investment in the renewable energy sector all over the world had surpassed the capital invested to build new power projects on the basis of fossil fuels and conventional sources of electricity generation.

Resultantly, more clean electricity is being added to the grid all over the world every year than the new power plants built on the basis of non-renewable sources, he said.

International Solar And Wind Energy Summit and Expo 2022

He told the audience of the summit that the share of wind energy in the global power sector stood around seven per cent with 1400 terawatt-hours of clean electricity generated.

Chairman of National Electric Power Regulatory Authority (NEPRA), Tauseef H Farooqui, said the NEPRA stood fully committed to helping out the execution of upcoming wind and solar power projects to meet the targets of clean electricity given in the IGCEP.

He said the renewable forms of power generation had the potential to energize the homes of 60 million Pakistanis without electricity. He said the NEPRA had been expeditiously implementing the regime of net-metering for the use of solar and wind energy by domestic and industrial consumers.

Also speaking on the occasion via the video-link, Muhammad Azfar Ahsan, State Minister and Chairman Board of Investment (BoI), expressed the fullest commitment of the BoI to facilitate foreign investment in the renewable energy sector of Pakistan for overcoming the energy shortfall.

He said the government had the fullest realization of the importance of the clean electricity sector for the protection of the environment and improvement of the national economy as the inexpensive source of electricity.

President Karachi Chamber of Commerce and Industry (KCCI), Muhammad Idrees, said the businessmen and industrialists of the city

were fully committed to using renewable means of power generation for uninterrupted electric supply and cutting down the cost of doing business. He said the KCCI had the aim to work together with all the key stakeholders of the energy sector to increase the usage of electricity generated through alternative means for slashing the massive fuel import bill of Pakistan.

Amjad Ali Awan, CEO Punjab Public-Private Partnership Authority, informed the audience about the efforts he had made as the former chief of AEDB to expeditiously explore and exploit wind and solar means in the country for clean power generation.

Awan e said that all the stakeholders concerned and government had to speed up their efforts to achieve the ambitious targets set for clean power generation in Pakistan. He said that it was a long way to go for realising the full potential of Pakistan to generate clean electricity as the country has the means to generate 132 Gigawatts clean power.

Naeem Qureshi, chairman of the organizing committee, expressed his resolve to organize more such conferences to enable the relevant experts and managers to gather on a platform to find practical solutions to the problems hampering the growth of renewable energy market of Pakistan.

Also on the occasion, an exhibition was organized on the sidelines of the summit enabling the key renewable energy sector companies to showcase their latest products and technologies for domestic, commercial, and industrial powers consumers, especially during summers when energy shortfall widens. ■

Improving efficiency of energy end-use

Farrukh Mahmood Mian

A unit of energy saved is equivalent to generating a unit of energy but the cost of doing the former is far lower than carrying out the latter, hence the importance of adopting energy-efficient practices. The investment required to add a new power generation capacity of 100MW is around $100 million. On the other hand, with a $10-20m investment in efficiency improvement measures, it is possible to avoid the installation of 100MW of new generation capacity.

In the eighties the national energy conservation centre (Enercon) was set up, however, the expected level of savings in energy use could not be achieved. Enercon has been renamed National Energy Efficiency and Conservation Authority (Neeca) under whose auspices a new national policy for energy efficiency and conservation is in a draft stage. In the implementation of this policy, Neeca's work is to be supplemented by its counterpart authorities that have been or are soon to be set up in the provinces — eg the Punjab Energy Efficiency and Conservation Agency (Peeca).

With the right measures taken, this policy can markedly improve the efficiency of energy usage in virtually every segment of the economy.

Studies indicate that 22 government health and educational institutions combined have the potential to save Rs365m annually by making only retrofits in the electricity system

An efficient energy value chain, comprising energy producers and distributors as well as consumers be they households, industry, commercial ventures and agriculture, will reduce the country's energy import bill at the same time give a good return on investments. Among the initiatives to be launched under the policy, an Energy Conservation Fund (ECF) is to be set up that will provide funding to the private sector for Energy Efficiency & Conservation (EE) projects.

Launching of EE bonds, concessional lines of financing through the State Bank of Pakistan similar to those offered for solar power projects, participation by international financing partners and the domestic banking sector are some of the resources to be tapped for mobilising investments for the EE projects. The present draft of the policy assigns to Neeca many roles — viz. policy-maker, regulator, enabler and even the role of initiating and implementing the EE projects in various sectors.

In parallel with the EE Policy document, the draft of a new National Electricity Plan (NEP) is also in circulation. Interestingly, the NEP states that for the integrated regulatory oversight for the energy sector, National Electric Power Regulatory Authority, Oil & Gas Regulatory Authority and Neeca shall be merged to form a unified energy regulator by June 2024.

The actual implementation of EE projects is an investment decision like any other business venture and should, therefore, be taken by those who are at the forefront of the economic activity whether they are private organisations, commercial establishments, public sector entities or the public at large. For a government agency to manage investment projects relating to EE has neither proven effective in the past (during Enercon days) nor would it do now.

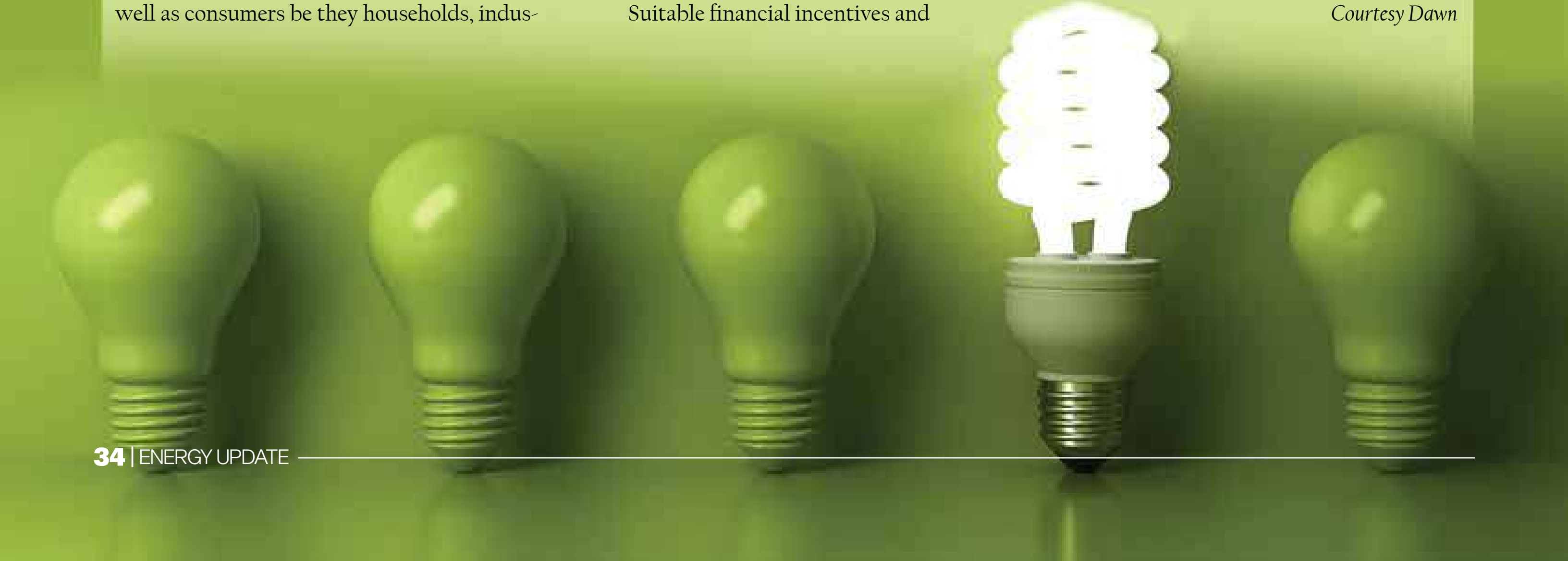
Suitable financial incentives and funding sources are all that the private sector needs to implement EE projects on its own because of the high rate of returns it can get on such investments. Neeca is most suited to play the role of legislator, facilitator and enforcer of the new policy. The question then becomes that if not Neeca then which agency is suited to be at the forefront of guiding the physical implementation of the EE agenda? This question begets another question: Must a single agency be responsible for achieving the targets to be laid down for the EE goals? The case of Canada is illustrative and relevant for Pakistan.

The studies done by Peeca indicate that 22 government health and educational institutions combined have the potential to save Rs365m annually by making only retrofits in the electricity system. It requires an investment of Rs1.2 billion, which means a pay-back period of investment of fewer than three years, indicating the huge potential of EE projects.

Carrying out the energy audits of buildings and establishing the high rates of returns on investments in installing the retrofits would be fruitful only when the funding mechanisms for such investments are also put in place. This is where Neeca, being a federal agency, comes in as it can aggregate the information from all provincial EECAs and then convert it into a bankable financing program with the help of international partners.

Neeca is at a crossroads and it should define its future path very carefully otherwise, as in the past, the mandate that it has been given to improve the efficiency of energy end-use in Pakistan would remain unachieved. ■

Courtesy Dawn



Marine pollution worsening along Karachi

Fish production declining; urgent steps needed to stop sewerage flow into sea

Mansoor

Marine pollution is worsening along Karachi coast with each passing day due to discharge of sewerage, municipal waste, industrial waste, and other chemicals. As a result, seawater along the coast, which was transparent 30 year ago, has turned grey-colored and highly contaminated, reducing fish production and posting threat to sea life.

The Clifton beach which was once a best place to visit has now turned from bad to worse. If such situation continues, this visiting place will become worst in the city. The beauty of the beach has been ruined due to marine pollution. It seems that authorities concerned are slumbering and have no time to pay heed towards this vital environment issue.

According to environment experts, Karachi generates 6.2 million tonnes of garbage annually out of which 60 percent is disposed of at garbage dumping sites while 40 percent is abandoned at various places in the city. Out of this 40 percent, a half is burnt and other half is discharged into sea through Lyari and Malir Rivers.

Annually, 200 tons of plastic is abandoned in Malir River and 2,000 tonnes in Lyari River, which also flows into the sea, killing fish and other living things.

About 465-472 millions of gallons per day (MGD) sewerage is generated in the city while optimum design capacity of sewerage treatment plants is 150 MGD, shortfall in sewage treatment capacity is 322 MGD, quantity of sewage treated is 50 MGD and untreated sewerage is 417-425 MGD, according to a report.

IUCN says every year, thousands of tons of industrial waste is dumped into the sea. In the coastal areas of Karachi, this is a huge problem as Karachi happens to be the largest industrial hub of the country. Marine pollution has tremendous economic, health and biodiversity costs. Industrial waste, untreated sewage and oil spills contaminate the sea and pose a great threat to marine life.

Oil is dangerous to marine life in several ways. For instance, if furbearing mammals or birds get oil on their fur or feathers, they may not be able to fly or move properly, maintain body temperature, or feed. The oil washes up on beaches and contaminates nesting areas and feeding grounds of birds and sea turtles.

Furthermore, pathogens entering the food chain through sewage will often be transmitted back to humans through seafood. Potentially fatal diseases such as typhoid and cholera are in fact highly prevalent in Pakistan. Another effect of marine pollution is that a lot of the waste and litter dumped in the ocean eventually washes up on beaches, and hence ruins beach aesthetic and tourism. Polluted beaches pose a higher risk of catching diseases.

According to official figures, 90 per cent of industrial effluent and sewage produced in the country's biggest city is poured into the sea either directly or via Lyari and Malir rivers. About 2,500 ships and 200 oil tankers visit Karachi harbour through the Manora Channel annually. There is large scale shipping traffic at Port Qasim. The sources of oil pollution in Manora channel are bilges, washings from engine rooms of vessels, discharges and leaks from bunkering point, and leaks and small spills occurring during loading and unloading at oil piers. Oily waste from city based sources including service stations also ends up in the harbour area. Perhaps the greatest contributor to marine pollution along Pakistan's coast is domestic sewage. About 550 million gallons per day (MGD) of mostly untreated wastewater is entering the coastal waters affecting the coastal areas; the problem would worsen if no remedial measures are undertaken.

Karachi Water & Sewerage Board has established three sewage treatment plants. Of the total 472 MGD, these plants treat only 55 MGD of sewage and the rest finds its way to the sea untreated. For the industrial waste of 78 MGD, there is only one treatment plant with a designed capacity of treating 10 MGD. The city district government of Karachi has planned to set up six treatment plants at several sites for sewage water treatment.

The marine pollution is killing fish and other sea life. It is also causing economic loss. The increased concentration of chemicals, such as nitrogen and phosphorus, in the coastal ocean promotes the growth of algal blooms, which can be toxic to wildlife and harmful to humans. The negative effects on health and the environment caused by algal blooms hurt local fishing and tourism industries.

The federal and Sindh governments need to establish effluent treatment plants besides taking steps to stop throwing of garbage into drains, Lyari and Malir Rivers so as to keep the sea clean and save its life, particularly fish. ■

Apps designed to solve climate change, poverty issues

Students of 10 universities generates brain-storming ideas; Need stressed to resolve issues at local level first

Special Report by Mansoor

Teams of Sir Syed University of Engineering & Technology, and FAST on Sunday clinched excellence awards for designing best Apps to give technical solutions to the challenges pertaining to United Nations' 17 Sustainable Development Goals (SDGs) which Pakistan and other countries of the world has to accomplish by 2030. The universities which took part in the program were University of Karachi, SMIU, SSUET, Salim Habib University, Usman Institute of Technology, IBA, DHA Suffa University, NED University and FAST.

A three-day event titled Hack Fest 2022 in this regard was organized at IBA City Campus Karachi by Google Developers Students Club (GDSC) in collaboration with bytecorp, Sastaticket.p and TPS and wherein teams of 10 universities, including University of Karachi and Sindh Madressatul Islam University (SMIU) and IBA, belonging to Google Developer Student Club receivedtraining from experts and designed Apps for finding solution to the issues like climate change, poverty, inequality, farming.

Speaking on the occasion, participants stated that the 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries - developed and developing - in a global partnership.

They said that these goals recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests.

Rafia Manzoor, GDSC Team Lead at University of Karachi, said that Karachi was facing worst problems of sanitation, water shortage and environment, which had made the life of citizens miserable. She said that there was urgent need to resolve those issues on priority basis.

She said that Karachi had turned the world's fourth largest polluted city as its air quality index had surged to an unhealthy level of 193, showing utter negligence of the governments towards environmental reforms. She said that air pollution was creating heart and lung disease, therefore, it should be controlled forthwith.

Rafia said PM2.5 concentration, as per IQAir organisation report, in Karachi has been recorded 11.8 times higher this month which is above the WHO annual air quality guideline value. She said that Karachi was also facing threat of severe heatwaves in the future, so there was also need to develop a long-term strategy to tackle that issue so that citizens could be protected from such deadly threat as over 1200 people had lost lives in Karachi during deadlu heatwave of 2015.

She said that to reduce temperature in the city, transport should be electrified besides solarising industries, generators, hotels and homes. There is also need to raise forests in Karachi and other parts of the world to keep environment cool, clean and green, Rafia concluded.

Filza Manzoor, Usman Institute of Technology University's GDSC Lead, said that students and professors of Usman Institute of Technology University had created Pakistan's first open source microprocessor chip which had been approved by Google. She said that is the most important element of the IT industry, and Pakistan could get a great help. She said that Usman Institute of Technology University is a leading university of the country and is contributing well to the education sector of the country.

Danella Patrick, SMIU GDSC Lead, informed that SSUET team had achieved first award of Rs50,000 for showing best performance pertaining to UN goals challenges while FAST got two awards – one each worth Rs30,000 and Rs20,000 that is innovative performance of the university. She applauded the teams of SSUET and FAST. Danella said that the club is an innovative platform for training students for solutions to the USDGs challenges, adding 64 students from SMIU had participated in this program which is highest number as compared to other universities.

Ammar Shahid of SSUET GDSC Lead, said that their team had develop an App on urban farming. He said that the App would help plant saplings and tree, particularly fruit and vegetables plants in houses, schools, colleges and universities. This will not only benefit economically but also environmentally, he added.

Umama Iftikhar Siddiqui, Marketing Lead, Google Developer Student Club (GDSC) of University of Karachi, said that GDSC is a platform at which students of 10 universities are receiving technical knowledge and training to solve problems in different areas like poverty, sanitation, water and traffic. She said that they were preparing students to find Google solutions to meet challenges pertaining to UN's 17 SDGs. Umama further said that they would fully prepare students to find technical solutions to the problems being faced by them in their areas, while suggestions for solution to those issues would also be presented to the government.

Hamza Siddiqui stressed the need to find technical solutions to the UN's 17 SDGs. He said that 17 UN goals are not a problem but are challenges which we have to solve. Need was stressed to first resolve problems of climate change, poverty and others at small and local level and then proceed at higher level. Students were asked to fully prepare them for this cause. He also guided and trained students in this regard.

A penal discussion was also held in which panelists – Krinza Momin, Muhammad Ali Khan, Fatima Moin,and Arbaz Piwani- advised students to coordinate their relevant mentors and get sufficient knowledge about their work at their respective organizations so as to make real progress.

Shields and appreciation certificates were presented to the best performing students of the universities and representatives of the companies, and judges. Gifts were also distributed among the participating students.

The judges include GDSC Global's Manager Hufsa Munawar, Adeel Rizwi, Fariha Farooq, Dr Umari Riaz and Saif. The three day proceedings of the program were conducted by Danella Patrick (SMIU), Azhar Ali Naqvi (SMIU), Nabeel Ahmed (IBA), Rohail (Suffa) and Eman Ahmed (Salim Habib University. ■

GAS PIPELINE

After the Ukraine invasion

Haneea Isaad | Simon Nicholas

The unfortunate timing of Prime Minister Imran Khan's visit to Russia received plenty of attention as the Ukraine crisis continued to build. As it turned out, the timing was worse than some had feared — Russia's invasion of Ukraine started the PM was in Moscow. The main reason behind his visit was to advance the Pakistan Stream Gas Pipeline. This long-delayed multibillion-dollar project aims to transport imported LNG from the southern part of the country to major demand centres in the north.

The irony of the visit is that the project's delay was partly due to Western sanctions following Russia's annexation of Crimea in 2014. Pakistan asked a company previously attached to the project, a subsidiary of the Russian state-owned tech giant Rostec, to be replaced after it came under sanctions. Following the invasion, the pipeline is at severe risk of further delays following the significantly greater sanctions now imposed on Russia.

In addition, LNG prices are already rising following the invasion, questioning the sense of further LNG infrastructure investment in Pakistan. The two countries signed an initial project agreement on the pipeline in 2015, with Russia providing almost 85 per cent of the financing and operating the pipeline for 25 years. However, the deal couldn't go forward as planned, as the two countries continued to debate the exact terms of the agreement.

As a result, in May 2021, an amendment to the original Intergovernmental Agreement was signed between the two parties, whereby the project financing structure of the project was significantly changed. Pakistan now holds a 74pc stake in the project, while Moscow holds the remaining 26pc. Pakistan's stake will be owned by the Sui Gas and Sui Northern Companies; while Russia's interests will be represented by a consortium of the Eurasian Pipeline Consortium (a company with links to Vladimir Putin), the state-controlled Tsentr Ekspluatatsionnykh Uslug, and the steel pipe maker Trubnaya Metallurgicheskaya. The pipeline will be 1,100 kilometres long, have a transportation capacity of 12.4 billion cubic meters, and could cost anywhere between $2bn and $3bn.

As tensions escalate between Russia and the West, Pakistan finds itself in an awkward position. After Russia invaded Ukraine, Germany put a hold on the Nord Stream 2 pipeline, while other European nations and the US responded by imposing restrictions on the Russian banking sector. Global oil and gas markets have reacted to the political tensions in turn, as Brent Crude achieved a high of almost $100 per barrel, and Asian LNG prices surged more than 50pc to once again approach $40 per metric million British thermal units.

Despite the extreme circumstances, such LNG price surges are no longer unusual. Two major price spikes were experienced during 2021, and global LNG prices were expected to remain high even before the invasion of Ukraine.

As global LNG prices respond to the economic sanctions imposed on Russia, the feasibility of the gas pipeline becomes even more questionable, as Pakistan and Russia are yet to agree on a pricing formula for the gas transportation tariff. If imposed on any of the Russian partners in the deal, the sanctions themselves could lead to even further delays in the pipeline construction. The negotiations for the project haven't been easy so far, as issues of land acquisition and sovereign guarantees become sticking points for the two parties.

In particular, the future of gas and LNG faces a lot of uncertainty in Pakistan. The two existing LNG terminals are reportedly underutilised, leading to the build-up of unsustainable capacity payments. Pakistan has been consistently having difficulty meeting its LNG demand in the winter months, as ENI and Guvnor continue to default on their commitments and fail to deliver term cargoes. The price volatility of the spot market makes it economically prohibitive to procure the fuel at such exorbitant prices, and a shift towards furnace oil has been observed in the industrial and power sectors.

Is it prudent then to bring on more LNG infrastructure such as the Pakistan Gas Stream Pipeline? Pakistan's new National Electricity Policy, 2021, makes it very clear that "The generation mix for the sector shall gradually reduce reliance on imported fuels." Even the power division's long-term energy plan — the Indicative Generation Capacity Expansion Plan — predicts the utilisation of all imported LNG-based generation to fall to zero by 2030.

Even if global economic sanctions on Russia don't already jeopardise the future of the pipeline project, the price volatility around LNG and the risk of stranded assets could reduce the feasibility of such projects. It, therefore, makes no sense to continue investing in expensive LNG infrastructure. When that infrastructure is to be built by entities from a pariah state that is under heavy sanctions, it makes even less sense. ■

The writers are energy finance analysts at IEEFA.

UNJUSTIFIED TAX

Concern voiced over taxing renewable energy

Sher Ali Khalti

The Alliance for Climate Justice and Clean Energy (ACJCE) has voiced concern over taxes imposed on solar panels, wind turbines and electric vehicles. In a letter written to the International Monetary Fund (IMF), it has said that these taxes can hamstring the market for renewable energy in Pakistan.

The ACJCE is a civil society alliance for a just energy transition away from fossil-fuels and towards cleaner and renewable resources. The letter was sent a few weeks ago. It stated: "We have been compelled to reach out to you given the damaging nature of the recent policy reforms instituted in anticipation of the resumption of the International Monetary Fund's (IMF) Extended Finance Facility (EFF) for the government of Pakistan (GOP). With the Fund's recent review under the $6 billion programme, the GOP has been forced to adopt a range of punishing fiscal measures that includes a devastating regime of taxes on solar panels, wind turbines, electric vehicles and related technologies. These measures are likely to cripple Pakistan's nascent renewables energy market threatening the country's ability to meet its environmental protection goals and international climate change obligations".

The alliance has also demanded that the government of Pakistan promote renewable energy and remove general sales taxes levied on the machines and instruments required for it.

Zain Moulvi, an associate of the Alternative Law Collective, a Lahore-based legal group that is also a part of ACJCE, says that the recently passed mini-budget included the tax on renewable energy equipment as a part of an IMF programme to increase tax collection and remove tax exemptions from all sectors of economy. "The IMF policies are destroying Pakistan's social and environmental planning," he says.

Pakistan Solar Association (PSA), a trade body, is also a signatory to the letter sent to the IMF. Explaining the rationale for the letter, Waqas Moosa, a member of its executive committee, apprehends that the installation of solar panels in Pakistan will fall by at least 20 percent in 2022 due to the imposition of higher taxes. "Consumers unable to shift to solar due to its higher cost will end up paying an extra Rs 175 billion in electricity costs over the next 20 years," he says.

On the other hand, he says, the extra tax revenue generated by the increased general sales tax on solar panels will yield only about Rs 20 billion during this period.

By levelling heavy taxes on renewable energy technologies, he says, the government is moving away from its stated vision of a green Pakistan. ■

Country's oil, gas reserves drop 6pc in Dec

EU Report

Country's total proven oil and gas reserves fell six percent in December FY2022, for the most part owing to an over a decade-long drought of big discoveries and unabated consumption, analysts report.

The decline in reserves comes at a time when international hydrocarbon prices are hovering around their highest levels, causing hardship for the countries like Pakistan, which are highly dependent on imported oil and gas.

As per the latest hydrocarbon reserves data by Pakistan Petroleum Information Services (PPIS), oil reserves during the month under review dropped 16 percent year-on-year, arriving at 223 million barrels compared to 266 million in the same month of previous fiscal.

Arif Habib Limited (AHL), a brokerage, in a report said one of the major causes of it was depletion in oil reserves at major fields such as Joyamair, Kunar, Mela, Nashpa, Maramzai, Adhi, Pasakhi/Pasakhi North East, and Mardankhel by 97 percent, 85 percent, 74 percent, 37 percent, 32 percent, 17 percent, 13 percent, and 12 percent year-on-year, respectively. Whereas, oil reserves of Chanda and Makori East registered a hefty growth of 41 percent and 77 percent, respectively.

Meanwhile, total gas reserves in the month under review dropped by 6 percent year-on-year, settling at 19,986 bcf. Gas reserves at fields such as Qadirpur, Nashpa, Kandhkot, Shahdadpur, Mari, and Uch, dropped 14 percent, 8 percent, 7 percent, 6 percent, 5 percent, and 5 percent year-on-year, respectively. Meanwhile, Sui gas reserves jumped 20 percent year-on-year.

In December 2021, oil and gas reserves from new fields such as Turk Deep North, Turk South, Mulaki West, Taj, Pandhi, Siab, Sial, Fazil, and Jugan were added to country's total reserves. ■

Pakistan's criminal gas wastage and IMF

Plugging methane emissions hardly require $500m

Imtiaz Gul/Arshad H Abbasi

Two recent — extremely important though isolated — developments merit review in the context of the noise being raised in the name of climate change.

In yet another decision inconsistent with Pakistan's commitments on reducing hazardous emissions at the Glasgow Summit, the Oil and Gas Regulatory Authority (Ogra), on 12th February 2022, increased the ratio of Unaccounted for Gas (UFG) for utility companies up to 300 per cent on LNG, and for SNGP to 18.28 per cent from 12.32 per cent. All this happened under the directions of the Lahore High Court (LHC). One would assume the court was a) cognizant of Pakistan's commitments at Glasgow Summit, and b) relied on experts' for reaching the conclusion.

A little earlier, an IMF country report also touched on the effects of climate change on Pakistan. Pakistan is among the top ten worst affected countries (in terms of damage), even though the country's contribution to the global greenhouse gas (GHG) emissions is a mere one per cent. According to the IMF report, since year 2000, as many as 120 recorded events in Pakistan entailed an estimated $22 billion worth of material damages and killed 11,000 people. Cumulatively, these events have affected 55 million people in the country.

The objective of the report was to highlight the adverse impact of the climate change. However, one wonders whether the LHC ruling and the IMF noise on the subject will be able to contain the monster of UFG which is affecting the lives of tens of millions of Pakistanis.

The UFG results mostly from deteriorating pipelines, eroding cathodic protection, under-size network designing, lack of advanced metering that can measure the calorific value of gas, and detecting theft. Illegal suction pumps at residences — or even at CNG stations — account for such leakages.

UFG benchmarks in Canada, Germany, Ukraine and New Zealand range between 2.16 per cent to 2.65 per cent but back in 2019-20, Ogra had fixed a 6.98 per cent benchmark on the total gas injected in the network. Ogra also calculated 12.32 per cent UFG for SNGPL against the claimed percentage of 12.20. In the same financial year, Ogra revised the benchmark upwards to 18.28 per cent UFG for SNGPL.

And herein lies the devilish detail: the dilapidated gas distribution network across the country — 13,452 kilometers long transmission pipelines and 177,029 kilometers long distribution network — carries an environmental hazard i.e. methane which is a 90% component of natural gas.

The silent killer methane — about 25 times as potent as carbon dioxide at trapping heat in the atmosphere — is the second most abundant anthropogenic GHG after carbon dioxide, accounting for about 20 per cent of global emissions.

Coupled with approximately one BCF (billion cubic feet) daily gas seepage from the Khyber-Pukhtunkhwa province alone, Pakistan is now one of the biggest methane emitters.

The current government made some efforts to control theft, but according to reports, the UFG of SNGPL reached around 11.9 per cent and of that of SSGC 16 per cent in the financial year 2020-21 against the permissible limit of 7 per cent.

The UFG calculated for the fiscal year 2019-20 was around 126 billion cubic feet annually. This means the economic value of UFG is almost $4 billion — equivalent to Rs710 billion — per annum. The high value of UFG is creating more dangerous circular debt in the gas sector that the one in the power sector.

The IMF has proposed mitigation policies — increasing carbon taxes and reducing fuel subsidies — but we would like to remind the international lender that all participants of the UN Climate Change Conference in November 2021 committed to cutting 30 per cent of methane emissions by 2030. Action is required in that direction and not fiscal measures.

Pakistan also committed to tackling methane from livestock and flare gas capture but one wonders how far that commitment takes into account the issue of the deadly methane emissions (from UFG and gas seepages) that millions of Pakistanis inhale.

Although the United Nations, the World Bank and other international agencies have poured billions of dollars into climate change, sycophant experts in Pakistan have largely failed in quantifying the causes of climate change and the damage thereof.

Plugging methane emissions and leakages would hardly require $500 million. Is the IMF ready to help Pakistan fulfil its pledges on methane emissions instead of asking for monetary measures that not only inflict more pain on people but also ignore the hazards associated with the massive UFG altogether?

Such an IMF grant for cutting methane emissions would not only enhance Pakistan's exports but also help the donor agency meet commitments to its global mission of a green and clean environment. ■

Courtesy Express Tribune

Pakistan faces growing environmental threats

Aneeqa Bashir

Once deemed a strong contender in the race to economic prosperity, Pakistan has since lagged behind, scrambling to sustain its ever-growing population through the proliferation of industrial enterprises. The country faces growing environmental threats including increasing urban migration, reliance on fossil fuels, lack of resource management, industrial water contamination, and carbon emissions.

Due to the necessity of economic growth in Pakistan, such byproducts, despite their adverse effects, are inevitable. Without any external financial assistance, the country is unable to adopt expensive alternatives that are too costly to implement and is compelled to rely on damaging fossil fuels. Gas that could potentially be used by industries to maximise their output is instead channeled to households which, unlike factories, possess the capacity to easily switch to alternative methods at a low cost.

As a result, factories are unable to operate at the optimal level and achieve economies of scale. Industries, if granted permission to put up renewables such as solar grids on undeveloped land outside cities, are likely to address electricity concerns through wheeling, a means of exchanging generated energy. On a positive note, Pakistan's emissions are on the lower end of the spectrum, as highlighted at COP26.

In terms of environmental accountability, today's wealthiest nations underwent industrial expansion at a time that preceded efforts towards environmental preservation. From undergoing expansion to developing burgeoning economies, no administrative body existed to hold these nations accountable in terms of reparation for damage generated as a byproduct of their growth and use of fossil fuels. It was only in the 1990s that issues pertaining to environmental sustenance were driven to the forefront, and the pernicious effects of climate change were starting to interpose on the daily lives of the common person. By this time, those countries were wealthy enough to switch to more sustainable energy. In contrast, developing countries which are now belatedly entering their growth phases are made to play by a different set of rules, and unlike their predecessors, are being held accountable.

It is unfortunate that emerging countries such as Pakistan which have worked tirelessly towards economic and industrial growth are considered perpetrators of the climate change crisis they are most vulnerable to. In fact, Pakistan has suffered an economic loss of over $1.3 billion in the last 20 years as a consequence of extreme weather according to the United Nations Office for Disaster Risk Reduction (UNDRR). On the one hand, Pakistan's economic prosperity will enable the funding of safeguards against climate hazards but on the other, its expansion will be deemed problematic in terms of its adverse effects on today's rapidly deteriorating environment. In stark contrast with its predecessors who predominantly industrialised without any restrictions other than those that were imposed in recent years, Pakistan will likely be held to account by international environmental agencies.

This situation is all the more frustrating as affluent nations have thus far neglected fulfilling the quota pledged for climate finance in the Paris Agreement; this financing is critical in assisting developing countries transition towards sustainable development. It is riling that the commitment made almost a decade ago to provide $100 billion annually by 2020 to developing countries has now been deferred to 2023, especially considering Pakistan's emission reductions and energy transition were dependent on this financing.

How is the country to bridge this gap in the intervening period? The Ten Billion Tree Tsunami implemented by the Pakistan Government under Imran Khan first as a pilot initiative in Khyber Pakhtunkhwa (KP) in 2015 and then adopted nationwide in 2019 has gained global traction and will serve to control carbon and counteract environmental damage.

Planting billions of trees across the world is arguably the most feasible means by which supplemental and potentially lethal levels of carbon dioxide can be extracted from the atmosphere. This is attributable to the unique ability of trees to absorb carbon dioxide and subsequently release oxygen into the air. Consequently, citywide temperatures can be reduced by up to seven degrees C, and annual flooding and soil erosion can be abated by the absorption of stormwater.

Similar nationwide planting schemes could serve to galvanise the public and provide an environmental solution to which citizens contribute.

Awareness schemes as part of school curriculums would serve to educate the people about minimising wastage of electricity and gas as well as responsible disposal of waste. Simultaneously, it is crucial to preserve existing forest and allow it to regenerate where needed. Recent cadastral mapping data revealed that forest land valued at around 1.8 trillion rupees has been encroached upon by land grabbers. Ongoing efforts towards transparency through digitisation are needed to prevent any future encroachments and loss of precious forest cover.

Pakistan's longstanding dependency on external support has borne little fruit. It is time we, as a nation, curtail foreign dependency and prepare for the challenges to come. Spreading awareness without a call to action achieves nothing. It is time to make a change not tomorrow but today. ■

Pak-India talks on hydropower end with some convergences

Khalid Mustafa

The three-day talks on hydropower projects between two nuclear states, Pakistan and India, here ended with some convergences on important projects. However, the objections from Pakistan on 1,000 MW Pakal Dul under Article IX of the Indus Waters Treaty and 48 MW Lower Kalnai hydropower projects continue to exist. Pakistan also raised some more queries on clarifications by the Indian side on 624 MW Kiru project. India shared some data about the Kiru project. The talks were held under the Permanent Commission of Indus Water level.

Pakistan termed the design of spillways and free board of Pakal Dul and Lower Kalnai violative of the Indus Waters Treaty. However, India says that designs of the projects are in line with the provisions of Indus Waters Treaty. However, India agreed to hold another meeting on Pakal Dul with Pakistan by May 31, 2022.

Sources said that in the next meeting to be held before May 31 at the PCIW level, if the objections on Pakal Dul are not resolved, then next provisions of the Indus Waters Treaty would be exhausted, meaning that the issues of Pakal Dul will be taken on the government level. If it is not resolved at the government level, then Pakistan will either move the forum of Neutral Expert or International Court of Justice for the solution of the dispute. On the Lower Kalnai project (48MW), Pakistan wants the freeboard to be one meter in length, while India insists on a 2-meter length.

In the meeting, India informed the Pakistan side that the construction work on Lower Kalnai project has been stopped since the last flood damaged it. Now India is going to restart construction work but after its design was reviewed. However, Pakistan asked India to share its reviewed design on time and the Indian side responded positively.

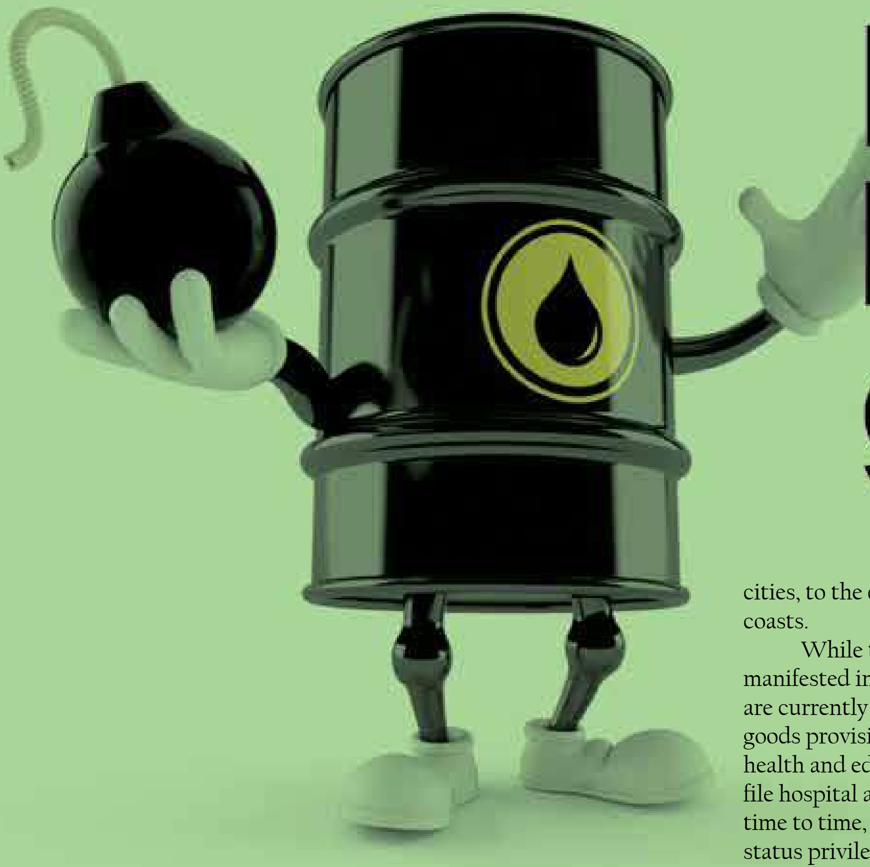
Both sides spent the last day in finalizing and signing the minutes of the proceedings and the decisions agreed in three-day negotiations. This was the 117th meeting between the two countries at the PCIW level.

In the meeting, both parties discussed Pakistan's question furnished under Article-IX on Pakal Dul and Lower Kalnai (48MW). Pakistan also raised objections on Tamasha Hydro Electric Power (HEP), Kalaroos-II HEP, Baltikulan Small, Darbuk Shyok HEP, Nummu Chilling HEP, Kargil Hunderman HEP, Phagla HEP, Mandi HEP, and Kulan Ramwari HEP. Most of these projects are being built on Pakistan's main river Indus in Laddakh. Pakistan also sought the data on above-mentioned small hydropower projects of 25 MW each being constructed on Pakistan rivers. The Indian side said that the state governments are constructing these small projects and it will get the required data from them, which will later be shared with Pakistani authorities. The Indian side also said that it has shared some data about the small projects with Pakistan till February 24, 2022 and the Pakistan side acknowledged it.

Both sides also discussed the sharing of flood data, program of meetings and tours of PICW for the current calendar year 2022. During the talks Pakistan asked India to restore sharing of the flood data based on humanitarian grounds, which New Delhi continued to share from 1989 till 2018 and then started reducing the share of data with Pakistan in 2019. Pakistan pleaded that the flood data sharing is imperative for the Pakistan side to come into action on time to avoid catastrophic impact of flood on human lives. "The Indian side has agreed to restore the sharing of flood data on time, so that the Pakistan side could have ample time to help save human lives."

Both sides have also finalized the tours and meetings to be held in 2022 under the PCIW level and, to this effect, Pakistan asked India to also include a special visit of Kiru Hydropower project under the provision of Indus Waters Treaty. India agreed to arrange a visit to the Kiru project. The official said that Pakistan in August last year had pinpointed some observations about the design of the Kiru project with the capacity to produce 624 MW of electricity being erected on the Chenab River and sought some clarifications. India gave some clarifications, but Pakistan again raised some queries. India says that Pakistan should submit its queries on the project in written form and New Delhi will respond in 15 days' time. The Indian side raised the issue of storm drainage nullah namely Fazal Ka nullah, which enters Sutlej on Pakistan side from eastern Punjab in India. ■

Courtesy: The News



Petrol bombs galore

Aasim Sajjad Akhtar

Petrol prices have been hiked yet again. Shortages of agricultural inputs which have paralysed small farmers are set to intensify. Unemployment rates amongst youth, particularly the highly educated, are skyrocketing. But in the dark, shady corridors of power, who really cares?

The prime minister insists he is committed to the welfare of the masses, decrying a purportedly biased media for downplaying his government's successes. Maybe he really believes what he is saying, but the price of petrol really is Rs160 per litre, and this government is almost completely beholden to powerful domestic and foreign financial lobbies.

Beyond the rhetoric, the PM knows that we are at that critical point in Pakistan's political business cycle where the selectors are considering placing their bets on other horses. How can he forget the role played by the establishment in ushering him to power after his dramatic emergence as a 'third force' to challenge the 'corrupt' incumbents after the (in)famous Minto Park public meeting in 2011?

A decade later, the usual suspects (PML-N and PPP) are once again staking their claims to a share of the establishment-shaped political cake. Many of the components of the religious right, most notably JUI-F, are also resurgent, having gained a major fillip from the Taliban's reconquest of Afghanistan.

Some find the intrigue exciting — regime ideologues jump ship on an almost daily basis; courts are seen to obstruct government decision-making; and the terrains of TV and social media ensure speculation and sensation reach fever pitch.

But there is nothing exciting about the economic hardships of a growing segment of 230 million people. Or the lynch mobs that weaponise religion. Or the fact that things will likely get worse for future generations of Pakistanis due to our reckless pillaging of nature from the mountainous highlands of Gilgit-Baltistan, to the black skies of our cities, to the devastated marine ecologies of the Sindh and Balochistan coasts.

While the obvious fallouts of this developmental vision are manifested in periods of intense economic hardship — like the one we are currently experiencing — it is important to be cognisant that public goods provision has virtually become an anachronism. Most notably, health and education are increasingly private-sector domains. High-profile hospital and university projects are executed by government from time to time, but the quality of services has declined while class and status privileges are brazenly protected.

As a public university teacher, I can testify to the sheer lack of resources — both financial and intellectual — to cope with the demographic pressures of the youth bulge. Students are completely excluded from decision-making processes. Meanwhile, a recent hospital visit for a minor surgical procedure reminded me that even well-endowed private providers are concerned largely with profit maximisation — many of our private hospitals operate not dissimilarly to the highly dysfunctional and inegalitarian insurance company-dominated health sector in the US.

So it is that Pakistan's political economy can be described as a dialectic of profiteering and hate. The militarised oligarchies make money, and then sell hate to keep the boat afloat. When the current round of palace intrigues concludes, the current PM may lose, but hate and profit will still win out. ■

Courtesy Dawn

HUBCO profit declines 25pc

EU Report

Hub Power Company Ltd (HUBCO) has reported a 24.7 percent fall in its half-year net profit owing to an increase in operating cost. Sunny Kumar, an analyst at Topline Securities, said the earnings came lower-than-industry expectations due to the loss recorded on account of share of associate namely China Power Hub Generation Company (CPHGC). "To recall, one unit (660MW) of CPHGC has been non-operational since July 2021 (due to) a lightening strike, which had caused damage to the transformer," he added. ■

Petrol price hike shakes nation

Analysts see this may be highest ever rise in petrol prices in country's history

EU Report

At a time when people can barely afford to part with even a single rupee from their heavily strained budgets, the federal government has announced a dramatic rise in the prices of all petroleum products, with the increase ranging from Rs10 to Rs12 on average. Analysts believe this may be the highest rise in petroleum prices at one time ever recorded in the country's history. It comes because of the increase in global petroleum prices and also because of the IMF demand for the levy on petrol, with Pakistan needing to make this provision, if it wishes to remain within the IMF programme. The opposition parties have immediately come out in condemnation of the increase with all the major parties, including the PML-N, the PPP, the JI and others, condemning it as an anti-people move, which will drive people towards further misery and simply indicates the indifference of the government to their plight.

The woes of the citizens of Pakistan are likely to multiply manifold with the historic hike in prices of petroleum products. With a populace that is already reeling under pressures of unprecedented inflations and depreciating rupee, this recent increase is heartless to say the least. When the government committed to the IMF additional petroleum levy, even at that time most independent economists and observers were highly apprehensive of this step. In the long run, such an increase invariably results in further inflation and high cost of production and transport. It is worth recalling that the government had last increased the petrol prices by three rupees to nearly 148 rupees per litre on Jan 15, and now it has been increased to nearly Rs160.

The question that needs to be asked is just how people are expected to cope. The government is offering no one answers, suggesting no form of relief. The current increase will stay in place till at least February 28th and reviewed after that in accordance with global rates which will determine if any adjustment is to be made. To many this seems unlikely. The inflation brought under the PTI government has already driven people to desperation. This latest hike in petroleum goods will only worsen the situation and make it even more difficult for people to work out a means to survive. This applies not only to the lowest income groups, but also those falling in middle brackets and the salaried classes too. The government needs to face the fact that people are barely able to survive. They have to find some strategy to enable people to manage and escape the current situation now made worse with the latest price hike.

The government must prevent further devaluation in Pakistani rupee to forestall more price increases of petroleum in future. Every time the government has increased petroleum prices, there has been a corresponding surge in inflation. Though the GST rate on all these products remained unchanged, the increase of levy on all petroleum products by four rupees per litre just to honour the commitment made with the IMF will have a devastating impact. For its part, the government appears to be blissfully oblivious of the gravity of the financial condition of the common people. ■

New dams to double water storage capacity: PM

Prime Minister Imran Khan has said the new under-construction mega dams would double the water storage capacity of Pakistan and help address the issues related to climate change.

Speaking at a seminar here on hydropower development, he said China had constructed 5000 dams but Pakistan had only two dams built in the 1960s.

"Due to this negligence, Pakistan suffered losses. As Pakistan is using imported fuel for electricity generation, whenever petrol prices go up in the international market, electricity prices also rise in Pakistan and the burden increases on the public," he said.

"If we had generated hydroelectricity, we would not have faced the present price hikes triggered by an increase in fuel prices," he added.

Pakistan had great potential for hydro electricity but it was producing half of its electricity from oil, he said, adding unfortunately due to lack of long term planning, Pakistan was facing the present problems.

Imran Khan said, "As our population is increasing we have to cultivate more land. If there is no storage how can we cultivate land?"

"We have fertile land in DI Khan and we need only water. If we arrange water for land in DI Khan, Khyber Pakhtunkhwa will not need to get food or wheat from other provinces. Balochistan has millions of acres of uncultivated land and if we can arrange water we can export cotton and other crops. Land is also available in Thar."

The use of tunnel technology for dams was necessary in Pakistan, he said adding mountains of Pakistan were incomparable in the world and could help generate huge revenue from tourism.

The mountainous area of Switzerland was half in size of the northern areas of Pakistan but it was generating revenue of $ 60-70 billion from tourism. Switzerland had the best tunnel technology which made their mountainous areas very accessible, he continued.

The Prime Minister said proposed Kalabagh Dam was at a good site but people of Sindh would have to be convinced about the project. ■

Petroleum imports hit record high

Oil import bill soars by 107% in seven months

Salman Siddiqui

Pakistan's petroleum import bill hit a record high of $11.69 billion in the first seven months (July-January) of current fiscal year 2021-22 mainly due to a surge in energy prices in the global market and partly due to a pickup in demand in the country.

The oil import bill increased by 107% to $11.69 billion in July-January FY22 compared to $5.64 billion in the same period of previous fiscal year, said Arif Habib Limited (AHL) citing data of the Pakistan Bureau of Statistics (PBS).

The price of Arab Light Oil, which Pakistan imports mostly from the Middle Eastern countries, surged 74% year-on-year in the period under review. On the other hand, the volumetric demand for petroleum products increased 25% in Pakistan, the research house said in a brief commentary.

Accordingly, the share of energy in the country's total import bill surged to 25% during July-January FY22 compared to less than 20% in the same period of last year, ie fiscal year 2020-21.

International benchmark Brent crude price increased by around 5% to seven-and-a-half-year high of over $95 per barrel in the wake of Ukrainian crisis last week and hovered around that level.

Responding to a question as to what would happen if Brent's price hit the projected multi-year high of $100 per barrel, State Bank of Pakistan (SBP) Governor Reza Baqir said in late January 2022 that "if it happens, it will be temporary and short-lived."Secondly, Pakistan's foreign exchange reserves improved to $17 billion as of December 2021 compared to $7 billion in July 2019. "So we have liquidity to finance the oil import bill (at the higher price as well)," he said.

He maintained that the government was likely to pass on the increase in international oil prices to the domestic consumers.

Economic theory suggests that the increase in commodity prices reduces their demand. Accordingly, the drop in demand will help control the import bill and keep the current account deficit within the projected range, he said.

Pak-Kuwait Investment Company (PKIC) Head of Research Samiullah Tariq said that overall import bill, along with oil imports, had dropped notably in January 2022 compared to the prior month of December 2021.

The petroleum imports dropped 16% to $1.52 billion in the single month of January compared to $1.8 billion recorded in December 2021. "The trend of imports suggests that the measures taken by the government and the central bank to cut them have started working," he said. ■

Courtesy Express Tribune

Govt focused on tree-plantation, says Amin

EU Report

Special Assistant to the Prime Minister (SAPM) on Climate Change, Malik Amin Aslam, has said that special focus was being paid on tree-plantation to implement Prime Minister's Clean and Green Pakistan vision in true spirit.

The SAPM expressed these views while talking to media persons after planting sapling at Fort Qasim Bagh in connection with PM's Clean and Green Campaign. He said Multan was a beautiful city and added that work was underway to make it clean and green.

He said four urban Miyawaki forests were being established to improve greenery in city of Saints and added that the federal government was providing funds for it as it was part of PM's billion tree tsunami.

Amin Aslam said that he had inaugurated two urban Miyawaki forests while work on rest of the forests was also underway. He said various steps were being taken for betterment of the city and hoped that Multan would be a tourist hub of South Punjab in future.

SAMP said that he would also pay visit to Taunsa tomorrow to develop a blind dolphin nature reserve there to attract the tourists.

Federal Parliamentary Secretary on Finance, Makhdoomzada Zain Hussain Qureshi said work was underway at green initiatives to make the city clean and green as per vision of Prime Minister Imran Khan.

He said Nishtar-II Hospital was also being built with international standards in the city to provide better healthcare facilities to common people like Health Card facility.

On this occasion, Chairman PHA Ijaz Hussain Janjua was also present.

Earlier, SAPM planted a sapling and prayed for progress and prosperity of the country. ■

Saving water bodies for life

Ali Tauqeer Sheikh

A recent study by a British university on 258 rivers in 104 countries has ranked the river Ravi among the world's three most polluted rivers. It has detected high levels of active pharmaceutical ingredients, or APIs. The APIs are emitted during the manufacture and use of pharmaceuticals and disposed of into the river. Countless small and large industrial units routinely dump their chemical and medical waste into the river that flows through Lahore and other cities of Punjab. This finding highlights the deteriorating quality of life for the city's over 11 million residents, roughly half of them young boys and girls.

It has not happened overnight. Decades of unchecked discharge of untreated municipal, industrial and agricultural effluents and solid waste have changed the Ravi into a massive sewer. As if this was not enough, a large quantity of untreated toxic wastewater from India enters the river through the Hudiyara drain, according to the Pakistan Council of Research in Water Resources. The effluents from the Pakistani side have grown exponentially in recent years and are now in excess of 76 per cent. As a major tributary of the Indus, the river Ravi is not a life-sustaining river anymore. Unless this trend is arrested and reversed, there is no guarantee for the life of the Indus either. We need to protect our ecosystems for life.

The mainstream discourse in the country on the Indus or the Indus Waters Treaty (IWT) has always been biased in favour of quantity rather than quality. We are interested only in water and not in their rivers. Rivers have a right to life. But we have seldom paid any attention to the ecosystem or environmental services that rivers and other waterbodies perform. No wonder lakes, ponds, rivers, streams, springs and wetlands that once adorned Pakistan from Gilgit-Baltistan to the Arabian Sea are under siege. These were once the mainstay of Pakistan's freshwater ecosystem.

The freshwater ecosystems are home to aquatic and other resources, but the wetlands are considered amongst the most biologically diverse of all ecosystems. They host a range of plant and animal species. Wetlands provide several ecosystem services: water purification, flood control and groundwater recharging. Wetlands also serve as agents of carbon fixation, decomposition and sequestration. They help with climate change adaptation and mitigation. Wetlands are reservoirs of biodiversity and unless they are restored, Pakistan will be adding to its climate vulnerability.

Freshwater ecosystems have changed in Pakistan because of flow modification, overexploitation and destruction and degradation of habitat. Water pollution and untreated discharges from industry and cities, and the introduction of alien and invasive species, have further degraded them. Recent trends of extinction of species can be attributed largely to sedimentation, stream fragmentation, chemical and organic pollutants, dams and invasive species. Sindh is famous for many manmade lakes that serve as wetlands. Chemical stresses on freshwater lakes — Keenjhar, Haleji, Manchhar, Hamal, Chitiori etc. — include acidification, eutrophication and pesticide contamination.

First, a canal infrastructure exists to flush the Ravi with water through the link canal. This can be done from Punjab's water share under Irsa, the water regulator. Flushing Ravi can be prioritised instead of making it contingent upon the construction of any new city. Upstream infrastructural development in India has stalled the trickle that was previously available. Let's wake up to a new reality.

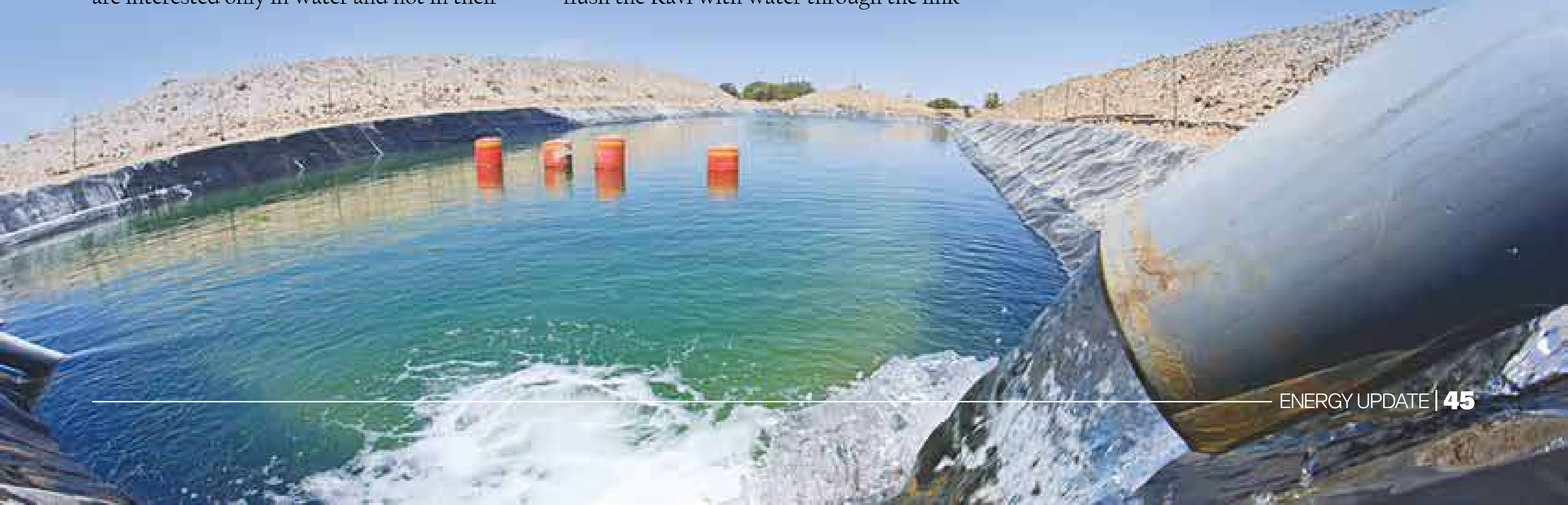
Second, in many countries, artificial wetlands are built to treat municipal and industrial wastes or to divert storm water run-offs. They also play an important role in water-sensitive urban design. While Punjab still needs to strengthen its environmental governance and curtail the dumping of discharges and effluents into the river, artificial wetlands can be constructed to treat municipal and industrial waste. This can presumably be done under the Punjab Green Development Programme.

Third, the IWT between India and Pakistan has worked thus far because there were no serious challenges except for the highs and lows in political relations. Now both countries are challenged by climate change. It is estimated that more than 300 countries have transboundary water agreements and many of them have begun to climate-proof their treaties and agreements to suit emerging needs. It is in Pakistan's interest to devise options for climate-proofing the treaty.

This journey can include: a) not allowing river systems to die by jointly devising flushing mechanisms; b) agreeing on flexible water allocation strategies, rather than sticking to static formulae for high and low seasons; c) ensuring flood and drought management to deal with water transactions as the monsoons change their patterns, and d) setting up a list of climate-induced water threats to craft shared responses under various extreme weather events such as cloudbursts. The treaty has the provisions and provides space for proposing mechanisms to raise additional issues to enhance collaboration.

Given climate change's implications for water resources, the IWT should look at how riparian states can adapt to altered timings and availability of flows. In the Ravi's context, this may be an opportune moment for India and Pakistan to devise a mechanism for flushing the river. ■

Courtesy Dawn



Three challenges to economy

Farrukh Saleem

The good news is that the Federal Board of Revenue (FBR) has set a new tax collection record. The other good news is that PTI's flagship Ehsaas Program has disbursed Rs179 billion to 14.8 million deserving households.

Bill Gates, Microsoft's co-founder, termed the Ehsaas Program a 'state of the art' initiative of the country, aimed at alleviating poverty and extending help to the marginalized communities of Pakistan.

The bad news is that imports are soaring, workers' remittances from the Middle East are declining and debt payments are surging.

In the following 12 months, the government's three biggest challenges would be the taming of inflation, getting hold of a threatening current account deficit and bringing down a ballooning budgetary deficit.

Challenge number 1: Inflation.

Globally, Pakistan has the third-highest rate of inflation, and is behind Argentina and Turkey in this regard.

Globally, the average rate of inflation is 4.35 percent compared to Pakistan's 13 percent. Regionally, Pakistan has the highest rate of inflation. India (6%), Bangladesh (5.7%), Sri Lanka (6.9%), Maldives (1.4%), Nepal (5.7%) and Afghanistan (5.6%), which shows all have a lower rate of inflation as compared to Pakistan.

In Pakistan, the price of wheat-flour, sugar and electricity have risen by more than 100 percent over the past three years. From a historical perspective, there hasn't been a three-year period in Pakistan's 70-year economic history in which wheat-flour, sugar or electricity had risen by 100 percent.

Over the past 55-year period beginning in 1960, the GDP per capita in Pakistan rose from $83 to a high of $1,428 in 2018.

Since 2018, the GDP per capita in Pakistan has been falling, reaching a low of $1,188. Resultantly, a high rate of inflation and a falling per capita income have driven more than 40 percent of Pakistan's population below the line of poverty. Over the past three years, the accumulated burden on an average Pakistani has increased rather rapidly.

With an average income of Rs17,500 a month, petrol at Rs150 per liter, wheat-flour at Rs70 a kilogram, sugar at Rs110 a kilogram and electricity at Rs28 per unit making two ends meet has now become next to impossible.

According to Pakistan Bureau of Statistics (PBS), Wholesale Price Index (WPI), on a year-over-year basis "increased by 23.6 percent in February 2022." What that means is that the rate of inflation at the consumer level is not about to come down-and would stay ahead of the official target of 8 percent.

Challenge number 2:

Current account deficit (CAD). The figure for January has come in at $2.55 billion, the highest ever in Pakistan's 74-year economic history (CAD is the difference between a country's foreign expenditure and income).

According to PBS, in the first seven months of the current fiscal year, the trade deficit reached $28.8 billion, up nearly 100 percent compared to the same period of last fiscal. On a projected basis, CAD converts to 6 percent of GDP.

Red alert: CAD is more than 800 percent higher than the annual target set in Budget 2021-22. Such a high level of CAD means continued pressure on SBP's foreign exchange reserves.

Such a high level of CAD means a high risk of depreciation. To be certain, a lower rupee would mean even a higher rate of inflation. To be sure, this level of CAD is not sustainable-and must, therefore, be reversed.

Challenge number 3:

Fiscal deficit. For the credit of the government, the FBR collected Rs3.35 trillion against a target of Rs3.1 trillion, exceeding the 7-month tax collection target by a wholesome Rs262 billion.

Intriguingly, a better than expected performance is seen in the FBR but the federal budget deficit in the first half of the current fiscal year still shot up to Rs1.8 trillion, a 30 percent jump compared to the same period of the last fiscal.

That indicates that the government's expenditure stream is out of control. The real problem remains that the government's current expenditures were 92 percent of the total federal government expenditures and 40 percent of those expenditures were spent on servicing debt. Solutions: A high CAD is a clear indication of an uncompetitive economy. The current hold of 'cartels' over Pakistan's economy would have to be broken, especially the power cartel, the sugar cartel, the fertilizer carter and the automobile cartel.

Next; Pakistan Institute of Development Economics (PIDE) has estimated Pakistan government's footprint over the economy to be as high as 67 percent. This would have to be brought down. Next, Pakistan must bring down trade restrictions by rationalizing the high tariff regime and reducing the anti-export bias in the trade policy. ■

Tracing Energy Policies in Pakistan

Sarah Tariq Gilani

For the last 150 years, civilization after civilization, humans have harnessed energy from deep underground resources, and in turn, expedited the progress of mankind. This, however, has not come without incurring costs to the environment. We all know resources are not infinite, and so by the rapid depletion of natural resources, the ability of future generations to meet their needs has been compromised. Even today, large segments of the world population do not have the means necessary to pull themselves out of poverty. Take energy, for example. Research shows that an individual's inaccessibility to energy is a critical impediment to their growth and prosperity.

It is alarming that close to 759 million people in the world today do not have access to energy. In Pakistan specifically, almost fifty million people, accounting for 20 per cent of the population, are not connected to the grid. Even for those connected, it is common that they face power blackouts and the additional burden of rising tariffs, impeding their ability to fully utilize energy potential. The existing body of literature would refer to this as energy poverty.

Energy poverty is a concept that has remained a part of research and political discourse for close to thirty years, but an official definition that fully encompasses the concept does not exist. Most definitions agree, however, that it refers to a situation whereby the amount of energy available does not satisfy the needs of the people. Energy poverty exists in Pakistan and is one of the most pressing issues of our time. According to experts, energy poverty in Pakistan is identified as individuals that don't have access to energy, or different energy services and sustainable modern energy products, aren't able to afford it, and don't consume enough energy or are energy secure. Attempts were made to address energy poverty, but its eradication has not comprehensively been addressed in public policy. For my own research, a series of expert interviews were conducted to find out more about energy poverty in Pakistan, and to explore how key policy-makers and academics would evaluate the overall efficacy of the policies governments have introduced to tackle it.

Four policies were implemented to tackle the energy crisis in Pakistan. Flashback to 2013 when the National Power Policy was introduced at a time the energy shortfall was at its peak. The country often plunged into over ten hours of blackout.

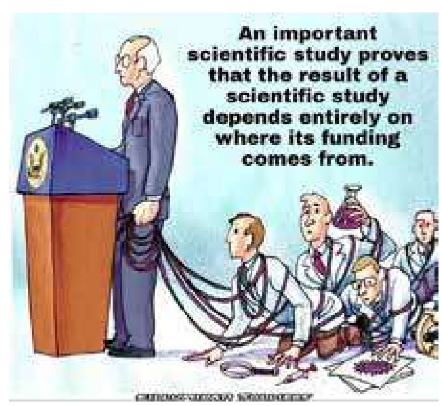
The policy attempted to increase electricity production to meet Pakistan's growing energy demand. As a result of additional capacity, the power deficit was revived, but simultaneously, two more problems emerged. Firstly, additional power, which was generated, did not reach people due to the depleted and degraded distribution network in Pakistan. Secondly, the additional power was generated by investing in power plants that used imported fossil fuels. As a result, Pakistan's foreign reserves continued to deplete, and energy security became a cause for concern.

Another policy introduced was the Indicative Generation Capacity Expansion Plan 2040 (IGCEP), which aimed to limit the share of renewables to 16 per cent of total generation capacity. Such a plan explored alternative power generation options, like substituting imported coal with domestic coal. The idea behind the utilization of domestic coal was not revolutionary; it was initially suggested in the 1990s. However, relying on the use of fossil fuels to generate power is not sustainable, especially because renewable solutions are increasingly becoming more cost-effective and present a better feasibility case.

Lastly, Alternative and Renewable Energy Policy 2019 was introduced to increase renewables' overall share to 30 per cent by 2030. Alternative Energy Development Board (AEDB) mapped out several strategies, like encouraging consumers to install solar to benefit from net-metering, which drastically decreases household power costs and supplies a reliable source of clean energy as well as issuing a list of certified vendors who assess energy needs and install systems accordingly. Such vendors also apply for net-metering licenses, which recently has become available to single-phase users, allowing more people to avail this facility.

When any new political party comes to power, it looks for quick fixes while ignoring the root cause because it must show progress in a limited time frame. Policies implemented are based on data gathered on the commercial use of energy. When a large part of the population uses non-commercial primary energy to sustain itself, the policies devised do not cater to the needs of the poor, so energy poverty remains unaddressed.

Much more needs to be done to combat energy poverty and achieve the sustainable development goal of providing access to all in Pakistan by 2030.What Pakistan actually needs are sound short-term, medium-term and long-term energy goals to have a sustainable energy supply–essential to end energy poverty. ■



We only want Earth

Bridget Meehan

"Our demands most moderate are: we only want the earth". These are the words of James Connolly, an Irish revolutionary who took part in the Easter Rising of 1916. Connolly was fighting against British colonial oppression in Ireland but his fight was for more than that. His fight was against all forms of oppression. Connolly understood that Ireland had first to rid itself of the British before it could deal with all other injustices, especially those caused by capitalism. According to him, "the day has passed for patching up the capitalist system; it must go". What Connolly wanted was to win. He knew that fighting to win was what was important. He also knew that reforms or 'patching up' were not good enough.

Over a hundred years after Connolly's execution, capitalism still dominates. If anything, it's more deep-rooted and more injurious particularly because of neoliberal policies which have resulted in unprecedented levels of income and wealth inequalities and environmental devastation. And even worse, neoliberalism brought with it the 'end of history' and a pervasive new message that 'there is no alternative' (TINA). So, despite its imperfections, capitalism is the best system there is for achieving prosperity and personal freedom. That message is so engrained that many on the Left find it hard to defeat. Not believing we can win, not believing there is an alternative is the biggest obstacle we face. What are the ramifications of this propaganda?

To answer that, let's first talk about Rocky. The first Rocky film introduces us to Rocky Balboa, the quintessential outsider and underdog who takes on the might of world heavyweight champion Apollo Creed. Rocky trains his socks off in preparation for the big fight, and on the night, he scraps his way through fifteen rounds and remains standing. He loses by judges' decision. But that's okay. We didn't really believe he was going to win anyway, and despite losing, Rocky achieves a personal victory because he fought so gallantly against such a mighty enemy. And so, the final credits roll up in a triumphant, upbeat note. And gone are the 70s downbeat endings.

That's how it is for many of us when it comes to thinking about change. It's as though we know the system is too powerful, too big, too entrenched, and worst of all, it's the only one that really, truly works, so fighting it isn't about winning because we accept we can't. Instead, it's about going the distance and staying on our feet no matter what kind of pounding we get, and ultimately, fighting the good fight.

This state of not believing we can win encourages all sorts of perverse behaviours. Instead of collaborating with each other, we compete for scarce resources, duplicate effort and working at cross-purposes. Instead of aiming for radical change, we stop short at modest reforms or narrow agendas and fool ourselves into thinking that the system isn't all bad and can be improved upon if only this or that reform is made.

The psychological block of there being no alternative is made worse by the ecological crisis. We're not just fighting for justice and equality any longer. We're fighting for survival too. If we had an impossible struggle before, we have an insanely impossible one now.

How do we overcome this immutable barrier? How do we protect our natural world and transition to net-zero carbon, and at the same time, transition to a more just post-capitalist society?

The starting point is vision. Vision followed by strategy. Vision helps us identify our destination, that place we want to be after capitalism. Strategy gives us a roadmap for getting there. And recognising the urgency of the ecological crisis, acting immediately to address that must be the initial steps in our strategy.

If there was ever a time to set out vision and strategy, it is now. Two years of a global pandemic have exposed the weaknesses and injustices in our systems. The wealthiest have exploited the unusual circumstances, getting richer off increased demand for PPE equipment, vaccinations and online shopping; while ordinary people have lost their jobs, seen their businesses close or have been forced to work in unsafe conditions; and while health systems have been brought to near breaking point and vaccines denied to millions in the Global South. And now the push is on to end the pandemic (whether Coronavirus is still a threat or not) and force us back to living life the way it was before 2020.

But the pandemic has also caused many to consider that there might be a different way of doing things. We may be getting bombarded with media messages that we all must get back to 'normal', but plenty of us are saying no. After what we've been through, we deserve better than 'normal'. If the pandemic is ending, it doesn't necessarily mean that the best we can expect is to return to the way things were.

All through 2021, there have been workers' strikes across the globe demanding better pay and conditions, from the US to India, from Peru to France, from Malaysia to South Africa; from nurses to factory workers, from delivery drivers to teachers, from miners to dockers, from carers to food servers, from musicians to carpenters. These strikes are making an impact with some seeing their demands met. And others from the working population, after tasting the autonomy possible with working from home, have decided they want to continue doing so or they want to do something altogether different with their lives but until now never had the courage. ■

Courtesy: Counterpunch.org

Circular Debt continues to snowball

CD needs to be controlled for economic benefit

Once again the circular debt (CD) returns to the headlines and the government is as blank as ever about the fate of the electricity market that was going to finally liberalise the power sector, bring it up to speed with international best practices, and also do something about CD. After a number of stops and starts, it was finally booked to take off this April, yet so far there's no word about it. Nor is there any update about how the implementation of the Competitive Trading Bilateral Contracts Market (CTBCM) model is going which will, according to Nepra, "have a direct positive impact on the economy in terms of boosting industrial activity". It is designed to ensure not just power availability, but also affordability, "by taking into account principles of transparency, predictability, and accountability".

But why isn't there any word on progress? There is, however, plenty of information out there about how CD swelled to Rs2.358 trillion in the first seven months of this fiscal; mainly because of reduction in the amount parked at Power Holding Limited (PHL) and Gencos' payables to fuel suppliers, but also because of a lot of inefficiency on the part of Discos, recorded at Rs48 billion during the said period against Rs7 billion in the same period of last year, a 586 percent increase. Still, despite the magnitude of the problem, the best any government can apparently do is blame previous governments for it and nobody takes the first step in the one sure way to begin solving this problem. And that is a forensic audit of IPPs (Independent Power Producers). This matter has been hanging in the air since the 2008-13 PPP (Pakistan People's Party) administration put its foot down and called for one.

It was announced a few weeks ago that Energy Minister Hammad Azhar would hold "technical meetings with IMF (International Monetary Fund) on power-related issues including review of and update on CD flow, CD stock, and circular debt management plan (CDMP) implementation". And while there's been no update about this either, it is assumed that it will be part of the meetings with the IMF delegation that began on Friday. The Fund was clearly in a hurry about CDMP after EFF (Extended Fund Facility) was finally restored, and even squeezed a pledge out of the government to continue raising tariffs and cutting subsidies. So this might be one more thing about the PM's recent radical relief plan that might not sit well with our one true lender of last resort.

Four years into the present administration, it can be safely said that it has been as unsuccessful, or perhaps unwilling, to solve the CD problem as any before it. To its credit, PPP at least called for a forensic audit of IPPs; although it's another story altogether why it couldn't get one carried out in its time. Still, there will be no meaningful progress without it; and IPPs will keep exploiting the state and getting away with it till one is done. If this government is really serious about solving the energy crisis, which it should be, then it knows where to start. It is no longer enough that every now and then government representatives sit down with known experts and spell out, in remarkable detail, all that needs to be done and then nobody does anything about it.

It ought to be lesson enough that this problem would not have grown into what it has become if only the right actions had been taken at the right time. It can only be hoped, then, that this administration will order that audit and turn the policy debate, finally, in the right direction. ■

Courtesy Business Recorder

PQA, Turkish firm sign MoU to construct Tugboat

Port Qasim Authority (PQA) and Med Marine Shipyard Turkey (a Turkish tugboat building company) have signed a Memorandum of Understanding (MoU) to construct Tugboat. Port Qasim Authority and Med Marine Shipyard Turkey signed a contract for supply and construction of one Conventional Twin-screw Buoy Tender (Tugboat) at the tender cost of US$ 9.149 million at the Ministry of Maritime Affairs, said a news release. The Buoy tender will be constructed and delivered to PQA within a period of 15 months, said a press release here. PQA advertised tender in December 2020 against which 3 bidders participated in the procurement process. As a result of the evaluation, Med Marine was declared successful lowest evaluated bidder as PPRA rules. The second and third lowest bidders were comparatively exorbitant in price from the lowest bidder and had quoted US$ 15.436 million and US$ 18.079 million respectively. ■

ENA enters into exclusive partnership with Jolta Battery

EU Report

Pakistani startup Energy and Automation (ENA), a company of Jaffer Business Systems (JBS), recently joined forces with Jolta Battery Private Limited, a sister company of Jolta Electric – Pakistan's First EV company, to provide solutions to the telecom and banking sector.

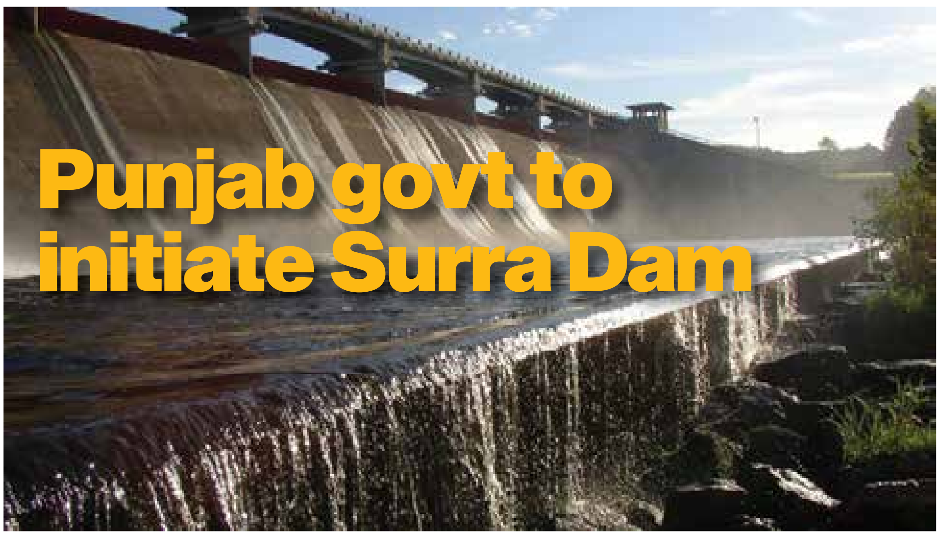
An agreement to this effect took place between the two companies with a potential of $35 million in the most advanced Graphene-based Supercaps Energy Storage Solutions with an innovative power backup storage technology called "ENARGEZE SUPERPOWER" powered by Zoxcell. This will be great for the local power and energy storage industry as Pakistan has around 50,000 telecom towers across the country. Also a plus for the banking sector which is estimated to have more than 30,000 bank branches all over Pakistan.

In 2021, the global demand for energy was projected to increase to 2.5 to four terawatt-hours annually in the next eight years. In Pakistan, however, the energy storage market and capacity is quite basic and fragmented. The country is beset by frequent power outages, unreliable transmission infrastructure, short life and low efficiency alternatives. So this [Enargeze Superpower] will be a real game changer.

Speaking at the event, ENA's Chief Executive Amir Salman and Director Faisal Murad explained that the Supercapacitor is 25 times better than VRLA dry batteries.

They said that this new technology is safe to use and minimizes the use of generators. In the bigger picture, this will contribute to a greener world by reducing carbon footprint and fuel consumption. This initiative of ENA will set a benchmark in the industry and will emerge as a new trendsetter in the country by creating a pool of employment opportunities and facilitating huge growth.

Rehan Aslam, the Co-Founder & COO of Jolta Batteries, declared this a historic and one of the biggest partnerships in the Energy Storage Sector of Pakistan as a revolution in the private sector of Pakistan. "Jolta Battery is bringing the most advanced technology in Pakistan, which will be significantly helpful to the national exchequer by reducing the import bill of up to $1 billion in three to four years," he said. ■



Punjab govt to initiate Surra Dam

EU Report

Punjab government has decided to initiate Surra dam project near Sanghar town of Dera Ghazi Khan District to store hill-torrents water in DG Khan which would be used for agriculture and irrigation purposes. The dam would be constructed to store the hill-torrents' water in Dera Ghazi Khan, said an official source while talking to media. The Punjab government has directed that the feasibility study of the Surra Dam project should be completed at the earliest. He said the construction of the dam would provide water to people up to Taunsa in abundant quantity, besides ensuring development of agriculture sector. "The Surra dam project will prove to be a game-changer for the area," he said. The Punjab government would start the Surra dam as a pilot project to conserve rainwater that went down the drain during the rainy season. He added it was very important to utilise this water after storing it. The project would also generate jobs for the local people to earn their livelihood. He said the dam construction would also promote tourism in the area.

Russia wants to install LNG terminal in Gwadar

Sophia Siddiqui

Russia is interested in establishing a Liquid Natural Gas (LNG) terminal in Pakistan's deep-sea port, Gwadar.

The Minister for Foreign Affairs, Shah Mehmood Qureshi, told ProPakistani about the establishment of an LNG terminal at Gwadar and said that the framework and other details will be discussed soon.

He explained that Pakistan and Russia are already in a partnership on energy, and the Minister for Energy, Hammad Azhar, had a long discussion on different energy projects, including the North-South Gas Pipeline. Mt Qureshi added that it was also agreed that all the running energy projects would be expedited. Pakistan's 1,122 km long North-South Gas Pipeline runs from Port Qasim in Karachi to Kasur in Punjab, and it will increase the capacity for the transportation of LNG from the Gwadar to Punjab. In response to another question, Qureshi said international sanctions may become a hurdle but expressed hope that the energy projects between Pakistan and Russia would not be affected by them.

Latest energy storage technology receives funding from US company

Burkhan International Development Corporation ("BIDC") announced a US$20 million investment in Enercap Holdings Pte. Limited ("Enercap"), the holding company behind the invention, development, manufacturing and commercialization of Supercap Energy Storage.

Energy storage is a critical element of the energy transition, with electrification and decarbonization requiring performance, which is increasingly beyond the scope of chemical batteries. Supercap Energy Storage, developed by Enercap's subsidiaries in Dubai, UAE, meets these demanding requirements - non-chemical Supercap based, with long life, no capacity degradation, environmentally sustainable and recyclable, and with abundant availability of raw materials.

It's non-degrading attribute allows Supercap energy storage to deliver consistent and predictable capacity over its 25-year life cycle, which is essential for the bankability that the market values when making energy storage investments. Shahal Khan, CEO of BIDC said, "stable, predictable and long-term output from energy storage is essential to efficiently scale IaaS (Infrastructure as a Service) and allow us to deliver bottom up nation building that empowers the lives of communities throughout the world. Conventional batteries do not deliver the reliability or longevity to attract the investments required to bring about meaningful improvement in infrastructure and transition to electrification. Isaac Chetrit, Director BIDC added "Supercap energy storage, developed by Enercap's subsidiaries in Dubai, provides the leap in storage technology that is necessary to accelerate the adoption of renewables, electric transportation and decarbonization when it is needed the most. We are excited to support Waseem Qureshi and his team in their vision to enable decarbonization, electrification and the shift to supercap based energy storage from chemical storage." Waseem Ashraf Qureshi, CEO of Enercap and the inventor of the technology, commented, "We are delighted with the investment by BIDC which will accelerate our growth throughout the world and expand our product portfolio to deliver solutions in every application where storage is deployed.

It will enable us to participate in BIDC's mission of developing the largest IaaS smart solutions in the UAE and implementing them globally to consolidate efforts in bringing to life long term positive impact and change which will aid in the evolution of our society." BIDC's investment into Enercap will both increase the company and its subsidiaries infrastructure and also create jobs in the UAE. Omer Ghani, Chief Strategy Officer of Enercap added "from rechargeable AA cells to mobile phone storage to EV charging stations to utility grade storage, we have spent the past five years building the most advanced energy storage solutions in the world — and now that market is ready to take-off." Supercap Energy Storage will deliver storage solutions that deliver a workable, performing product – long lasting, degradation free, fast charging, fully recyclable and cost effective. Bilal Sheikh, Chief Operating Officer of Enercap said that "the BIDC investment will enable us to prepare for a NASDAQ listing around the end of the year, providing us with access to long-term sustainable capital." ■

Pakistan Development Committee of PEC all set to start on-ground activities to promote academia-industry linkages

The newly constituted Pakistan Development Committee (PDC) of the Pakistan Engineering Council is soon going to start its on-ground activities. In this connection, the second meeting of the PDC was held at the PEC headquarters in Islamabad on March 19, 2022. The meeting took into consideration and finalized many future activities. The meeting was chaired by Engineer Mir Masood Rashid, being the PDC Convener, and attended by MNA Rukhsana Naveed, Member of Punjab Assembly Sania Kamran, and other committee members from all over the country and abroad.

While following up the PDC agenda, a ceremony was held to sign the memorandum of understanding with Hattar Industrial Association (HIA) the same day.

The MoU stands for the development of the industry. As per the MoU, the PEC's collaboration with the HIA will result in industrial tours for engineering students of PEC-accredited engineering universities at the HEZ (Hattar Economic Zone), the HSEZ (Hattar Special Economic Zone), and other economic zones in KP. It was also agreed that the HIA would identify pertinent topics for students' Final Year Design Projects (FYDPs) as per the local HEZ industries' needs for indigenous solutions to industrial problems and issues. These topics will be circulated among Higher Education Institutions for adoption by faculty and students for research and design. The PEC will also fund the FYDPs on the topic.

The industrial estates, which have joined hands with PEC through PDC include Peshawar Industrial Association, Gadoon Industrial Association, Nowshera Industrial Association, Hattar Special Economic Zone, Abbottabad's

industrial zone and others.

The MoU was signed with different industrial associations to develop a mechanism of industry-academia linkages for skill development of young engineers to promote entrepreneurship and employment opportunities for the development of the country. The focus of this activity is to ensure the inclusive engagement of women to encourage their active participation at all levels of decision-making. A visit to Qarshi Lab and Manufacturing facility was also arranged to explore the potential of quality standards for exports.

Later on, the industrial visit to Venus Carpets was organized to explore the potential of the export-oriented industry of Pakistan. ■

Oil rises to over $120/bbl after attack on Saudi facilities

Crude prices rose more than 1% to over $120 a barrel on Friday, as traders reconciled the impact of a missile attack on an oil distribution facility in Saudi Arabia with a possible release of oil reserves by the United States.

Brent crude settled up $1.62, or 1.4%, to $120.65 a barrel and US West Texas Intermediate (WTI) crude ended at $1.56, or 1.4% higher, at $113.90. Both had dropped $3 earlier.

Both benchmarks notched their first weekly gains in three weeks - Brent rose more than 11.5% and WTI gained 8.8%

Yemen's Houthis said they launched attacks on Saudi energy facilities on Friday and the Saudi-led coalition said Aramco's fuel distribution station in Jeddah had been targeted by an attack, but that fire in two tanks at the facility had been brought under control.

Read more: Yemen rebel attack on Saudi oil plant sets off huge fire by F1 track

Saudi Arabia said it will not hold responsibility for any shortage of oil supplies in global markets caused by Houthi attacks on its oil facilities.

The Houthi movement that has been battling a coalition led by Saudi Arabia for seven years launched missiles on Aramco's facilities in Jeddah and drones at Ras Tanura and Rabigh refineries, the group's military spokesman said.

"The market, which was already shunning Russian oil supplies, has another thing to worry about with Houthi attacks potentially impacting Saudi Arabia's production," said Andrew Lipow, president of Lipow Oil Associates in Houston, noting that the Houthi attacks were becoming more frequent.

Read more: Oil spikes as Russian supply disruptions increase amid sanctions

The attack comes just five days after the Houthi group fired missiles and drones at Saudi energy and water desalination facilities, causing a temporary drop in output at a refinery.

With global stockpiles at their lowest since 2014, analysts have said the market remained vulnerable to any supply shock.

The Biden administration is considering another release of oil from the Strategic Petroleum Reserve that, if carried out, could be bigger than the sale of 30 million barrels earlier this month, a source said.

The US oil rig count, an early indicator of future output, rose seven to 531 this week, its highest since April 2020, as the government urged producers to boost output in the wake of Russia's invasion of Ukraine.

Even though the oil rig count has climbed for 19 straight months, the increases have been small and slowed down recently

Zainab was given a Queen's Young Leaders Award in 2016 for her work to promote renewable energy. She founded the Pakistan Society for Green Energy and developed an ethanol (a bio-fuel) from waste tissue paper, which could help to provide cleaner energy.

Singapore-based Guvnor backs out from 4 LNG term deliveries

Khalid Mustafa

Singapore-based Guvnor has decided not to honour its contract to deliver four LNG term cargoes to Pakistan, which would force the dollar-starved country to purchase costly LNG from the spot market to fulfill its energy needs.

The cargoes were to be delivered in the remaining four months' tenure of Guvnor's five-year term agreement ending July 2022. "This is a gigantic blow that will force authorities concerned with no option but to purchase costly LNG cargoes at higher prices currently oscillating in global spot market in the range of $32-38 per MMBTU instead of over $10 per MMBTU under term agreement," a senior official in the Energy Ministry privy to the development told The News. He said the company sold the cargo destined for Pakistan in the spot market for higher profits. Pakistan LNG Limited (PLL) had inked a five-year contract in June 2017 under which Guvnor was bound to provide the LNG term cargoes at 11.6247 per cent of Brent.

Guvnor has defaulted three times. The company backed out from delivering a cargo on November 19, 2021, then it backed out from the delivery of cargo on January 10, 2022, and then again a delivery for March 11, 2022 never arrived.

Guvnor was to provide Pakistan four LNG cargoes each in April, May and two in June, but the trading company has informed Islamabad that that it would not be able to provide LNG cargoes in its remaining tenure of the term agreement. Cargoes were scheduled to arrive on April 15, May 14, and June 4 and 9, 2022, the official informed. Petroleum Division spokesman and Joint Secretary Development Syed Zakria Ali Shah has confirmed the cancellations; however, PLL managing director and Guvnor have not responded to the query about the default.

A top official of the Energy Ministry said PLL has decided to procure LNG from the global spot market and to this effect for the month of April, it has issued tenders.

In 2017, PLL also inked a 15-year term agreement with Italy-based ENI, which has defaulted four times. The first default happened in January 2021, when ENI delivered half the cargo. Next it defaulted in November 2021, with the latest cargo cancellation happening in March 2022.

The official record available with The News shows that with the latest defaults, Guvnor has defaulted on seven cargoes whereas ENI defaulted on four cargoes.

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