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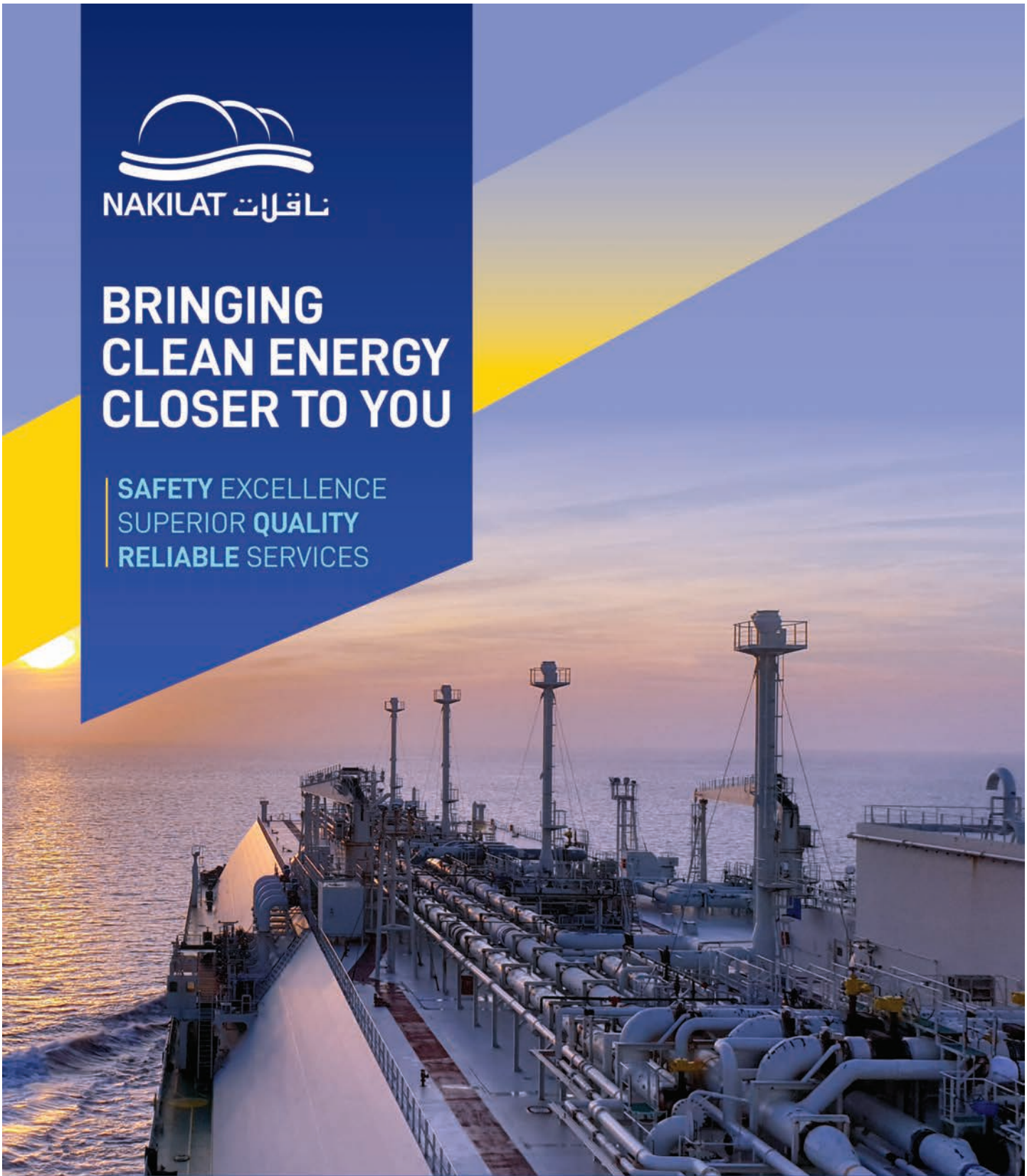

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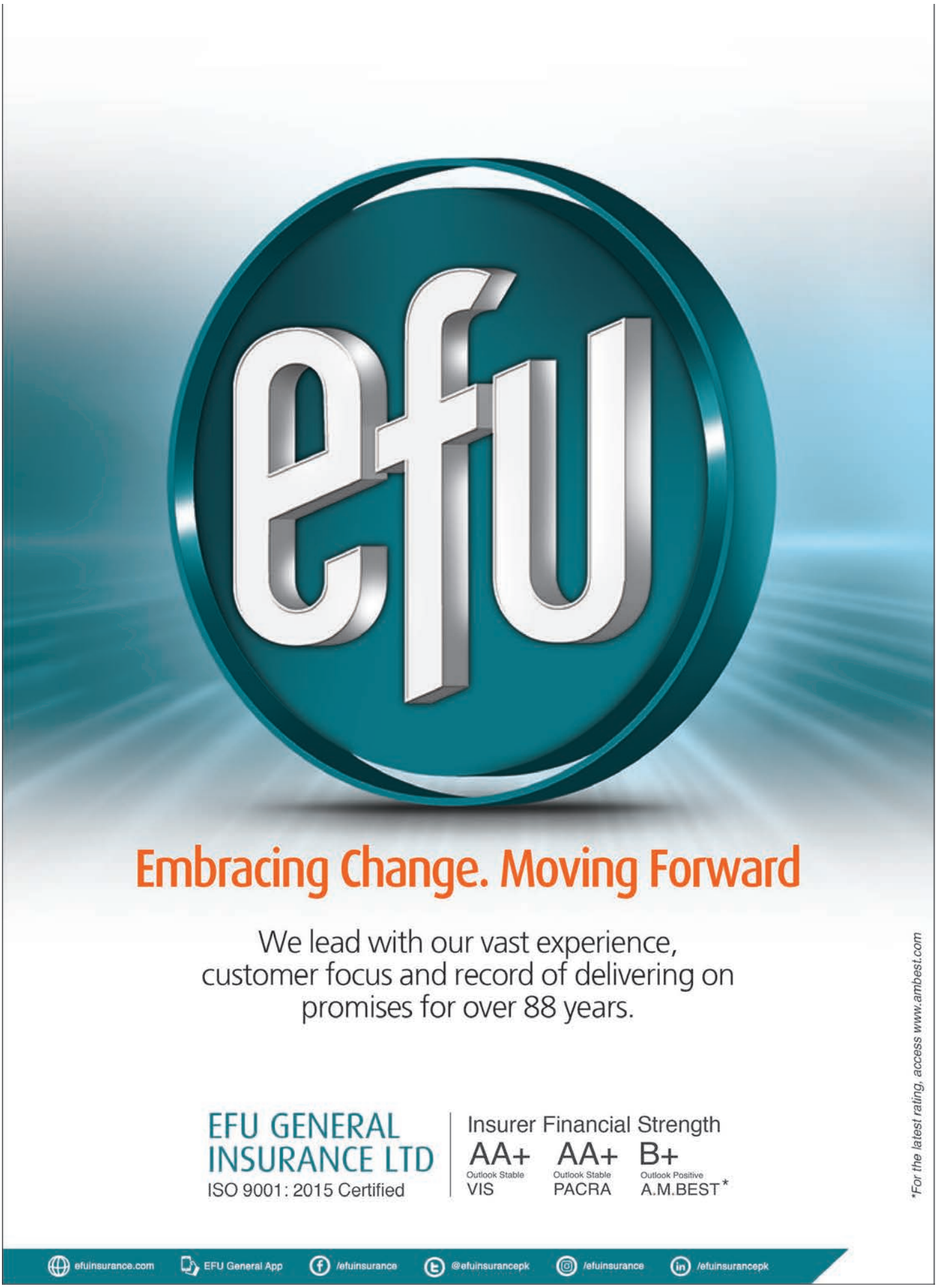
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FROM THE EDITOR'S DESK...

Gas Price issue

Sindh at loggerheads with federation

Sindh's government is once again at the loggerheads with the federal government on the issue of price of natural gas and heater share of indigenous gas to Sindh province as it was the biggest producer of natural gas in the country.

Sindh Energy Minister, Imtiaz Ahmed Sheikh in his letter to Federal Minister for Energy Hammad Azhar clarified that the Government of Sindh does not support and rejects any attempt to alter the present arrangement of WACOG for natural gas produced in the country.

After a zoom meeting with Federal Minister for Planning and Development Asad Umar, Special Assistant to Prime Minister for Development and special Initiative Khalid Mansoor and Special Assistant to Prime Minister for Power Mr Tabish Gohar, provincial minster for Energy Imtiaz Shaikh said that any attempt to add RLNG in the present WACOG prices with any ring-fenced options with Tier-I consumers of indigenous natural gas would phenomenally elevate the gas prices upward which is detrimental to and adversely impact domestic, commercial, industrial and CNG sector consumers in Sindh.

He requested federal govt. to refrain from adding RLNG price with present WACOG pricing mechanism of indigenous natural gas. As per existing practice, RLNG consumers (i-e Tier-1) shall continue to be ring fenced and kept separate from the regular consumers (i-e Tier-1) ut demands that constitutional rights of the people of Sindh for priority over utilization of natural gas from the wellheads located in the province, in pursuance of Article 158 of the Constitution of Pakistan, shall be safeguarded in letter and spirit.

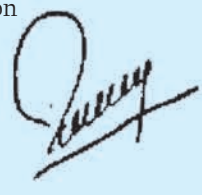
He added that the natural gas allocation quota of Sindh in the SSGCL system shall be increased so that people of the province can reap the economic benefits of indigenous natural gas.

Imtiaz Sha that the natural gas consumers in Sindh shall also be provided with the proportional cost subsidy for the quantity of gas produced in the province, over which Sindh has the first right of utilization, but supplied to other parts and also utilized in power generation which is added in the national grid and production of fertilizer whose benefits are enjoyed by entire country, so, people of Sindh may adequately be compensated for the portion of the gas which is supplied into other parts or utilized for the purposes whose benefits are spread over entire country either by providing subsidy in natural gas or power tariffs or subsidy in fertilizer prices.

He said that SSGCL may also be directed to complete all gasification schemes which are pending since 2010 whose construction cost has already been paid Government of Sindh and it shall also be directed to accept new gasification schemes which is being refused since last over five years despite Govemment's assurance of payment of cost over and above per Customer cost criteria fixed by OGRA.

Imtiaz Shaikh said that SSGCL may further be directed not to carryout load-shedding in Sindh for the consumers of gas especially industrial and CNG.

Besides energy sector, Sindh government was also defying federal government on various issues including one-syllabus education system.



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So what's wrong here?

Afshan Subohi

Pakistan turned 74 last week. It has travelled a long distance since then, but, with 8.5 million people currently unemployed and around 40 per cent surviving below the poverty line, its economic performance has been far from being enviable.

Pakistan ranked a low 129th amongst 193 UN member states in the 2021 Sustainable Development Report, slipping 14 steps in five years since 2016. Pakistanis deserve better. What has kept the fifth most populous nation which is naturally resourceful, geographically well-positioned, and harbouring a 990km hot water coastline, from realising its potential?

Was there a systemic fault, mishandling of national diversity, weak institutional setting, capacity deficit, deep-seated corruption, culture of patronage, political immaturity, democratic miscarriages, fragile legal framework, some genetic flaw in the citizenry, incompetent political and corporate leadership, archaic power structure or a delusional economic policy framework compromising the very fundamentals of market economy?

Better performing peers, like India, Bangladesh, Indonesia, Iran, Turkey, Sri Lanka, Brazil, South Africa, and South Korea, are all inflicted with their own complex sets of problems. They have seen several bouts of turmoil in the past, but still managed to do better. So what's wrong here?

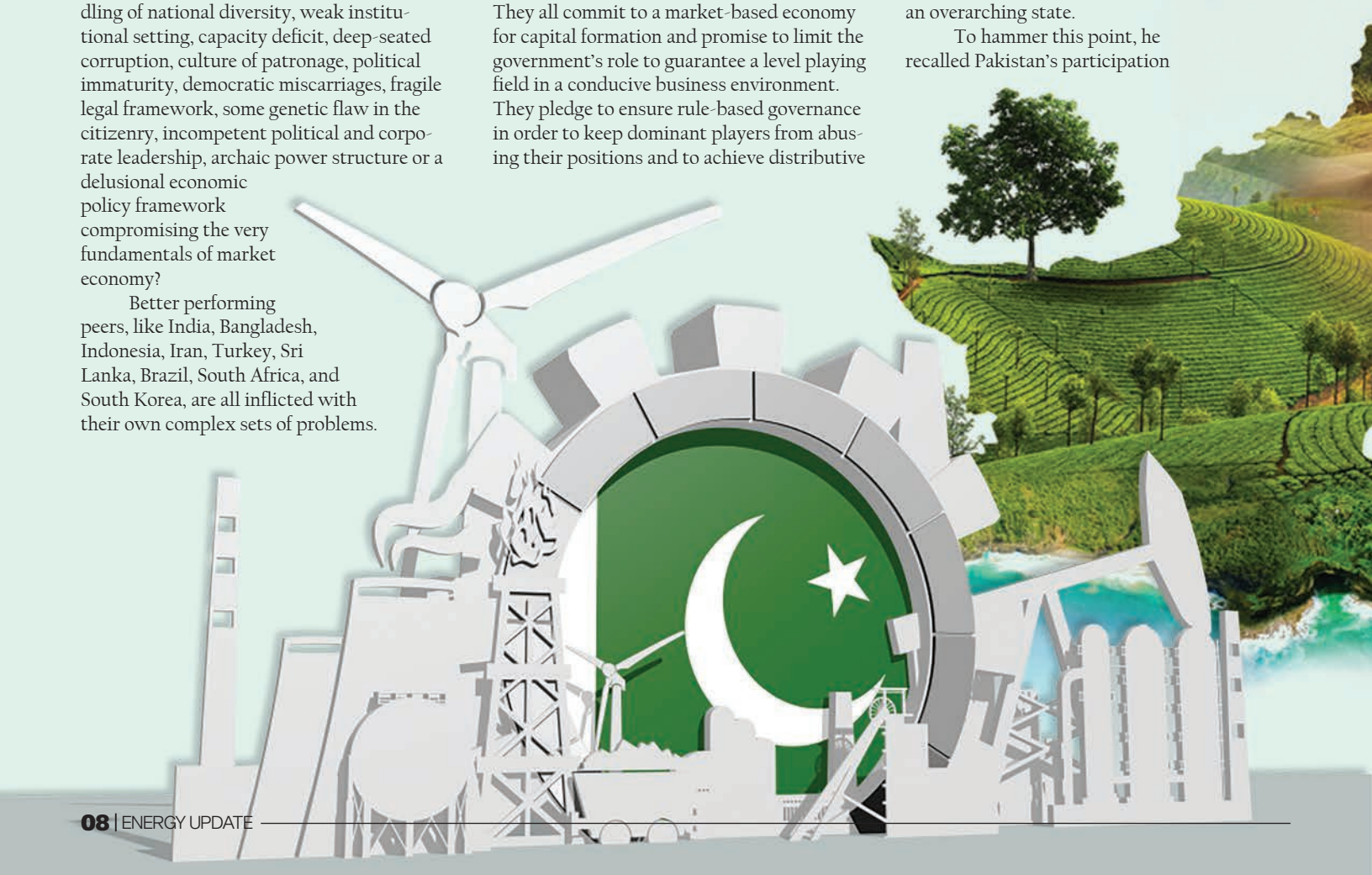
'Pakistan's Olympic squad had eight athletes and 24 officials; the ratio 8:24 explains clearly why the country is where it is,' says Dr Nadeem ul Haq

Experts have traced Pakistan's economic trajectory based on documented facts and identified bottlenecks impeding development. It might have improved the understanding of economic history, but seems to have done little to chart out a course for the future. It is relevant to mention that all three major political parties — PPP, PML-N and PTI — drew on the work done on the subject and global conventions evolved over the years. They have broadly similar positions on the economy though they differ in their order of priorities. They all commit to a market-based economy for capital formation and promise to limit the government's role to guarantee a level playing field in a conducive business environment. They pledge to ensure rule-based governance in order to keep dominant players from abusing their positions and to achieve distributive justice and environmental sustainability.

As far as the single biggest hurdle on the path to development is concerned, the consensus has yet to emerge. Most economists, thought leaders, and business representatives reached to identify the single most important drag on development were either reluctant or confused. Many identified a mix of factors responsible for the laggard pace of growth.

Dr Nadeem ul Haq, Former deputy chairman of the Planning Commission and Vice-Chancellor of the Pakistan Institute of Development Economics (PIDE), who revitalised the dormant premier institution and initiated a public debate on critical subjects, felt that "policies and projects have both failed us". He lamented the lack of interest in re-visiting and revising the current approach. He was critical of an overarching state.

To hammer this point, he recalled Pakistan's participation



and performance record in the recent Tokyo Olympics. "Pakistan's Olympic squad had eight athletes and 24 officials, no medals, only one sportsman shone in Javelin, but without government's support. Even Qatar, the size of a minor Pakistani city, won two gold medals. The ratio 24:8 explains clearly why Pakistan is where it is."

He was critical of what he calls the 'brick-and-mortar' approach to development. "Without systematic cost-benefit analysis, we build roads and bridges on the whims of leaders to the benefit of the contractors, losing control over time and expense."

Dr Rashid Amjad, an economist and a former PIPDE vice-chancellor, talked about the "low level of investment in both physical and human capital by businesses despite earning high profits". He blamed the 1992 PML-N government for relaxing rules for transferring foreign exchange abroad that continue to date with minor adjustments. He saw business 'mafias' controlling and manipulating output and prices for reaping monopoly profits as an impediment. He mentioned the adverse impact of the Afghan war and termed Pakistan's problems "structural and not cyclical".

Nadeem Akhtar, a political analyst, was clear and direct. He saw the politicisation of economic policy at the root of the overall mess. "As long as rulers continue to fiddle with the market fundamentals, I see no hope for the country and its future. If Pakistani businesses can't access huge markets next door, are nudged to source their imports from certain nations and export to less attractive destinations, it says it all. They can't beat the competition as they can't afford and see a point in investing in technology or innovation. Till such time when budget allocations are captive to dictates instead of needs, the country will continue to flounder".

He mentioned the growth rates of India and China of yore. "Double-digit growth in India and China were unimaginable 40 years back. It was only when they finally embraced the market economy and opened up for international trade the pace of development gained momentum. Pakistani economy has to break free of the political shackles for the sake of the future of the teeming millions," he stressed.

Mian Nasser Hyatt Maggo, President of the Federation of Pakistan Chamber of Commerce and Industry responded thus: "In simple words, it is the tax policy, tax collection investigation, prosecution and adjudication with one agency — the Federal Board of Revenue — that held development hostage".

Some leading economists blamed instability. Dr Ali Cheema, an economist associated with multiple elite institutions, was one of them. "Political instability and the failure of state institutions to develop a consensus on fundamental reforms of the governance system and the economy are the reasons," he said.

Dr Nadeem Javed, a former chief economist of the Planning Commission, concurred. "Political instability ruptured the natural process of nation-building and resultantly we lagged behind."

Ehsan Malik, CEO, Pakistan Business Council, emailed a detailed response that was difficult to reproduce in the limited space. He regretted the lack of trust in the business class among other impeding factors. "Of the several factors, the most important are poor long-term national planning, fragmented and silo-centred decision-making, colonial-era regulatory environment, a civil service that misunderstands and often mistrusts business, decision-making which is paralysed by fear of NAB investigations, gross mismanagement of agriculture and last, but not the least, knee-jerk changes in policies for short-term revenue objectives, mostly overburdening existing taxpayers, given the weak political will, and so far the ability, to broaden the tax base."

Identifying weak data resulting in the mismatch of demand and supply leading to poor policy decisions, he mentioned the energy sector. He recalled times when the "Planning Commission was a model that other countries emulated, notably South Korea and Malaysia". Fragmentation of authority between the federation and provinces on the one hand and between the various federal ministries on the other, he said, created complexity and slowed down decision-making.

"Investment, especially in the new sectors, has been thwarted by lack of policy consistency... hence, exports have suffered from low value-addition. Ominously, over half of our exports are in categories for which global demand is declining. It is premature to celebrate recent upsurge in exports which is principally due to the diversion of orders from Bangladesh and India because of the Covid pandemic rather than gains in our competitiveness." He was critical of weak economic diplomacy costing the country dearly and mentioned free trade agreements that serve partners better.

"The narrative on foreign direct investment (FDI) is misplaced. The FDI policy has failed to differentiate between market seeking and export-oriented industries."

Mr Malik bemoaned the perpetual neglect of agriculture. "With Pakistan now a net importer of food, the mismanagement of agriculture has become a matter of food security and unbearable inflation. Textiles, the major export sector, is also denied adequate supply of cotton — its principal input." ■

Writer is Editor Business Desk. Daily Dawn

LNG Easy to deliver clean fuel option to domestic sector

YASIR HAMID
CEO AND CO PARTNER
LNG EASY (PVT) LTD.

Naeem Qureshi

"LNG Easy is going to provide a clean cooking fuel option to one million destitute rural women every year in Pakistan as a part of its CSR obligations", this was disclosed by CEO, LNG Easy (Pvt) Ltd Pakistan, Yasir in an exclusive interview with the Energy Update in which he talked at length about the plan of his company to establish a virtual gas pipeline to deliver SSLNG (small-scale LNG) for the first time in Pakistan. Following are the important excerpts from his interview.

Energy Update: What are the details of your company and your upcoming projects in Pakistan?
Yasir: LNG Easy is a Singapore-based concern. This is the company, which used a virtual pipeline to supply LNG from Singapore to Malaysia using ISO tank containers and the road transport system. So, our company already has a footprint of its work in the nearby region. We are in the business of SSLNG that is called small-scale LNG that provides an end-to-end solution encompassing all upstream, midstream, and downstream sectors of the gas industry under one roof. Similarly, we have operations in Myanmar, Singapore, and Malaysia. As it is a fast expanding and new developing field, our company has been growing organically. We are going to build in Pakistan an LNG retail ecosystem from upstream to midstream to downstream. We will build the entire infrastructure for the purpose as this project involves US $ 200 million of foreign direct investment. The project will engage skilled labour in a very large number. We have got the first license in Pakistan to build this virtual LNG terminal and pipeline. We have signed agreements with NLC and Pakistan Railways for providing logistics support for our operations in the country. Our LNG terminal will be operated out of the Karachi Port. This is going to be the very first such initiative in the country as it is to become Pakistan's first private and de-regulated LNG terminal as the government will have no involvement in it. It will not only become a major contributor to the revenue generation by the transport companies, but also by the government owing to the involvement of many state or government entities like the KPT. The project will pay millions of dollars as federal taxes. It is a great achievement that the government is going to deregulate this sector.

EU: When is your SSLNG project going to commence its operation in Pakistan?
Yasir: The first phase of our project is going to start in the first quarter of the year 2022 that means after six months. After this, our terminal will become operational. We have planned to import 50 to 60 MMCFD in the

first year of our operation as in the second and third phase of the project the LNG import will be ramped up.

EU: Will your one project be enough to overcome the natural gas shortfall in the country?

Yasir: Obviously, our one LNG terminal will be insufficient to meet the nationwide natural gas demand. It is no secret that there is a substantial demand and supply gap in the natural gas sector of the country. Pakistan has the capacity to use two FSRU terminals at a time. It is imperative that the government build the infrastructure of SSLNG in the country that involves a virtual pipeline. The bearing capacity of the Pakistani ports is limited. While building the FSRU terminals, the government at the same time should build the SSLNG infrastructure as much as it could do. This should be done because SSLNG doesn't require a bigger paraphernalia, infrastructure, and investment as compared to a conventional LNG terminal. No wonder, if up to five SSLNG terminals are established in the country. The gas pipeline capacity is a major issue in Pakistan as a big investment is required to build new pipelines. Only 20 to 25 million people are connected to the networks of SSGC and SNGPL in a country with a 220 million population. The operation of SSLNG involves direct filling of the gas at the port as small vessels are brought for the purpose having 10,000 to 20,000 tonnes capacity. While in the case of FSRU, the minimum capacity of the vessel is 1,50,000 tonnes. We will have a mobile filling platform to run our operation that will attach with a berth at the port. The ship will directly fill the LNG in up to 18 ISO tanks at a time at the port. The decanting of the entire ship will take place in this manner in just three days. This will then be transported directly to the site of the consumer. The off-grid people who are not connected to the gas pipeline, those who consume LPG, diesel, or furnace oil, who are spread all over the country, could become the customers of SSLNG. There is no gas supply network in the northern parts of the country. Then there is also the CNG sector, where the government couldn't supply natural gas, could also become our customer. This set-up will ensure gas supply to everyone obviously at much cheaper rates and of much better quality than the LPG. The project also involves minimal capital cost.

EU: To what extent will the SSLNG be competitive with other fuel options available in the country?

Yasir: We will not compete with the sector, which is being subsidized by the government as it is not our market. The LPG represents a big and fast growing market in Pakistan. We aim to be comparatively more economical than LPG is available to the domestic consumers in the country. Then you will also be cheaper than the furnace oil and even much cheaper than the diesel. This is a massive market that has already been consuming billions of tonnes of gas every year. You will not be cheaper than the natural gas being supplied to the high-end domestic customers in the country but you will be, for sure, competitive with them. You are supposed to bring a source of clean fuel to the country. We are not cheaper than the government gas rates but we will not be that expensive as we will be very competitive.

It is an astonishing fact that " Firewood market size " for Only "heating purposes" is estimated somewhere between Rs 220 - 250 Billion (as per household Integrated Economic Survey 2018/19, which is much more than Domestic Gas market). Reason being most of Pakistan's population is still "OFF GRID" from main Gas transmission networks of SSGC/SNGPL. Hence " Firewood" is still the primary source of heating/cooking for most of Pakistan nationwide especially in rural areas and which also unfortunately remains the main root cause behind rapid Deforestation, Pollution , Serious Health hazards especially for women and children who primarily cook with wood as fuel in rural areas.

These are all above sectors where we, LNG Easy can help Pakistan with Poverty Alleviation by providing Clean Cooking fuel under a "Rural Gasification model for Villages nationwide".

LNG Easy to deliver "CLEAN COOKING FUEL OPTION TO DOMESTIC SECTOR & IMPLEMENT RURAL VILLAGE GASIFICATION NATIONWIDE"

LNG Easy, after implementation of first ever Virtual Pipeline in Pakistan is also to promote LNG as " Transport fuel" for Heavy Cargo Vehicles & Long Distance Buses in Pakistan. LNG is being adopted worldwide as Transport fuel and most manufacturers in the world are making "LNG Fueled Trucks" which are cheaper to maintain, much cheaper to run than diesel, cleaner for environment and can travel more long distance without need to refuel. China has converted most of its Heavy Cargo Carrying Road Transport and even long distance Buses to LNG Fuel. On an average, LNG Truck or Bus can travel almost 800kms to 1200kms after single Fuel Filling only. This will also promote and enhance Cross Border CPEC Road Trade between Gwadar Port and China. Hence LNG Easy intend to establish LNG fueling Stations nationwide.

LNG Easy has also signed MOU with Pakistan Railways for Transport of LNG ISO Tanks nationwide. More importantly it has convinced Pakistan Railways to explore option of converting some of its old Diesel locomotive engines to LNG which will be cheaper than diesel, more safer and environmentally friendly to operate.

EU: Tell us as to what extent you are getting support from the government to execute this project.

Yasir: We are getting very good support from all the relevant federal government departments including the OGRA. The Ministry of Petroleum has also realised that we need a big-scale infrastructure for the purpose. We do need government support in this regard as we are going to deliver the first private LNG molecule in the country within the next six to eight months. All the concerned stakeholders related to the SSLNG network in the country are required to work with consensus about the utility of the LNG terminal industry.

EU: Is there any plan for LNG Easy to protect the environment?

Yasir: We have a very extensive plan to protect our environment. The countries like Malaysia and Singapore, where we have already been operating, have one of the most stringent environment safety standards in the world. These environmental standards cover all the aspects of our operations whether it is the filling of tanks, trucking, or anything related to our core operation. We have requested the government to adopt similar internationally accepted environmental safety standards for operation of our entire industry in the country as the same set of standards should be followed to develop all the related things. No doubt, we have been following international guidelines as far as the cause of environmental safety is concerned.

EU: What is your CSR plan?

Yasir: We also have a very comprehensive CSR plan as we are ready to eradicate the cause of poverty in the country. We have aimed to provide the clean cooking fuel option every year to one million destitute families in our rural areas. This is going to benefit a very large section of Pakistan's population as till today up to 70 per cent Pakistanis live in the rural areas. We aim to involve the World Bank, IFC, and similar other global funding agencies, in this rural gasification project. This will surely result in poverty alleviation and increasing the living standards of the would-be beneficiaries of the rural gasification project. The project will help the village dwellers to continue living in their native rural areas. This initiative will contribute a lot towards the efforts to reverse the phenomenon of deforestation in the country. The private sector could do a lot to accelerate the efforts being made to reverse the harmful phenomenon of deforestation. LNG Easy has a serious pledge to provide a clean cooking fuel facility to one million people every year. China used the same method to extricate 150 million people from poverty. The private sector is ready to act against deforestation. We just need the right direction and support from the government. This is not going to overburden the national exchequer as no funding would be required from the government to execute this excellent CSR plan. ■

Are we losing our financial sovereignty?
Independence on 75th year or dependence?

Sajid Aziz

The nation is celebrating the 75th Independence Day oblivious of the fact that on the same occasion we have lost our financial sovereignty as our Central vBank has gone into the clutches of World Bank.

About 50 years back, when Pakistan was not celebrating its 25th years of existence the we lost our Eeastern part the country. Again due to conspiracy and lust for power by some so-called leaders. This regime we are having right now has also become a big threat to Pakistan's security.

Many elders and economic experts were trumpeting that the extremely wrong economic policies by the PTI government are leading the nation into a big trap and now the one can see the drop scene of whatever the present government has done.

Since long time, a former Advisor to Prime Minister on Finance Dr Hafiz Shaikh, a clerk of the donor agencies, was working on this agenda under which the State Bank of Pakistan would not remain under the federal government but will become an independent entity and work under the policies of World Bank. Even its governor would be appointed by the WB without any interference by the government. Government will no longer be able to obtain loans from central bank as whenever it done so in the past, it is said by the independent sources that this has been done by Imran Khan government to obtain 6 billion dollars loan from the IMF for which a number of other conditions were signed by the government.

Tenure of the central bank would now be 5 years and if he showed desirable performance to his masters his tenure can be extended. So folks be prepared or another viceroy has come to govern this country financially who will not be punished for any financial irregularities, even money laundering. Under the Act, no agency or FBR can initiate enquirers against him and his staff.

The State Bank of Pakistan's website will not be showing its URL as statebankofpakistan.gov but would replaced as statebankofpakistan.org.

An executive committee is also being constituted to select deputy directors and other staff. The decisions could not be challenged by FBR or finance ministry. So our monetary policy would be announced by the viceroy but where are hundreds of clowns sitting in the national and provincial assemblies and Senate as well who are just focusing on their own perks and privileges. No one raised voice against the Act, even the majority of the federal ministers have shown their inability to resist this biggest ever anti-nation move. ■

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STDC should have right to connect new power project in Sindh

Saleem Shaikh

CEO, Sindh Transmission and Despatch Company

Mustafa Tahir

Federal govt should recognize that foremost right belongs to STDC for providing transmission connectivity to a new power project in Sindh, this was stated by CEO of Sindh Transmission & Dispatch Company, Muhammad Saleem Shaikh, in an exclusive interview session with the Energy Update in, which he informed about the current and future services and projects of his provincial energy sector company. Following are the important excerpts from his interview for our readers:

Energy Update: What are the latest services of STDC in Sindh?
Muhammad Saleem Shaikh: We were granted the license in 2015 to lay a special-purpose transmission line for 100 Megawatts Nooriabad power project. The provinces now have the right to generate, transmit, and distribute electricity. Such rights were granted to the provinces in accordance with the 18th Constitutional Amendment. The K-Electric is the buyer of the Nooriabad power project. This project was completed in 2018 and its CoD was achieved. The project has been continuing successfully till to date. The NEPRA has allowed that outages of up to 131 hours in a year are allowed in the Nooriabad power plant's transmission line. Our outages in the latest financial year are not more than six hours. The KE said that the most dependable transmission line for it was that of the STDC during the torrential monsoon rains of last year.

EU: What is the scope of your future work in the energy sector of Sindh?
Mr. Shaikh: Sindh has massive potential of electricity generation. The wind corridor of Sindh alone could generate up to 50,000 MWs electricity. The investors willing to invest in the wind corridor, who have also been issued LOIs by the NEPRA for the purpose, have been visiting us. They are willing to set up wind power plants but the main issue is to find the buyer for them. We have limited options in this regard as we have DISCOs and only a single privatized power utility the K-Electric for the purpose.

EU: What is the latest achievement of STDC after doing Nooriabad Power project?
Mr. Shaikh: There are four upcoming renewable energy projects in the wind corridor of Sindh whose cases were processed by the federal government. They approached the STDC. The CEO of K-Electric and Sindh Energy Minister both did much hard work in the case of these upcoming alternative energy projects. We conducted the technical studies and later on

K-Electric followed suit to evaluate these projects. Finally, these four upcoming power projects have been issued LOIs of 225 MWs by the K-Electric. The NEPRA has issued the lowest tariff of Rs 5.8 for these wind energy projects. The power consumers in Karachi will become the ultimate beneficiaries of this lowest tariff as the K-Electric is going to buy this electricity. The STDC is going to lay the transmission line of these 225 MW wind energy projects. In the similar manner, we are willing to evacuate electricity to be generated by all the forthcoming wind power plants in Sindh as the K-Electric would also be willing to buy the renewable electricity to be produced in the province. But the main obstacle in this regard is caused by the federal government in the situation when the NEPRA has also been facilitating us to a large extent. The STDC should be given the mandate of laying the transmission line, which is to be situated within the jurisdiction of Sindh. The NDTC doesn't have time to evacuate the electricity of upcoming renewable energy projects in Sindh for next four to five years. We, in the meanwhile, also acquired the license as the provincial grid company in 2019. We are more than willing to work in accordance with our licenses. The federal government and its Ministry of Energy should recognize that the foremost right to provide transmission connectivity to a new power project in Sindh belongs to us.

Similarly, there is an upcoming project of a Dutch company Alka Power as the AEDB has issued to them the LOI and also allotted them the land to build the renewable energy plant. This project has been conceived to promote the concept of woman empowerment. It is a World Bank-funded hybrid energy project combining both solar and wind power. This is also going to be the first renewable electricity project of Pakistan that will come with the concept of storage batteries. The project will generate 300 MWs of clean electricity as they are also interested to avail our services as the formal meetings with us, in this connection, will shortly begin. Moreover, the Engro is also going to avail our services for a 500 MWs B2B power project.

EU: What is the vision of STDC to do its future work in Sindh?

Mr. Shaikh: Our vision for the power consumer in Sindh to get the choice of selecting the cheapest service-provider as has been the case of cellular phone service. We are willing to supply electricity for the purpose. Our services would be available at 50 per cent less cost as compared to the charges of the existing service providers in the province. The total length of the transmission line to be laid for wind corridor of Sindh would be around 250 to 300 kilometres as this is also going to be helpful in reducing much the line losses. Our sole request to the federal government, its Energy Ministry, and NDTC that they should only let us do our work. ■

LNG LOSSES

AGP confirms govt's grave mishandling

LNG sector causing massive fiscal loss

EU Report

The Auditor General of Pakistan (AGP) has claimed that the federal government has inflicted a loss of billions of rupees to the nation in the LNG sector ever since it came to power in 2018 but continues to deny that.

In the first two and a half years, it gathered losses to the tune of Rs122 billion, and so far in 2021 has inflicted a financial damage of Rs35 billion by repeating the past trend of mistakes. This was the crux of an analysis by Shahzeb Khanzada in August 11 show of Geo News programme 'Aaj Shahzeb Khanzada Kay Sath' (ASKKS).

When the issue of needless wastage of resources was raised last year by the Geo News, the federal government, instead of addressing the issue, came down hard against the Jang-Geo Group. However, the Auditor General Pakistan, in his latest report, has confirmed the facts presented by the ASKKS related to delay in purchasing LNG, loss of billions of rupees, all of which led to a gas crisis of epic proportions and justifies the stance of the Geo News.

The AGP, in his 2020 audit report, found it disturbing that LNG for December 2020 was contracted at a rate of USD6.7 MMBTU very late in November, which in futures was earlier available at USD4.38 MMBTU. The report laid the blame for the problem to ignoring the historic trend of winter gas consumption in the country as well as international market trends. The LNG prices were increasing sharply from July to Oct 2020. The crisis reflected on poor planning by the inept wizards at the relevant ministries for contracting LNG at spot rates, ignoring the futures all of which boiled down to the loss of Rs7.7 bn. Shahzeb reminded that back in December 2020, the ASKKS had highlighted the issue.

Similarly, the AGP also discussed the losses of Rs1.65 billion incurred in tenders for spot purchases in August and September 2020. The audit found that the tenders for August were floated in the same month and the sale was contracted at USD3.6

MMBTU while for September the delivery was contracted at USD4.65 MMBTU. Had the supplies been contracted in July, the losses would have been averted, the audit report concluded.

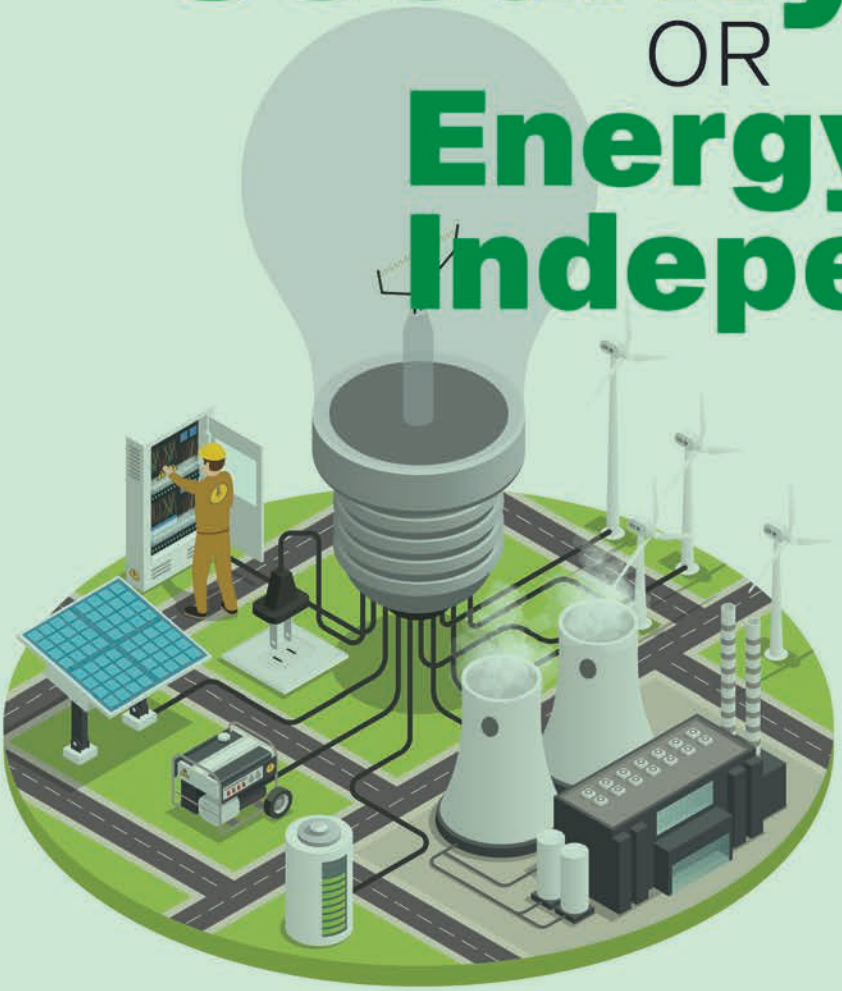
At that time, when the Geo News had asked ex-SAPM Nadeem Babar, he held the K-Electric responsible. The news channel also produced the factual position that the Karachi power utility company had 'timely raised' its requirements, which is now being confirmed by the AGP report.

The report also cites the losses of Rs1.31 billion when the demand was timely raised but the tenders were floated with delay due to which the suppliers refused to oblige and emergency tenders were floated and then historic high bids were received. All of this precipitated in a massive power and gas crisis as the electricity production was generated through expensive furnace oil due to bad planning, the AGP report reveals.

In 2020 winter, the wizards announced that Pakistan confronts peak demand for six weeks only. The AGP has found that the government paid over Rs11 billion from its kitty for not adequately using the LNG terminals. Had the terminals been used to full capacity through private sector, the additional expenses in billions of rupees could have been averted, the AGP report says.

Last year, it was said that gas was not required and now it is being said that the problem arose due to NAB cases. When asked, the NAB rejected the government's version, saying they never stopped the government from fully utilising the LNG terminal to its full capacity. However, this year as of now, the federal government has decided to utilise the LNG terminal to its full capacity. ■

Energy Security OR Energy Independence?



Dr. Shahid Rahim

"The price of liberty is eternal vigilance."
(Thomas Jefferson)

The geopolitical landscape, especially that in the Asian continent, is shifting rapidly and seeing unprecedented realignments among countries previously thought unthinkable. Some countries are using their fuel exports as a leverage to influence some other countries to align them with their policy preferences. This is prompting local strategists to reiterate the criticality of energy self-reliance by shifting from imported fuels to indigenous energy resources. In today's interdependent world, however, "energy independence" may just be a mirage chasing which can lead us to isolation and also may not be worth the cost. A better goal to pursue is "energy security" which embraces within its folds, a practicable proportion of indigenous resources.

According to Pakistan Energy Yearbook 2019 (the latest available), of the total 83.8 mtoe (million tonnes of oil equivalent) primary energy supplies during FY2019-20, we imported 38.2 mtoe (or roughly 45 percent). We imported 23 percent of our gas supplies, 72 percent of crude oil, 100 percent of petroleum products, 28 percent of LPG, and over 80 percent of our coal. These imports which exceeded USD 16.5 billion that year are costing us not only a high proportion of our hard-earned foreign exchange earnings, it also exposes our defense, economy, and society to high risks due to potential supply disruptions, price volatility, and as we noted above, our ability to pursue an independent foreign policy line.

These are not just perceived risks or paranoid thinking; these are very real as well as imminent. One is, therefore, tempted to consider total indigenizing of our energy supplies. However, for a host of reasons—lack of resource endowment, technology constraints, locational issues, and economic and financial issues, to name but just a few—this may not be practicable. Also, the problem with energy infrastructure is that it is capital-intensive, long-lived, and once in place, locks a nation into consumption patterns and dependence on energy supplies that cannot be changed quickly and without serious costs.

For similar reasons, many countries had tried to eliminate their dependence on foreign energy supplies, but had to settle for indigenization well below 100 percent. Instead, they found it more prudent to improve the energy security through a myriad of other efforts. Just to illustrate this point, Japan lacks commercial energy resources but still ranks among the top energy-secured countries, mainly because of its strong economic ties with energy suppliers and other developed countries. Similarly, China also depends a great deal on other countries for its energy supplies, but any serious "disruption" to Chinese energy supplies as a policy tool is considered implausible since the economies of many developed countries and energy suppliers depend a lot on supply of cheaper products from China.

Therefore, while energy independence may be a pipe dream, energy security is more plausible, practicable, and achievable. Unlike the former, the goal of which is to become self-sufficient in the production of energy, the

latter focuses on increasing the supply of energy by exploiting all of the sources available, not just those restricted to energy. A key point to remember is that while energy choices are influenced by a country's foreign policy, economic priorities, and environmental constraints these policies and priorities are also influenced by the energy choices it makes, thus adding another layer of complexity to this issue.

Unfortunately, a singular focus on import reduction or indigenization will not address the multiple political, social, economic, and environmental impacts of energy supply, and many other issues. Many additional considerations should drive the energy policy. However, we must admit that energy security is not a well-defined concept and also does not have an agreed upon set of metrics for its assessment. According to one published report, at least 45 separate definitions of energy security have been presented in the academic and policy literature over the past decade and the list is still growing.

Energy security is generally considered to base on four pillars: availability, reliability, affordability, and sustainability. Availability is the ability of a country to secure its energy needs. It requires an extensive commercial market and sufficient physical resources, investments, technology, systems, and legal and regulatory frameworks to back them up. Reliability refers to the extent that energy services are protected from disruption through diversification of energy sources and supply chains, resilience to handle shocks and recover from failures. Affordability involves low and equitable prices relative to income and their stability. Sustainability refers to minimizing the socioeconomic and environmental damages that can result from energy systems.

A study conducted by Asian Development Bank (ADB) Institute a couple of years back had assessed Pakistan's energy security under a quantitative 4As framework (availability of resources, applicability of technologies, acceptability by society, and affordability of energy resources) over the 6-year period of 2011–2017. It indicated that Pakistan's energy security improved initially over the first 3 years but then deteriorated over the next 3 years. "Despite significant investments in the energy infrastructure over the last 5 years, Pakistan continues to be energy insecure," the report noted. (ADB Institute: October 2019).

Policymakers in Pakistan are also not totally unaware of the criticality of energy security and have been striving to make the country self-reliant in energy supplies. An integrated national energy policy is, perhaps, still on the drawing board, but the recently issued National Electricity Policy 2021 ("NEP2021"), identifies energy security among the three primary goals of the country. Section 3.2: Energy Security of the NEP2021 states that: "The goal of the Government is to diversify the fuel mix of the generation capacity in the country, through optimal utilization of energy resources, such as hydro, renewable sources, indigenous coal, natural gas, and nuclear."

Perhaps, for this reason, the NTDC, in its draft IGCEP2021-30, also recognizes energy security to be a critical goal to be pursued in its planning. However, it considers energy security to be synonymous with indigenization. Under section 6.5: Indigenization of Energy Mix, this Plan notes that 47 percent of the country's installed generating capacity at present relies on imported fuels. The Plan also laments Pakistan's dismal standing at number 99 among the 110 countries ranked by the World Energy Council for their energy security. Keeping it as a key objective, the Plan envisages improving the indigenization ratio from its current value of 59 percent to over 92 percent by 2030 (Chart 6-4 from IGCEP 2021-30).

We must also appreciate that energy security is not a concept that is static in time; it is a dynamic issue and an evolving theme. It varies not only over time but also from country to country. Continuously shifting geopolitical landscape, technological developments, market trends, and new knowledge-bases can easily render a previously energy-secured country vulnerable to new threats, thus undermining its energy security. It's, therefore, desirable that both its definition and the metrics to measure it are reviewed periodically, or whenever a significant change in the background conditions warrants it.

While new threats are continuously emerging within and around our borders and also at the global level, new opportunities are also evolving to reduce our dependence on fossil fuels and their foreign suppliers, and lessen our reliance on capital-intensive and high-risk energy and power projects. We must also be ready to review our energy security afresh and frequently since it is a critical link to our liberty. And, this may just be the time to transform our energy and power infrastructures to more decentralized, distributed, and naturally renewable systems which can ensure supplies of socially, economically, and environmentally sustainable energy to our nation in the future. ■

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NTDC to build a secure, sustainable energy

EU Report

New power automation solution improves grid resilience, visibility, and Pakistan's largest transmission company, National Transmission & Despatch Company Limited (NTDC), has awarded a consortium that includes China Machinery Engineering Corporation (CMEC) and Hitachi ABB Power Grids1 a project to deliver an all-new Load Dispatch System (LDS) to support the country's sustainable energy goals.

The LDS system will help to improve grid visibility and automation, enabling the seamless integration of renewables.

Pakistan is aiming to increase the contribution of renewable energy from four percent today to thirty percent by 2030. The intermittent nature of solar and wind energy production means that an increasing share of renewables requires greater observability, real-time monitoring, remote control and optimization of the power grid. The deployment of Hitachi ABB Power Grids' industry-leading supervisory control and data acquisition (SCADA) application, Network Manager, with its energy management and generation management capabilities, will facilitate efficient, secure and reliable grid operations.

To achieve this, the project team will deploy a SCADA Energy Management System (EMS) at NTDC's national control center in Islamabad and at the back-up control center in Jamshoro. The system will connect the control centers with all the power plants and grid stations that are not currently monitored in real-time and will help build capacity for future stations and remote ends.

The project will also involve the installation of a new mission-critical communication network with a fiberoptic foundation and featuring a microwave network as back-up. This will help to ensure always-on connectivity and prevent outages resulting from disruptions in the communication network. It will also enable secure data transmission and increased protection from cyber threats through tele-protection and near real-time encryption of operational data and signals. ■

Climate-smart cities

Ali Tauqeer Sheikh

Pakistani urban planners have failed miserably to plan safe and livable cities for us. Instead of serving as engines of growth, our cities are holding us back from economic development. They are fast becoming Pakistan's climate hotspots, unprepared for urban flooding and heatwaves and other climate-induced disasters with poor urban infrastructure and rarely enforced building codes. Yet, cities have the gravitational force to attract the poor from rural areas, making Pakistan the most urbanised country in the region with an unmanageably high population growth rate. The quality of life of the 75 million urban residents is snowballing towards free fall.

While most cities' administrations lag behind in providing municipal or environmental services to their existing populations, waves of new migrants flock to the cities seeking social and economic opportunities. Cities have become the epicentres of polluted air and water, with disappearing footpaths, parks, graveyards and open public spaces. None of Pakistan's provincial capitals has a master plan to guide its development. Karachi's several master plans since 1951 have remained unimplemented drafts. Lahore's master plan, ambitiously named Vision 2050, has been wrought with jurisdictional fights for decades without seeing the light of day. Peshawar and Quetta, despite a push from successive governments have also failed to develop their city's visions.

In fact, secondary and tertiary cities across the country have not fared any better. Despite loud announcements by their present governments, Sindh has failed to develop master plans for its 17 cities, Punjab for 154 local governments and cities, and KP for seven divisional headquarters. Except for the Gwadar Master Plan 2050, no other city in Balochistan has a master plan. The revision of Islamabad's master plan has also proved elusive for almost 30 years, even if there were at least 42 major deviations from the original plan of 1960, including the change in zone IV from green areas to residential colonies.

Numerous small and medium-sized cities have been encroaching on prime agricultural lands, without any compass. Policymakers have routinely looked the other way. In Punjab, for example, while the entire attention was on Lahore, Rawalpindi, Multan and Faisalabad, the 10 cities that recorded the highest rate of urban expansion between 1995 and 2015 did not include any of these big cities. In the absence of any climate-compatible development, this growth has increased inequities and vulnerabilities. A unique nexus has emerged that defies all political parties and civil and military bureaucracies, as we have recently witnessed in the case of Rawalpindi's Ring Road.

In fact, the ring roads that were supposed to steer planned growth, have become a code word for elite capture by land grabbers and real estate tycoons. We have seen the trend whereby ring roads promote sprawls and enhance the access and commercial value of elite housing societies. All transactions take place on the basis of DC rates rather than a fair market value. According to one estimate, real estate was devalued by Rs4.5 trillion in Islamabad alone by revising DC rates downward and causing a revenue loss of Rs30 billion. This has been propelled in recent years supposedly to stimulate a post-Covid-19 economic turnaround.

This pattern of urbanisation has marginalised residents, particularly the poor, women, children and the elderly, by restricting their mobility and adding to their climate vulnerability. The provincial political leadership, instead of providing vision, has left our cities' future in the hands of real estate developers. No wonder the draft master plans, or their TORs, do not incorporate essential components for developing inclusive, socially vibrant, disaster-resilient, and climate-smart communities by providing common spaces, green areas, and educational, cultural and amusement facilities in neighbourhoods. Instead of engaging the residents, local universities, independent experts and other stakeholders, the developers only add

layers of concrete to the growing sprawl, without thinking about the centrality of human, social and climate dimensions to urban development

Concerted efforts are needed to bring some sanity to this real estate gold rush and set a direction with consensus by engaging key stakeholders. The provincial planning departments together with the Planning Commission can perform this function jointly through an umbrella PC-1 that brings the federating units together to agree that city master plans in Pakistan will include the following components: First, cities should be water secure. Since cities do not have the right to water from the Indus and can get water only from their provincial share, it is critical for cities to identify and protect their catchment areas, inject rainwater to recharge their aquifers and use rooftops, parks, playgrounds and greenbelts to serve this purpose. Absorbing every drop is critical to developing sponge cities.

Second, cities should steadily reclaim and protect urban water bodies to curtail urban flooding by negotiating their banks as public parks and urban fests. Water bodies are critical to blunt the spikes in temperature during heat waves that are projected to increase in severity and frequency. Third, cities should plan for low or near zero emissions by promoting public transportation and technological transformations to reduce commuting. Covid-19 has transformed the future of work, commerce, education and shopping. As entrepreneurs are finding innovative ways for livelihoods, city planners need to help overcome the digital and technological divide. Master plans can envision renewable energy-based transportation systems and promote infrastructure for electric vehicles. Fourth, plan for equity and inclusion by provisioning seven essential functions for residents within 15-20 minutes: living, working, commerce, healthcare, education, entertainment, and access to public transportation. This can serve as the backbone of the urban economy. The notion of the 15-minute city is gaining traction in political and planning circles because it deals with the neglected scale of planning that is localised to the neighbourhood level. This return to local ways of life through walkable neighborhoods is particularly suitable for Pakistan where the emphasis on walkability and accessibility is essential for women, children and the elderly who have historically been left out of urban planning. Finally, how cities will be governed, managed and resourced should be clearly articulated in over 200 urban master plans that are presently being developed. We must know what the accountability mechanisms and what climate change-specific considerations will be addressed in the master plans. ■

The writer is Ex CEO Lead Pakistan

Is it possible to have a solar power system and still suffer from load shedding?

Summaiya Nisar

Many of you have got the latest technology solar panels installed on your roof making you self-sufficient in generating your electricity. Your electricity bills are zero or even negative for a few months.

Then all of a sudden, there is an electricity shortfall countrywide. Even though you have a solar system in place, you are wondering why your power goes out as well? Sun is shining on the horizon and you expect the solar system to work. But during daytime outages, you are suffering from load-shedding just like everyone else. If you have a solar power system, you are likely to be connected to the power grid in your area. That means you draw power from the grid at night, or when your load consumption increases than electricity produced at any given time. You are selling excess solar back to the grid when your panels generate more than you need.

When the power goes out, all on-grid inverters are designed to shut down to stop the system from exporting units into the grid. That is a safety feature designed to prevent utility workings from getting electrocuted. After all, you don't want your solar panels to be the reason utility workers are injured by live voltage in downed power lines. But you are wondering what good are solar panels on your rooftop if they cannot make electricity? There has to be a way to keep your power on even during an outage!

Why your solar panels do not work during load-shedding hours?

Most homeowners have solar power systems with On-Grid inverters, meaning the panels are connected to an inverter. The inverter gets connected to the main AC panel in the house and a smart meter. That smart meter records two-way energy flow to and from the grid. On-Grid or Grid-tied systems work without any battery backup. In the case of a grid-tied system, the grid is considered a giant battery. Excess solar is stored in the grid during the daytime and the system draws power during the nighttime or when the panels are not producing enough electricity. When your solar system produces excess energy, you're selling it to the grid and getting credit for it through net metering, but when the sun goes down, you still need grid power. If your consumption and electricity production are balanced then you will get zero electricity bills.

But that also means your home does not have the power, either. In situations like these, the power produced from your panels is not utilized at home and it goes nowhere. Unless you have some way of storing that electricity!

For true peace of mind during electricity load-shedding, you need a solar power system with batteries backup. You can enjoy energy independence without worrying about the lights going out. You might even be the only house in your street with the lights and ACs on after the grid goes down. With a solar battery, you will have a seamless transition from the grid to batteries.

Understand your energy requirements and make a smart decision! ■


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Reduced ambitions for renewable energy

Naila Saleh

While the new Indicative Generation Capacity Expansion Plan (IGCEP) has invited wide-scale criticism, a major overlooked dimension of this plan is its reduced ambition for variable renewable energy (VRE).

IGCEP 2021-30has revised down the share of solar and wind in the energy mix to 12 per cent — compared to 30pc in the previous version which interfaced with the government's policies and commitment of 30pc non-hydro renewable energy by 2030.This is a big reversal. And while IGCEP claims that Pakistan has promising solar and wind potential which also have become the cheapest sources for power procurement — yet due to the associated intermittency challenges and need for additional reserve requirements as backup generation their targets have been revised down.

This argument of 'additional reserve requirements' — is not only marred by misconceptions and misinformation but also contradicts the findings of the recent World Bank study (2020) which while using the same Plexos modelling claimed that achieving the least-cost electricity mix in Pakistan would require a rapid expansion of VRE.

VRE has become currently the fastest-growing source of electricity globally best captured by innovative and cost-efficient integration strategies. Pakistan already has some ideal pro-VRE features which could maximise its net benefits. In dynamic power systems with growing electricity demand such as in the case of Pakistan, wind power and solar photovoltaic (PV) are ideal to meet incremental demand while facilitating system transformation without any economic stress on incumbents. In the case of solar, its output profile coincides with electricity demand, making Pakistan naturally flexible for its integration.

Solar PV generation could be both conveniently integrated and displace fuel-based thermal plants production — contributing to enormous variable cost savings. Based on a thorough assessment of flexibility options carried out in the World Commissioned study VRE Integration and planning Study (2020), it visualizes how VRE generation could cover essential parts of the peak load supply both during summers and winters.Further, while Pakistan has an ambitious hydro-expansion plan, the abundant availability of hydropower is uniquely placed to provide system-wide flexibility to the grid and buffer intermittent renewable generation.

Pakistan is also moving toward a competitive electricity market. This market will ensure additionally ancillary services through wholesale market-based transactions. It is also important to note here that where the argument on reserve costs have been sufficiently assumed by the recent World Bank study (also carried out for a much higher volume of VRE scenario at the time), it affirms that "transitioning to a system based on hydropower and VRE could substantially lower costs, improve energy security, and reduce greenhouse gas emissions — decreasing overall costs by more than $5 billion".

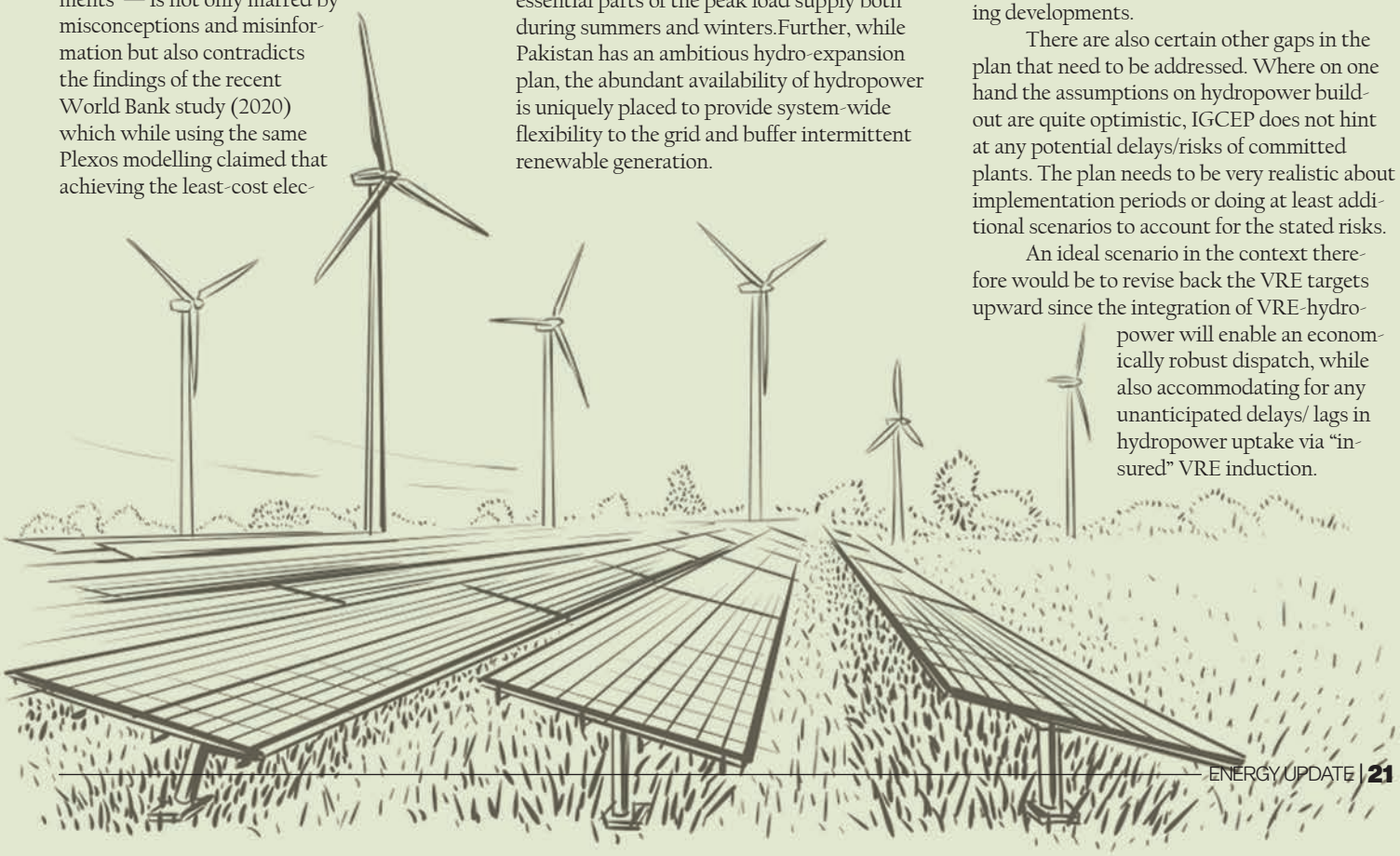
It is the interaction of VRE and other system components that determine the additional costs for its deployment. If solar and wind uptake is planned optimally from the very start, a flexible system can be built, and the cost of transforming the system could be reduced substantially.

In a nutshell, Pakistan could have sufficient flexible generation to balance adequately higher shares of VRE without building additional reserves. The new paradigm for power sectors, therefore, is to prudently plan VRE expansion, and system-wide transformation to harness flexibility. All that is needed is a coordinated transformation of the system as a whole.

Also based on the unique pro-VRE characteristics that Pakistan enjoys, the net economic benefits for the country could be substantially higher than other regions. Importantly, new alternatives solutions are emerging such as green hydrogen and cost-effective storage, which over time will enable 100pc renewable energy (RE) transition. We need to steer the power sector in the right direction from now, so as to reap maximum benefits of these ongoing developments.

There are also certain other gaps in the plan that need to be addressed. Where on one hand the assumptions on hydropower build-out are quite optimistic, IGCEP does not hint at any potential delays/risks of committed plants. The plan needs to be very realistic about implementation periods or doing at least additional scenarios to account for the stated risks.

An ideal scenario in the context therefore would be to revise back the VRE targets upward since the integration of VRE-hydropower will enable an economically robust dispatch, while also accommodating for any unanticipated delays/ lags in hydropower uptake via "insured" VRE induction.



Tesla to introduce most modern EV charging system in Pakistan

Amir Hussain

CEO,
Tesla Technologies, Pakistan

Halima Khan

"We are soon going to introduce the concept in Pakistan to let people charge their electric vehicles during their business hours, while at a shopping mall, or dining out at a fast food outlet." this was stated by CEO of Tesla Technologies, Amir Hussain, during an exclusive interview session with the Energy Update, as he shared about the present working and future expansion plans of his energy sector company. Following are the important excerpts from his interview for our readers.

Energy Update: What is the utility of solar power in Pakistan's energy sector?
Amir Hussain: Solar power has massive application in Pakistan. So far, it is being used both in on-grid and off-grid commercial applications in the country. Its use started in the country to counter the situation of power load shedding as later on the increase in electricity tariff also compelled the power consumers to adopt the solar technology. Solar power is also being used in the country to reduce the electricity bills. Solar energy has the shortest payback period as compared to other such alternative power technologies given the power tariff of the country. Payback of investment in solar energy is possible in just two to three years depending on whether it is commercial or industrial application. So it is a great incentive from the investment point of view. The electricity demand is like ever-increasing in the country as there will be even greater demand for energy in the distant future due to the use of electric vehicles. So, in such a scenario solar energy provides a very handy solution as it is all about distributed requirements and distributed generation. This means where there are electric cars, you could build a small micro-grid or small stations for recharging of the car batteries. This shows that solar energy has huge potential in Pakistan as its application in the country will surely expand.

EU: What are the latest services of your company?
A. Hussain: We have started the service of electric vehicles' charging. We launched this service last month as we are going to install this facility very soon in all the major cities of Pakistan. We are working with some of the oil marketing companies to introduce the EV charging facility at their existing fuel stations in the country. We are also connected with some of the large business groups to introduce the EV charging facility at the shopping malls, food outlets, and office complexes. This will let the EV owners charge their vehicles during their business hours, shopping activity, lunch, or dinner time.

EU: How much is the potential of green energy in Pakistan?
A. Hussain: It is a matter of fact that a very limited number of people in the country have been exploring the option of green energy. We are encouraging people belonging to the industries and businesses that they should start using this option. This will not only help to save on their energy bill but will also enable them to play their due role to promote a green and clean environment in the country.

EU: To what extent the operational work of your company is environment friendly?
A. Hussain: All our projects are completely environment friendly as we deal mostly in green energy. We also deal in CNG equipment as

the CNG consumption also helped in resolving the problem of environmental pollution in large cities like Karachi and Lahore. The problem is that Pakistan is a unique fuel requirement as its only solution is a balanced energy mix that means part usage of CNG, part LPG, part electric vehicles, and part consumption of conventional fuel, as this combination could only fulfill our energy requirements. No single fuel is capable of meeting our requirements.

EU: To what extent do your companies follow the international standards?
A. Hussain: We do follow all the international standards prescribed for our industry as we have to compete with the rest of the world. The basic differences between the Tesla and rest of the imported equipment is that we have re-engineered our equipment to cater to the local requirements. These local requirements are not only related to temperature and humidity-level but also adjustments required due to grid fluctuations that damage the equipment. So we are strong in the sense that we do re-engineering of our equipment and products.

EU: To what extent the operational activities of your company are conducted locally?
A. Hussain: All our R&D and market research activity is being carried out locally. The hardware designing is also being done locally.

EU: What are the major CSR activities going on in your company?
A. Hussain: Internally, in our factories the CSR activities are mostly oriented towards promoting healthy and sporting activities among our employees. Outside the factories, we try to help people who are energy-starved as they don't have access to electricity as they live in the far-flung areas of the country. We provide them with our equipment and systems to energise their homes. But we very carefully select only those communities, which have not been earlier supported by the government or any charity.

EU: What are the future plans. of your company?
A. Hussain: We are not going to invest any more in solar panels because of the fact that we still pay duty on our raw material despite five to seven years of manufacturing. This policy hasn't so far changed despite that we have been writing to the government on this issue for the last seven years. We were like six such companies doing such production here, four of them already closed. We will rather be expanding into emerging technologies as that is always our portfolio. So in the near future, we would be more involved in the business of EVs.

EU: What is the future of energy-efficient systems and appliances in Pakistan?
A. Hussain: There is a huge opportunity present in the country to reduce our energy requirements by 30 per cent. This opportunity still exists despite the fact that we have started using many energy-efficient appliances like inverter ACs and LEDs. This opportunity could be effectively grabbed by doing smart management of our energy supply systems. This is the arena towards which the Tesla is headed. We have ample electricity but the capacity of our transmission lines is limited. No investment is coming to upgrade our transmission lines. So, what we could do is to reduce our energy needs not by compromising on our requirement but by efficiently using the energy equipment. ■

TREE PLANTATION

PM Imran Khan inaugurates world's biggest Miyawaki urban forest

Imran Khan has inaugurated the world's biggest Miyawaki urban forest as part of monsoon drive under the 10 Billion Tree Tsunami project.

PM Imran Khan, while speaking on the occasion said that this would be the largest Miyawaki forest in the world and we are hopeful to leave a better country for future generations.

He also lauded the efforts of the organizers for planting the Miyawaki Forest.

He went on to add that effective measures have been taken to tackle climate change.

The PM further stated that Lahore is a city of gardens but unfortunately, it it is now considered one of the most polluted cities.

He added that global warming has caused the earth's temperature to rise dramatically. However, Miyawaki forests will prove to be helpful in controlling environmental pollution.

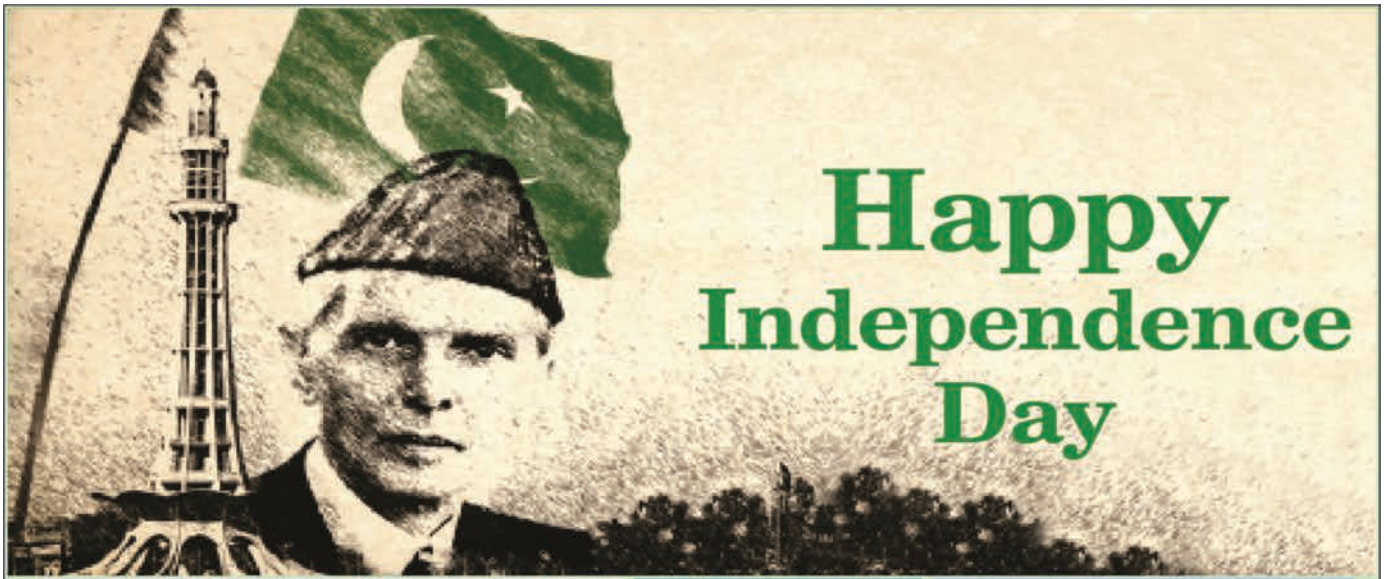
It is pertinent to note that the Miyawaki forest has been developed over 100 kanals with a total of

165000 plants which will grow ten times quicker than a normal forest owing to the unique Miyawaki technique.

It uses specialized land preparation as well as indigenous varieties with varying growth rates to produce fast growing urban forests.

Another 53 Miyawaki forests are being grown at different parts of Lahore to create sinks for carbon as well as for better pollution abatement in the city.All projects have been geo-tagged for monitoring of their growth and development.

About 500 million trees are being planted across the country under the ongoing Monsoon plantation drive which is the largest ever such drive in Pakistan. ■

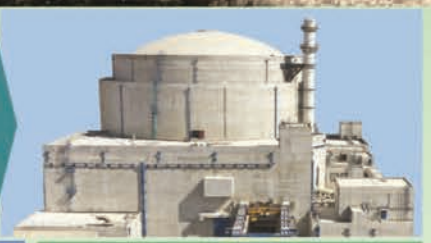


Happy Independence Day

Chashma Power Plants

Nuclear Power Plants

KANUPP-2



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Pakistan Oil Refinery Policy 2021 finalised

Khalid Mustafa

The government has finalised the Pakistan Oil Refinery Policy 2021 with a huge package of tax incentives, including 20-year income tax holiday for all taxes under the Income Tax Ordinance 2001 and upgradation of existing and new deep conversion refineries from the date of commissioning of the project. However, there will be no product off-take and rate of return guarantee for new and existing refineries.

And more importantly, the product pricing formula of refineries will be based on "True Import Parity Price" to be derived from the Arab Gulf Mean FOB (Freight On Board) spot price, or if not published will be derived from Singapore Mean FOB price, discloses the final draft of the policy. The new policy, once approved, will also be applicable to those potential investors who want to establish a world scale deep conversion refinery and petrochemical complex with investment of $10-15 billion in Pakistan.

Once the existing refineries give the commitment to the government by December 2021 for upgradation, they will be given tariff protection by six years to achieve the goal of Euro-V Mogas (petrol) and diesel. OGRA will monitor the upgradation and modernization projects and submit a quarterly work assessment report to the Petroleum Division based on the refinery's work plan.

The Refinery Oil Policy comprising 10 sections, highlighting the importance of the existing refineries and their upgradation, the need to install deep conversion refinery and petrochemical complex in the country with focus on way forward along with a framework of fiscal and regulatory regime, will be pitched in the next ECC meeting for approval, a senior official at the Energy Ministry told The News.

The much-awaited 58 pages and 8,342 worded oil refinery policy containing huge fiscal incentives and relaxation in duty structure with eight policy objectives to provide the enabling framework will lead to complete deregulation of the sector in till December 31, 2027, and once it gets approval from the federal cabinet, will be effective immediately. The policy will be implemented with the objective to evolve a fully deregulated market environment till December 31, 2027 with participation by all stakeholders.

Under the deregulated regime, oil marketing companies will be free to set the prices themselves, based on the quality of fuels location (including abolishment of the Inland Freight Equalization Margin).

And to facilitate investment by local and foreign investors, and for ease of doing business, approvals from various authorities should be managed through a one-window operation housed in the Ministry of Energy (Petroleum Division). And the existing relevant laws, rules, procedures and orders etc. will be amended by the relevant government bodies to reflect these policy changes. According to the policy, the product pricing formula of refineries will be based on "True Import Parity Price" to be derived from Arab Gulf Mean FOB spot price, or if not published shall be derived from Singapore Mean FOB price. All other elements including Premium, Freight, Port Charges, Incidentals, Import Duties, exchange rate, provincial taxes as applicable and other price adjustments will be added, as per PSO actual imports, in the FOB to arrive at True Import Parity Price.

Additionally, prevalent Inland Freight of imported crude oil to refineries and provincial duties, levies or cess and taxes (with import duty on crude oil, if any) at import of crude oil shall be added for refineries. And there shall be no import duties and sales tax on import of petroleum crude oil with effect from July 1, 2022, being the main raw material, by refineries themselves. The finished products, however, will be subject to import duties and sales tax notified by the competent authority from time to time.

And there will be no guarantee of rate of return for existing, or new refineries provided by the regulator or the Government of Pakistan.

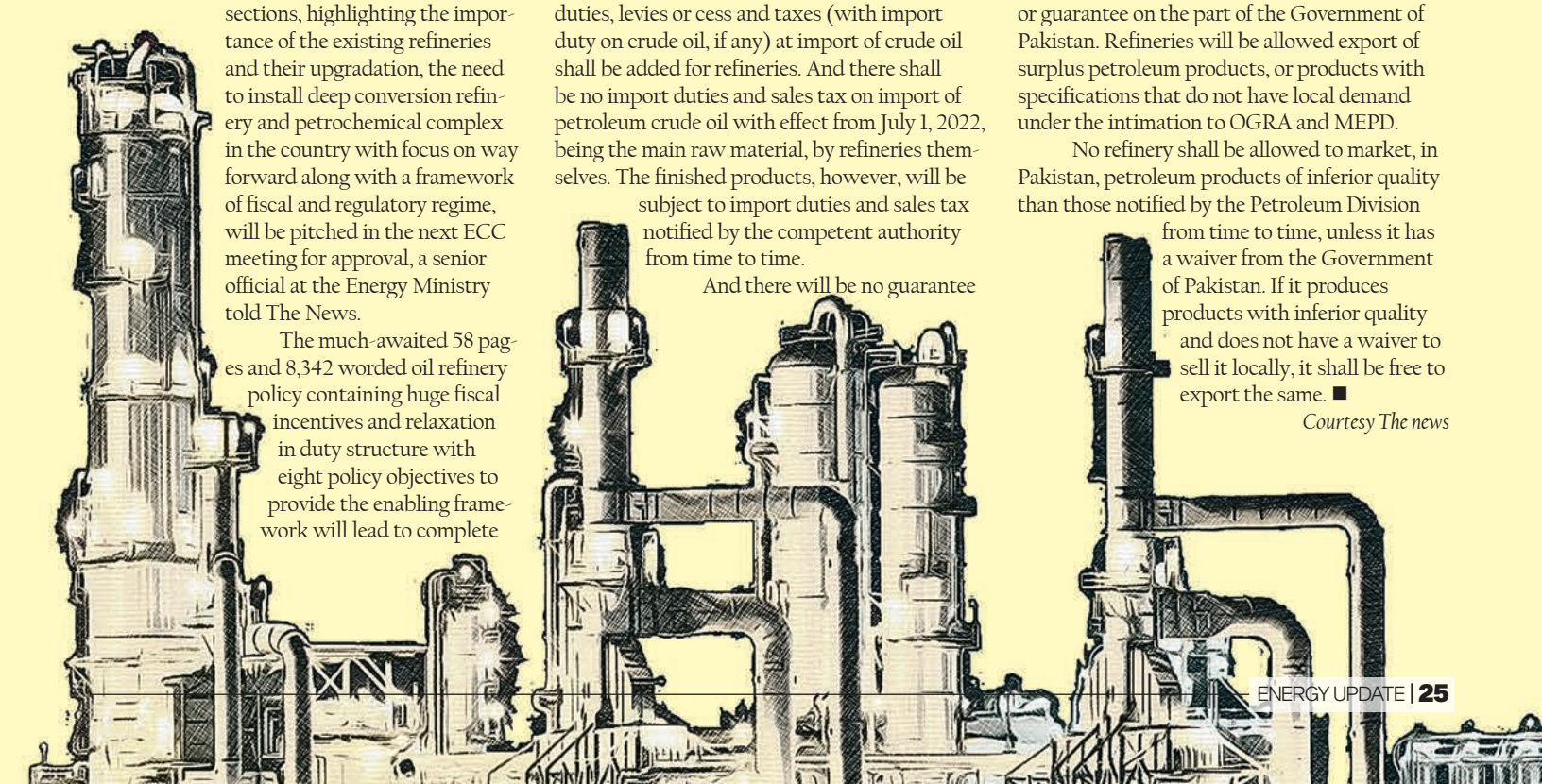
Under the policy, there will be a tariff protection in the form of 10pc import duty on Motor Gasoline and Diesel of all grades as well as imports of any other white product used for fuel for any kind of motor or engine, effective from January 1, 2022 to December 31, 2027. The pricing regime for new refinery projects would be given a pricing mechanism, which shall be no less favorable than the prevailing mechanism till deregulation.

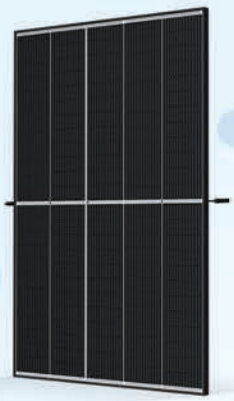
The government will not provide any product off-take guarantees. Refineries shall be allowed to sell products to any marketing company, including their own affiliates in marketing and distribution. However, import of finished products by OMCs shall be limited to only the projected deficit in accordance with provisions of Rule 35(g) of the Pakistan Oil Rules 2016, ensuring uplifting of local refined products first.

Locally produced crude will be allocated to the closest refinery that can handle crude with such specifications. Once allocated, the same may not be cancelled if a new refinery comes up closer to the crude source, unless mutually agreed amongst the existing user, new proposed user and the Petroleum Division, Ministry of Energy. After upliftment of local crude oil, if so allocated, the refineries will be free to import crude oil from any source except from prohibited countries, with no obligation or guarantee on the part of the Government of Pakistan. Refineries will be allowed export of surplus petroleum products, or products with specifications that do not have local demand under the intimation to OGRA and MEPD.

No refinery shall be allowed to market, in Pakistan, petroleum products of inferior quality than those notified by the Petroleum Division from time to time, unless it has a waiver from the Government of Pakistan. If it produces products with inferior quality and does not have a waiver to sell it locally, it shall be free to export the same. ■

Courtesy The news





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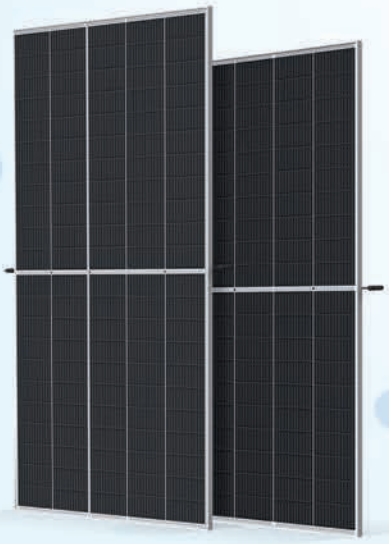

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A city yearns for its floral past

Tariq Ullah

There was a time when Peshawar was known as the city of flowers. Perhaps this was because of the many gardens built in the 16th and 17th centuries during the Mughal Era. Professor Sayed Amjad Hussain wrote in the September 7, 2018 issue of The Friday Times that, "At one time, Peshawar was known by her monikers 'City of Flowers' and 'City of Seven Colours'. In a not-too-distant past, the arrival of spring was heralded by flower-sellers balancing large baskets of roses on their heads and walking through the labyrinthine streets of the old city and shouting 'It is the spring of roses, come and get fresh roses'." Flowers, including roses, were cultivated in the surrounding villages on the outskirts of the city.

The city's name is believed to have been derived from the Sanskrit name for 'city of flowers,' Poshapura, a name found in an ancient Kharosthi inscription that may refer to Peshawar. According to researcher and writer Mohammed Ibrahim Zia, in his book Peshawar Maazi ke Dareechon Mein [Peshawar Through the Windows of the Past], during the Durrani rule in 1809, Scottish statesman and historian Monstuart Elphinston spent about four months in Peshawar. In his memoir Account of the Kingdom of Caubal, Elphinston describes fruit and flower gardens, springs and date trees in the northern areas of Peshawar, where dates couldn't ripen because of the cold weather.

Zia also describes that when Zaheeruddin Babar invaded the Khyber Pass in 1505 and stayed in Peshawar in 1519, he saw people working in fields around the city that had trees and flowers. Dr Noor ul Amin, professor of Landscape and Floriculture at the University of Agriculture, Peshawar, points out that the city is still home to several large gardens such as Wazir Bagh and Shahi Bagh from the Mughal era, and Cunningham Park (now known as Jinnah Park) and Company Bagh from the British era. But in 2016, the World Health Organisation (WHO) ranked Peshawar as the second-most polluted city across the globe. This revelation is borne out by readings from IQAir, a real-time air quality information platform. Emissions and fumes from vehicles are the main causes of air pollution in Peshawar. Numerous cars, motorbikes and rickshaws populate the city roads, along with heavy-duty vehicles such as trucks and lorries, many of which run on diesel, or fuels of considerably lower quality.

Peshawar's traffic police estimates that about 700,000 vehicles enter and exit the provincial metropolis on a daily basis, while 35,000 registered two-stroke and four-stroke auto-rickshaws ply the streets and add more pollution to the city.

Research on the emission of greenhouse gases in Khyber Pakhtunkhwa (KP) by Dr Asif Khan, a PhD scholar at the University of Cambridge, reveals that the emission of these gases is highest in the transport sector. His research for the Pakistan Forest Institute shows that the emission of greenhouse gases is the most in Peshawar, followed by Mardan, Dera Ismail Khan and Abbottabad. In such a dire situation, one man has flown the green flag. Blaming Peshawar's abrupt urbanisation, high-rise buildings, shopping plazas and markets for the city's ever-increasing pollution, 70-year-old Misal Khan has pledged to make Peshawar a city of flowers again.

"Peshawar was once full of flowers and you could see them on roadsides, in gardens and homes," he says. "We need more greenery in this city, but there seems to be no respite in this concrete jungle."

Khan, who previously worked as director physical and health education at Hazar Khwani Government Higher Secondary School, spent over 20 lakh rupees in 2017 — including his gratuity — to establish a nursery at Gulbahar, a few metres away from the Grand Trunk or GT Road, the city's main thoroughfare. After coining the slogan 'Your Pot, My Plant', he has distributed nearly 200,000 saplings of flowers and plants to people across the province, free of cost.

"Almost 100,000 plants were given to Peshawar's Town-1, Town-2 and Town-3 on the request of the government in 2017," he says. "Sadly, the government has ignored my requests for a maali [gardener] to assist me because I am growing old." A variety of plants and flowers, including some evergreen species as well as grape vines and pomegranate, guava and loquat saplings, are available at Khan's nursery. Khan recalls how he once complained to his father about people cutting trees near his home and his father had replied, "Don't worry too much about trees being cut, instead plant two trees."

Khan's four daughters work for the government, while one son is a doctor and the other a businessman in Canada, who takes care of the family, leaving Khan at leisure to pursue his passion for plants. He has named his nursery after Abdur Rahman Baba, the Pashto Sufi poet. Khan is also known as a 'pir' because of his passion for Rahman Baba's poetry. He has put up a few posters in

his nursery with Rahman Baba's poetry on them. Khan admits that he may not be able to make the entire city green but wants to do as much as he practically can. He has also published a few booklets on climate change to hand out to people, to create awareness about the importance of greenery for the environment.

Khan wants Peshawar's residents to help him in his mission in giving the city flowers and greenery which will help fight pollution. "Neither the government, nor the people have any interest in cleaning up Peshawar's environment," says Khan a bit despondently. "They would rather wear a mask and inhale polluted air, but no one will make any effort to plant a tree or flowers for their own benefit." But Hastam Khan, whose family is associated with the nursery business for the last 35 years, believes that Peshawar still has the potential to grow good quality flowers and hence can revive its past glory of being a city of flowers. He is pleased that social media has created climate change awareness and that there are Facebook and WhatsApp groups through which young people purchase flowers and plants online.

"People should also be growing their own food," he says. "Instead of growing fruit and vegetables, people have turned gardening into a luxurious hobby and prefer growing hybrid plants because importing originals is very expensive," he says. "The government should look into developing new environment-friendly and affordable hybrid plants and trees." Having been witness to Peshawar's beautiful floral past, the two Khans hold out hope that the government will yet help them establish nurseries at a district level across the province. ■

Mari Petroleum extends tribute to national heroes

Mari Petroleum hosted an impressive light and sound show at the National Monument, projecting the struggles and contributions of our founders for creation of an independent state, Pakistan's rich history, progression over the years, vibrant culture and a tribute to the heroes of Pakistan.

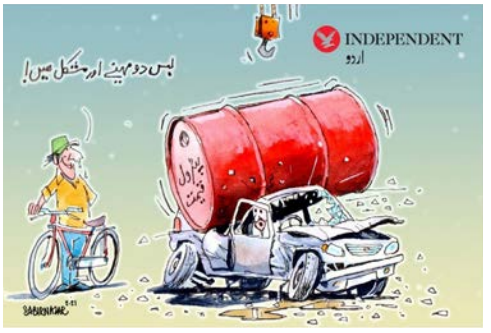
MD/CEO Mari Petroleum Faheem Haider, in his speech said that this initiative is aimed at invigorating our national spirit through innovative tools of storytelling. He added that the show will be demonstrating an immersive 3D Light and Sound Show, projecting the story of Pakistan's independence and a tribute to the heroes of Pakistan. This is a one-of-a-kind three-dimensional projection mapping experience – a modern technology/tool for storytelling, which is cutting edge and unique. Faheem Haider also highlighted that, in addition to being the leading Oil & Gas company of the Country, Mari Petroleum is playing its role as a responsible corporate citizen by investing in social welfare projects throughout Pakistan.

Chief Guest, Managing Director Fauji Foundation Mr. Waqar Ahmed Malik paid rich tribute to the founding fathers of Pakistan struggle and reiterated the resolve of the Fauji Foundation group towards building a vibrant and prosperous Pakistan.

He lauded the achievements of Mari Petroleum in the field of Oil & Gas and the company's CSR initiatives. He specially emphasized MPCL's pivotal role in ensuring food and energy security in Pakistan. He also highlighted that, in the last 5 years MPCL contributed PKR 350 billion to the national exchequer in the forms of taxes, levies & royalties and annually saves PKR 270 billion in foreign exchange for the Government of Pakistan.

He added that Fauji Foundation, a trust established in 1954, is dedicated to the welfare of ex-servicemen and their families. The Foundation provides welfare services to its 8 million beneficiaries, who are our heroes having contributed zealously for the safety of our homeland. The Foundation's state of the art facilities including 140 Health facilities and 180 Educational facilities are open for all citizens of Pakistan.

It was highlighted that the Foundation operates on a completely self-sustaining basis and receives no grants or assistance from any Government or Non-Governmental Organisations. The Foundation generates funds through its various investments in Fertilizer, Cement, Power Generation, Renewable Energy, Oil & Gas exploration, Marine Terminal, Food and Banking sectors of the country. The funds generated from these investments are exclusively dedicated for the Foundation's welfare activities. It is worth mentioning here that the Fauji Foundation group paid PKR 1 trillion in taxes to the Government of Pakistan in the last 8 years. ■



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Muhammad Tahir
CEO & Managing Director,
Prosun Solar

Muhammad Naeem Qureshi

Experienced Chief Executive Officer, Prosun Solar with a demonstrated history of working in renewable and environment history, Muhammad Tahir has good command over project management and strategic planning. He is a strong business development professional with a Master of Business Administration (MBA) focused in marketing from RMIT Royal Melbourne Institute of Technology. Energy Update had an exclusive chat recently. He says that...

Q: What are the details of your company the products?

A: Prosun Solar is Originally based in Australia and has been providing its products and service for 11 years. We are global distributor, offering premium quality renewable products. Prosun Philosophy has always been focused on representing High Quality Products with a Point of difference that contribute to Australia's Renewable Sector and now aim to provide the most economical and most reliable solution to the people of Pakistan.

Prosun Solar is always dealing with the Hi tech products to provide its customers with the latest premium quality products. There are multiple variables to consider when seeking out the best solar panels on the market. Our major Products includes the European Tier 1 Modules with 15 year Product replacement warranty and 25 years linear power warranty. We are providing CATL Battery Cell tech that are also in cooperated in world top companies like BMW, Tesla, Apple and Samsung.

Q:In what manner your company could provide help to a country like Pakistan to produce most of its electricity on the basis of renewable sources of energy?

A: As Pakistan is currently facing energy crisis so we aim to produce clean and sustainable energy with most economical and High Quality Products. Currently our country is producing 64% of its electricity by using fossil fuel that also requires adequate supply of carbon fuel which cause environmental disasters but by replacing it by renewable energy it wont cause any strain on Pakistan's environment. Our Vision is to improve the quality of air by offering reliable and affordable energy that saves the environment from the negative impacts of greenhouse gases reducing air pollution. Also by promoting renewable energy we will significantly help our country to reduce electricity shortfall and provide excess energy produced to the national grid.

Q: What are the advantages of your products to energise the off-grid rural areas in the country?

A: In some rural areas of country, providing uninterrupted power supply is a major problem which is effecting on the growth of rural areas. Our Solar products will boost the living standards, employment and economy of the country. We are providing High quality products on such economical rates that the people of rural areas can get benefit from our products as our products are more reliable and we are providing longer warranties of our products that helps in getting the uninterrupted power supply to rural areas. Our solar projects in rural areas will not impact on national grid and help to reduce the energy crisis of the country.

Q: What are the major challenges a renewable energy company like yours have to face while working in Pakistan?

A: Many Uncertified companies and local installers are surpassing the counter balance process and providing sub standard products to the market and misguiding the customer with their cheaper prices because of low quality and are not imported through proper channel which results in discouraging the companies to introduce new technologies products. High priority is dedicated to traditional sources of energy and lack of structural regulations for renewable energy. Limited knowledge about modern solar technology, specialized equipment and suppliers.

Q: What are the major CSR activities of your company?

A: As we are Australian based company we understand the value that how important it is to build a good customer service relationship. Been a Global distributor and having extensive experience, Prosun Solar's team aims to benefit all spheres of Pakistan's society. In order to serve our customers we are providing with professional and skillful team that will look after their requirements, inquiries and will provide solutions to their problems. Unfortunately in Pakistan, Solar companies grant after sales service much too little which is fatal as a substantial deficits. In future we look ahead to provide 24/7 customer service for technical support as our first priority is customer's satisfaction. ■

Prime Minister

Imran Khan

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Electric Bike

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MOTOR POWER	BATTERY POWER	ENERGY METER UNIT CONSUMPTION
1000W	20 AH	1.5 UNITS

EV DRY BATTERY	CHARGING TIME	TOP SPEED ON INCLINED ROAD
	OVERNIGHT	10-20 KM/HR

Promote

GREEN ENERGY

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ELECTRIFYING THE FUTURE

Workshop focuses Women in Energy and Stimulus

Halima Khan

Women in Energy conducted a workshop on Gender Equity and Energy Access recently in Islamabad. The workshop has focused the discussion on the long neglected aspect of gender in the energy sector. A gender based perspective is absent in the energy discourse and policy of Pakistan. Our energy sector has for long turned a blind eye towards the discriminatory usage of energy, which is exclusionary towards women's access to energy. We believe that in order to decentralize the access of energy and observe equitable usage of energy by all genders per household, we need to critique the current gender-blind energy policies. For this purpose, this workshop gave the stage to Rihab Khalid, a research fellow at the Cambridge University to share a policy brief co-written by Hira Wajahat Malik- co-chair WiE, which helped us to identify the key areas of improvement, mainly: lack of gender disaggregated data and absence of women in decisional areas of policy making and field-work in the energy sector. This was followed by Miss Rihab shedding light upon the key interventions and recommendations on gender responsive energy policy and practice.

Furthermore, we also invited a panel of experts to share important insights on the policy brief including: Miss. Saadia Qayyum- Energy Specialist, World Bank, Mr. Zaigham Mahmood Rizvi- Chairman, Naya Pakistan Housing authority, Mr. Shahjahan Mirza- CEO, AEDB, Mr. Mehroze Rafique- NEPRA, and Mr. Saad Latif- K-Electric. This was concluded by a Q&A session from the audience.

This workshop invited participants from across Pakistan's energy sector composed of representatives from policy bodies, regulatory authorities, electric utilities, international donor agencies, NGOs, social enterprises, and academics working on energy access issues. The workshop was interactive; the dialogue and flow of the conversation was designed to be pretty agile and democratic. To engage with our audience members, we created small groups and asked our audience members to fill in a policy brief matrix created by us. Their insights on the policy brief were then discussed by the organizers and the audience itself. This led to a productive discussion whereby the energy experts in our audience informed us of prospective ideas that could be later incorporated into gender sensitized energy policies.

We would also like to give a special mention to Miss Farhana Mazhar- Gender Specialist at Water And Power Development Authority, who presented an educational case study which dissected the phenomenon of energy with a socio-political lens and simplified the idea of gender equity in the energy sector.

The insights from our organizers, experts and audience members helped us address the challenges of our current gender-blind energy policy. It further assisted us in trimming down key reforms and additions to make our energy policy more gender sensitive. There is a need to understand that energy cannot be reduced to a scientific phenomena which merely helps run appliances and offices but conceptualise it as a multi-dimensional phenomenon whose usage and access has socio-political and economic consequences on its users.

The workshop was sponsored by Global Sustainability Institute and Anglia Ruskin University, as part of the UK Global Challenges Research Fund (QR-GCRF) project: Gender equity and energy access in the Global South and organized by Hira Wajahat from Stimulus and Women in Energy, Dr Rihab Khalid from Cambridge University, University of Management and Technology (UMT), WAPDA, Cecilia Alda Vidal (Lead Analyst), Sarah Royston (Briefs editor) and Chris Foulds (project lead) from the Global Sustainability Institute.

NFEH launches monsoon plantation campaign in KEPZ

The National Forum for Environment and Health (NFEH) has joined hands with the Midas Safety and Orix Modarba to launch a monsoon tree plantation campaign in the Export Processing Zone, Landhi.

The same industrial estate of Karachi was selected some three months back to plant 300 plant saplings that have grown much due to proper care and protection. The back-to-back plantation drives have played an important role in increasing the green cover in the industrial zone.

The saplings of fruit-bearing trees were specially chosen for the latest plantation drive. The central idea of the event was that instead of displaying buntings on the festive occasion of Independence Day, August 14, tree plantation campaigns should be conducted across the country to make Pakistan clean, green, and pollution-free. The trees, no doubt, are the best gift to the motherland, said the speakers on the occasion. Participants of the event prayed for security, safety, development, and progress of Pakistan and also to make our motherland a pollution-free state.

Those who attended the occasion expressed the resolve to take care of the saplings planted at the site and also to do similar plantation campaigns in other industrial estates of Karachi.

Speaking on the occasion, NFEH President, Naeem Qureshi, expressed his gratitude to Orix Modarba and Midas Safety for extending all-out support for conducting the monsoon plantation campaign in Karachi. He said that more such events would be held in Karachi to plant saplings in view of the monsoon season and the upcoming occasion of Independence Day August 14.

He said that up to 5,000 tree and plant saplings would be planted in Karachi in the current season as they would also be properly nurtured for their growth.

Also present occasion were NFEH Vice-President Engineer Nadeem Asfraf, Raheel Qamar Ahmed CEO of Orix Modarba, Nadir Shah Head of HR, Mehar Zehra AM HR of Orix Modarba and officials of Midas Safety include Hani Ul Nasir, Naveed Abid, Farooq, Syed Anas and Sharjeel Ahmed. ■

PM promises more dams, focus on 'clean energy'

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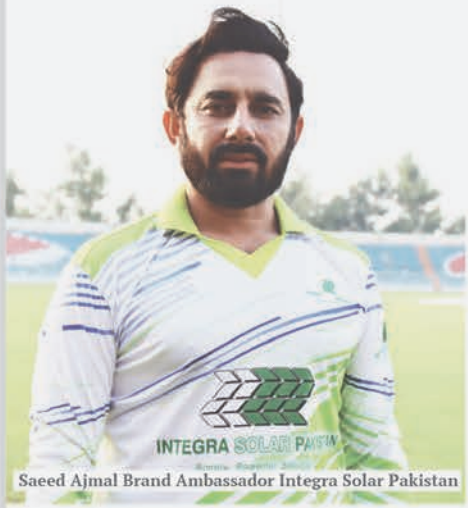


Saeed Ajmal Brand Ambassador Integra Solar Pakistan

Integra's recent launch into the Pakistani market has seen the company acquire the services of local Cricketing legend Saeed Ajmal as company's ambassador.

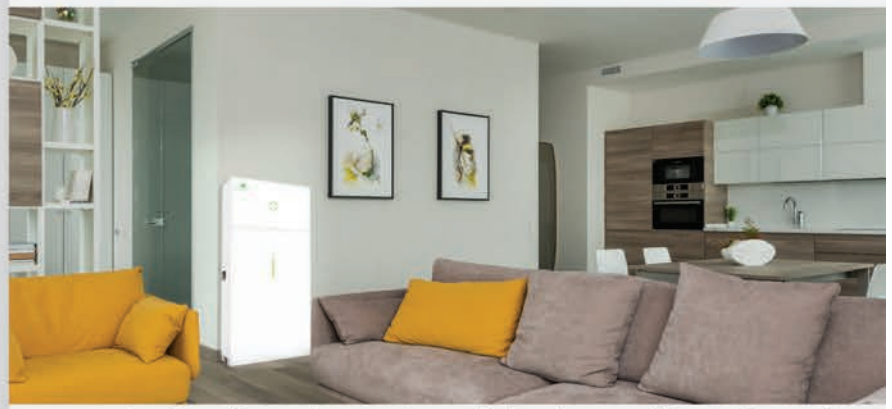
Saeed is well known for his environmental consciousness and is a perfect fit to represent Integra in its effort to help Pakistan's green energy future.

Integra is looking forward to spreading its environmental message through a series of advertisements on TV, social media and other mediums.

Quality
Integra Energy Group has always been known as a leader in high quality and new green technologies.

With an established relationship with the world's biggest manufacturers, Integra Energy Group is proud to help bolster and expand Pakistan's renewable energy market.

Pakistan's residential and commercial markets will benefit from the latest high-tech battery storage systems and newer, more advanced high-efficiency solar modules and inverters.
Integra's battery systems have longer life cycles, enhanced safety features, smart energy control and our suppliers provide for some of the largest companies on the planet such as Apple, Samsung, Tesla and BMW to name a few.



Extensive after sales service and extended warranties are also some of the main features in Integra's contribution to the Pakistan market.
Our cost-effective battery units will undoubtedly contribute to raising Pakistan's energy quality, as the country has been plagued by blackouts. The markets problems have been compounded by inferior products, which have added to Pakistan's renewable energy concerns.

Integra's new offices will see the company offering internal after sales service, engineering support along with 24-hour monitoring for all its customers.

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Fault lines

Engr. Hussain Ahmad Siddiqui

An important factor contributing to the widening electricity demand-supply gap has been the inordinate delay in either the commencement or completion of rehabilitation projects related to various medium and small hydropower plants planned by the Pakistan Water and Power Development Authority (WAPDA). These projects, if undertaken and completed timely, could directly address the prevalent energy crisis, also resulting in reducing the average generation cost of the energy mix.

Currently, WAPDA operates 21 hydropower stations — large, medium and small — with a cumulative installed capacity of 9,406MW, and generates more than 37,000GWh of net electrical energy annually. The large and medium hydropower plants are known as Tarbela, Ghazi Barotha, Mangla, Neelum-Jhelum, Warsak, Chashma, Duber Khwar, Allai Khwar, Golen Gol, Jinnah and Khan Khwar. Small hydropower stations connected to the national grid are Rasul, Dargai, Jabban, Satpara, Gomal Zam, Nandipur, Shadiwal, Chichoki, Kurram Garhi, and Renala.

Energy experts believe that the only solution to the energy security, reliability and affordability is the optimal utilisation of hydropower resources. To achieve the objective, it is projected that the share of hydropower generation needs to be restored to 70 percent in the total energy mix (which was maintained until the 1980s) from the current 24 percent share. The development of hydropower, of which Pakistan has huge identified potential, slowed down in the past decades due to a variety of factors. The most important of these were the long gestation periods and the large amount of funding required for developing medium and large hydropower projects.

In this backdrop, WAPDA had worked out, decades ago, a comprehensive plan of ensuring least-cost hydropower generation capacity to be achieved by optimising the existing operations and maintenance of hydropower stations through carrying out major renovation, upgrading and modernization, and to undertake capacity expansion, primarily with a view to attain designed installed capacity and to optimise water-flow availability. The plan, which was to be implemented on fast track, has not been undertaken effectively, resulting in long delays causing loss, as it is now, of at least 340MW capacity in WAPDA's power generation system, which translates into depriving the national grid of millions of units of electricity on annual basis.

The on-going refurbishing and upgrading of Mangla Hydropower Station, being undertaken at a total project cost of over $483 million, has run into long delays. The project on completion will not only restore Mangla power station's designed original power generation capacity of 1,000MW, it will also result in increasing the installed capacity of power station to 1,310MW, effectively utilising the improved energy potential attained on completed Mangla Dam Raising project that provides additional water storage of 2.88 million acre-feet (MAF), and availability of increase in water-head by 40 feet. Implementation of the project will ensure optimisation of reliable operations of all its ten generating units, each of 100 MW capacity, constructed from 1967 through 1994.

Mangla power plant has been operating largely trouble-free but the quality and reliability of the original electro-mechanical equipment has deteriorated due to ageing, and efficiency reduced from the designed values and parameters of the respective equipment installed. Resultantly, the power plant's total operating capability, which historically could go up to 1,100MW during peak water season, has de-rated to less than 980MW. Rehabilitation and upgrading will improve the reliability and availability of this power station for the next 30 years, besides providing safe, reliable and cost-effective energy generation.

The refurbishment project was scheduled to commence in early 2014, and implemented in different phases spanning over a period of ten years' time, achieving full commissioning of the power station sometime in 2024. This is not likely to be achieved, given the present status of progress. In the first phase, the works to be completed include main package for the supply, installation and refurbishment of Units 5 & 6 (turbine, generator, governor, excitation system etc) increasing generating capacity from existing 80MW to 135MW for Unit 5 and existing 100MW to 135MW for Unit 6. This critical milestone has not reached.

Scope of supply and services of other packages include refurbishment and upgrade of powerhouse crane, supply of 169MVA power transformers for eight units, supply, installation and refurbishment of powerhouse's turbine inlet valves for all ten units, supply and installation of mechanical equipment and balance of plant and civil works, and procurement and installation of plant control and instrumentation system, switch-yard, and control

automation and protection equipment. All these items of machinery and equipment have reached the site from different sources.

Under the second phase of the programme, refurbishment of Units 1-4 is to be undertaken, while refurbishment of Units 7 and 8 is planned under the third and final phase. Refurbishment of the remaining two units is not considered as these were commissioned in 1994. The different phases of project implementation covered refurbishment of various power generating units, with a view that minimum units are shut-down at one time, and thus, least power generation is lost during project implementation stage. Alas, the first phase of the project remains much behind schedule, as the refurbishment of the first two units has not yet been done. This contract was awarded to a French company in August 2018. It was to achieve commercial operations of refurbished Units 5-6 by February 2019.

But the detailed design and engineering was delayed by two years and delivery of equipment over two years. Due to abysmal performance of contractors the pace of work at site remained very slow. Thus, the completion date was revised a number of times. These units are now scheduled for commissioning this year. Consequently, implementation of second and third phases of the project for refurbishment of other units will be further delayed, resulting in huge loss of power generation. Units 5 and 6 of cumulative capacity of 200MW are shut down since 2017, whereas additional capacity of 310MW remains a dream yet to be realised. Another critical aspect of delay is non-operation of the corresponding irrigation tunnel as the two units are not in operation.

Another project facing long delays in implementation is the second rehabilitation project of the Warsak hydroelectric power station. The project was approved in July 2015 at a total cost of Rs23.36 billion. It was to be completed within seven years. Sadly, physical work on the project has not yet started. Contract for civil works was awarded only in April this year, whereas the contract for electromechanical works has not yet been announced. After the project's completion, installed capacity of the powerhouse will be restored to its original designed capacity of 243MW and enable it to generate 1,236GWh of energy. International financial institutions, including France's AFD, the European Investment Bank and Germany's KfW Development Bank are financing the project.

Constructed during 1952-1960, the Warsak Dam is the first medium/large multi-purpose hydropower project, having four turbo-generator units of 40MW each. Two additional units of 41.48MW capacity each were commissioned at Warsak during 1980-81, resulting in a 243MW cumulative installed capacity. During these years, the project has largely contributed towards improving socioeconomic conditions of the area through electrification and irrigation. While the Warsak power station has been operating largely trouble-free, it has been facing a number of problems since the early days. One of the major problems is the excessive quantity and abrasive nature of the silt carried by the river water. Operations of the turbo-generating units during the monsoon season with river water, which is laden with silt containing quartz, causes rapid erosion in the hydraulic equipment, which results in severe and chronic operations and maintenance problems.

Remedial measures like regular repairing and rebuilding the worn equipment and replacement of turbine components are therefore adapted. Still, the powerhouse remains vulnerable to frequent breakdowns due to its ageing and obsolescent machinery. Thus, its installed capacity of power station has been de-rated to 210MW, which has necessitated major rehabilitation. To ensure optimal and reliable functioning of the dam, the rehabilitation project aims to replace four generators, electrical components of four units, all transformers, and install a new Scada system and replace all six runners with erosion-resistant special coating, in addition to civil works. After rehabilitation and upgrading, all the turbo-generating units will be operable for another 30-40 years, well beyond the dam's designed useful life.

WAPDA also plans to carry out major renovation, refurbishing, upgrading and modernisation of six of its small hydropower plants, aiming to harness optimal hydropower potential at the sites. This would also ensure reliable operations of power stations and restoring them to the original power generating capacity. Renala hydropower, the oldest power station in Pakistan, was commissioned in March 1925. After rehabilitation and refurbishment, there is a potential to enhance the power station's capacity up to 4MW, utilising full available water discharge. On completion, the powerhouse will generate 25.6GWh annually, almost four times its existing power generation. Shadiwal hydropower station is currently generating 4MW, compared to its installed capacity of 13.5MW. Commissioned in January 1961, power station has the potential of increasing its total capacity to 27MW.

Dargai power station has four units of 5MW each, and was commissioned in December 1952. Likewise, the Kurram Garhi power station was constructed in 1958. Rasul powerhouse, with two units of 11MW each, was installed in July 1952. Nandipur hydropower (three units of 4.6MW each) was commissioned in March 1963. Similarly, Chichoki Hydel (three units of 4.4MW) has been operating since August 1959, and generating about 23GWh annually. Over the years, reliability of the existing electro-mechanical equipment of these powerhouses has deteriorated, and efficiency reduced from designed values and parameters of the installed equipment. However, refurbishment schemes for these old powerhouses are still at the stages of planning and feasibility, though financing for a few schemes have already been committed by international donor agencies.

TAILPIECE: It is interesting to note that, utilising a total power generation capacity of 9,389MW, WAPDA provided a record 37,425GWh of energy to the national grid during fiscal year 2019-20, but with slightly increased capacity of 9,406MW in year 2020-21 ending June 30, total power generated was reduced to 37,147GWh. Of course, annual power generated at a hydropower station depends upon water reservoir level and irrigation needs. ■

People of Pakistan shouldn't be paying twice for same energy asset: SAPM, Tabish Gauhar

Special Assistant to Prime Minister (SAPM) on Power and Petroleum, Tabish Gauhar, while talking about North South Gas Pipeline project, has said that the people of Pakistan shouldn't be paying twice for building the same energy asset.

In a hard hitting letter sent in July, 2021 to Federal Energy Minister, Hammad Azhar, the SAPM suggested that the North South Gas Pipeline project should be financed by Rs 321 billion available with GIDC (Gas Infrastructure Development Cess) funds already raised from the public for this very purpose.

He said the funding for the project should not be arranged from the third party debt and equity that will add on to the gas consumer bill. "Simply put, the people of Pakistan shouldn't be paying twice for the same asset," said the SAPM.

He said the government would need to make substantive headway with the Russian consortium in the next couple of months on this additional Karachi to Lahore gas pipeline, which is of critical importance to Pakistan's energy security.

Gauhar emphasised in his letter that by giving veto right to the Russians on design and construction, it is almost inevitable that they would opt for the larger diameter (56 inch) pipeline that our Sui companies have no track record of. "Whilst according to our local analysis, we can meet the projected gas demand for the next 10-15 years with a relatively smaller (42 inch) diameter pipeline at a potentially

lower upfront project cost (savings of up to $500 million) and quicker timeline (2023 versus 2024 completion)," he said.

In his letter, the SPAM also suggested to use the GIDC funds, already collected, to start construction of the on-ground LNG storage facilities at Port Qasim of up to 10 days storage in the Phase 1. He mentioned that the OGRA had been finalizing the third-party access rules in this regard as the government needed to show substantial progress on this proposal by 2023. r. Gauhar also mentioned that there was also an urgent need to remove impediments to accelerate natural gas drilling activities in the frontier regions of Balochistan and Khyber Pakhtunkhwa. He suggested following methods to achieve this cause:

(a) processing available 2D seismic data (20%), surveying the remaining basins (80%), and making the information available to all interested E&P companies in a centralized "data repository"; (b) providing "CPEC-style" centralized security cover; (c) transferring upstream regulatory functions from Petroleum Division to an independent Authority (summary approved by Cabinet and now to be approved by Parliament); (d) conducting more frequent biddings (at least once a year), encouraging "out of court" settlement on litigations and surrendered blocks (28 in total), etc.

Mr. Gauhar further wrote in his letter: "After a prolonged and facilitative exercise (including issuance of provisional construction and transmission licenses, minimum pipeline capacity allocation, etc.), we hope the two new "merchant" LNG terminal developers shall achieve financial close and start construction this year. We do need at least one additional import terminal (without any "take or pay" commitment on the part of GOP) by 2023".

He said that there could potentially be up to 300 MMCFD (3+ additional LNG cargoes per month) of "excess capacity" available at the existing two RLNG terminals (that may be utilized on a strictly private-to-private i.e. without any GOP "take or pay" payment obligation and on an open / third party access bases) to further bridge the demand-supply gap, especially in the coming winters for the domestic gas consumers, under a "without prejudice" arrangement sanctioned by the OGRA.

Mr. Gauhar said that there was a serious human resource and governance issue in the Petroleum Division of the government that might not be apparent but is having a direct adverse impact on its policy making and oversight functions across the upstream, midstream and downstream segments.

"Aside from some key structural changes that are also urgently required (for example, transferring various regulatory functions from the Petroleum Division to OGRA & (upcoming) E&P Regulatory Authority)," he further wrote in the letter. ■

PAEC Chairman Muhammad Naeem gets highest civil award Nishan-e-Imtiaz

On the auspicious occasion of Independence Day, President Islamic Republic of Pakistan, has conferred the highest civil award, Nishan e Imtiaz (NI), upon Chairman Pakistan Atomic Energy Commission (PAEC), Muhammad Naeem. The conferment not only acknowledges Muhammad Naeem's meritorious contribution for the projects of national interest and scientific and technical

achievements during his long association at PAEC but also reflects the invaluable contribution of the Commission for the country. It is pertinent to mention here that Mr. Muhammad Naeem has already been awarded both HI and SI earlier. It is a matter of great honour for the Commission that this year one NI, two Hilal e Imtiaz (HI), three Sitara e Imtiaz (SI), four Pride of Performance (PoP), and five Tamgha e Imtiaz (TI) have been awarded to scientists and engineers of PAEC. ■

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Naya Nazimabad celebrates Independence Day with Tree Plantation

The Naya Nazimabad community hosts Independence Day celebrations with national zeal and zest by arranging a mega event in collaboration with Pakistan Rangers and National Forum for Environment & Health (NFEH) here at Naya Nazimabad Cricket Stadium.

Independence Day celebrations were followed by Flag hoisting, tree plantation, national anthem and cake cutting ceremony while the Naya Nazimabad residents and people from different walks of life marked their presence on the occasion.

The National Flag was hoisted by Chief Executive Officer (CEO) Naya Nazimabad Abdus Samad Habib, President NFEH Naeem Qureshi, Pakistan Rangers' Brig Tahir Ayaz, President NN Gymkhana S.M. Talha and CEO NN Maintenance Company Saeed Ahmed, Anees Younus President CSR Club.

President Naya Nazimabad Gymkhana S.M Talha welcomed the guests by delivering a welcome speech. NFEH President Naeem Qureshi shared some valuable information on the environment, pollution and health hazards especially related to Karachi.

Qureshi urged the audience to play a proactive role in building environment-friendly communities to avert serious environmental and health issues.

Pakistan Rangers' representative, Brig Tahir Ayaz, reiterated the Pakistani Armed Forces' resolve to stand firm against internal or external threats.

Engr Aizaz Ahmad new MD NTDC

Engr Aizaz Ahmad assumed the charge of Managing Director National Transmission and Despatch Company (NTDC). Engr Aizaz Ahmad did his Bachelors in Engineering from UET Lahore, MBA from Institute of Business Administration (IBA)-Punjab University, Certified Project Management Professional and acquired multiple training courses from renowned institutes of Canada and Saudi Arabia.

FDI in OMC sector under threat

Long-running inquiries by government departments into the oil crisis witnessed in June 2020 are hindering foreign direct investment (FDI) in oil marketing companies (OMCs) sector of Pakistan. In a statement on Wednesday, Federation of Pakistan Chambers of Commerce and Industry (FPCCI) President Mian Nasser Hyatt Maggo expressed concern over the "unfair practices of government departments and unjust treatment of smaller OMCs". "The smooth functioning of OMCs is indispensable for any economy and consistent investments in midstream and downstream sectors are equally desirable," he said.In the aftermath of the nationwide petroleum crisis in June 2020, the Federal Investigation Agency (FIA) had been tasked to conduct an inquiry. On the basis of the investigation, the government directed the Petroleum Division to take necessary action against the OMCs and fuel stations involved in creating artificial shortage of petrol.

Besides, the government also called for introducing legal reforms and amendments to laws and procedures, and presenting them to the Cabinet Committee for Disposal of Legislative Cases (CCLC).

K-E seeks policy for high loss areas

Salman Siddiqui

K-Electric (K-E) has sought a national policy from the regulator to sell power at a comparatively higher price to the people residing in areas where line losses and theft through illegal connections (Kundas) are high and recoveries through monthly billing stand low.

The company demanded the policy from the National Electric Power Regulatory Authority (Nepra) ahead of the scheduled end to the exclusive rights of K-Electric for power supply to end-consumers in the city of ports - Karachi - and potential entry of other companies for the provision of electricity at competitive prices in 2023.

"None of them (power transmission and distribution companies) would have the capacity to take the cost on their own pockets of power supply in high loss-carrying areas," K-Electric CEO Moonis Alvi said at an online press conference to share the company's additional investment plans worth Rs140 billion till 2023. There is an additional cost of supplying power to such high loss-carrying areas and "all the companies (including newcomers) should be allowed to recover losses through tariff ... K-E has the right to demand a level playing field," he said. K-E will not be alone in facing competition, but all the other power transmission and distribution companies currently enjoying a monopoly in their respective cities and towns nationwide will have to operate in a competitive environment from 2023 onwards.

At present, the households in areas carrying higher line losses and paying less in monthly bills face planned load-shedding of up to seven to eight hours a day throughout the country.

Responding to a question, the CEO said that his company was all set to ink an agreement to obtain additional gas in a few days for its forthcoming new dual-fuel (gas and diesel) power plant of 900 megawatts.

Khalid Mansoor appointed SAPM on CPEC affairs

Retired Lt Gen Asim Saleem Bajwa was replaced by Khalid Mansoor as the authority to lead the affairs of the China-Pakistan Economic Corridor. A notification issued by the Prime Minister's Office said Mansoor had been appointed as Special Assistant to the Prime Minister on CPEC Affairs with immediate effect. The appointment will be in an honorary capacity, it added.

Bajwa announced his departure in a tweet, saying Mansoor was "fully equipped" to lead the authority in the future.

"I bow my head before Allah Almighty for giving me an opportunity to raise and steer the important institution of CPEC Authority as one window for all CPEC projects, charting the future direction," he said, adding that his work "wouldn't have been possible without [the] full confidence and support" of Prime Minister Imran Khan and his government. "The course is set for future progression of CPEC, this journey will go on. My best wishes to Khalid Mansoor sb, who is fully equipped to take it forward." Bajwa termed CPEC as a "lifeline for Pakistan", saying it would "transform us into a progressive and fully developed country".

Federal Planning Minister Asad Umar paid tribute to Bajwa for his services "in moving CPEC forward and playing a vital role in broadening of the CPEC scope with a transition to [the] second phase of CPEC".

He welcomed Mansoor as the special assistant to the prime minister for CPEC affairs. Mansoor's "vast corporate experience, with extensive work with Chinese companies and his direct involvement in leading some of the biggest CPEC projects makes him an ideal person to lead the next phase of CPEC", Umar said. The government had appointed Bajwa as chairman of the CPEC Authority in November 2019 amid the opposition's criticism of formation of the authority. He was also appointed as special assistant to the prime minister on information and broadcasting in April 2020. He stepped down from that position in October last year. Bajwa had served as Commander Southern Command before his retirement from the army. He remained director general of the Inter-Services Public Relations from 2012 to 2016. Khalid Mansoor has more than 32 years of experience in energy and petrochemical sectors in leading roles for mega-size projects' development, execution, management and operations. He recently re-joined the board of the Sindh Engro Coal Mining Company (SECMC) as a director.

Mansoor, who holds a degree in chemical engineering, served as the chief executive of the Hub Power Company Limited (Hubco) and is the chairman of Laraib Energy Limited, a subsidiary of Hubco. He has also previously held the position of chief executive officer of Algeria Oman Fertiliser Company (AOA) and prior to that, remained the president and CEO of Engro Fertilisers Limited, Engro Powergen Qadirpur Limited (EPQL), Engro Powergen Limited (EPL) and SECMC, the profile says.

Greased hands impede probes into Keamari gas leak

Tufail Ahmed

Multiple hazardous gas leakages that took place last year in the vicinity of Karachi Port, have been responsible for claiming dozens of lives and endangering hundreds of others. The first incident that took place early in 2020, had a death toll of 25 and left over 400 people unconscious. Whereas, another incident towards the end of the year became the cause of death for another half-a-dozen people, while over 24 collapsed from severe asphyxiation.

However, despite the passage of one-and-a-half years since then, authorities have remained unable to trace those responsible for the toxic emissions, while the investigation itself has been lingering in the doldrums. All responsible agencies, including the Karachi Port Trust (KPT), Maritime Security Agency, district administration, health department, home department and the environmental protection agency, have chosen to remain mum on the matter.

This case's stagnancy, they told, is because the importer whose ship caused the

lethal emission has allegedly greased the palms of an influential politician, urging him to exercise his power in keeping things hush-hush. In addition to that, the politician's foreign accounts were reportedly credited with a significant amount of money by the same importer, to also block all investigative efforts on the federal level. It may be recalled that a chemical reaction in the country's vast crude oil reserves was blamed for the gas leak that took place in February 2020, but the theory was later rejected due to lack of evidence.

The emissions were theoretically accounted to a ship carrying a soybean consignment- a possibility that the University of Karachi's International Center for Chemical and Biological Sciences (ICCBS) was not keen to rule out. The incident was later opened to probes by various agencies. But during the same time the coronavirus pandemic also sunk its claws into mega city, eventually becoming the sole subject of all public attention. Since then, the matter and its inquiry had remained in a standstill till December of 2020, when another gas leak in the same vicinity triggered a new set of investigations into the case.

Submitting its investigation report on the incident to the Supreme Court, the Sindh Environmental Protection Agency (SEPA), tied the December incident to the gas leakage of February 2020. It said that since the incident, carbon monoxide, small toxic particles and dust emissions had exceeded the prescribed limit in the atmosphere of the area. SEPA further added that when the toxic gases in the atmosphere were higher than usual, soybean and petroleum-coke fuels were being unloaded at the port from various cargo ships, during which there were no health and environmental protection measures taken into consideration.

It should however be noted that the issue has also surrounded a power struggle between SEPA and KPT.

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NFEH Plantation Drive at SPL

Senior delegation comprising of Mr. Muhammed Naeem Qureshi-President, Mr. Nadeem Ashraf-Vice President, Mrs. Ruqiya Naeem- Secretary General and Mr. Mustafa Tahir Project Manager visited Security Papers Ltd. on Monday, August 16, 2021, for a Tree Planation Drive upon the invitation of our Management.

The delegation was very warmly received by the senior officials from IMS as well as HR & Administration Departments.

Mr. Khalid Farooque, Chairman Horticulture Committee at SPL briefed that the Gulmohar plant also known as Flame Tree was selected as it is mainly grown for its shade and ornamental value. Because of its hardy nature and aggressive root system, it is a good tree to control soil erosion in the arid and semi- arid areas. Due to scarcity of water in Karachi; the tree is also ideal for plantation as it does not require huge amount of water unlike other plants. Gulmohar is well known for its beautiful flowers. It also has some medicinal properties like Anti-diabetic activity, Anti-bacterial activity, Anti-diarrheal property. The scientific name of Gulmohar is Delonix regia.

NFEH team was thrilled to see their name plates (specially designed and arranged by our Supply Chain team to mark this memorable occasion) while participating in the plantation activity. The delegation was full of praise for our management team for taking this initiative and also offered its services for engaging in plantation activity at SPL Residential area to our HR & Admin. team in future. The NEFH team also presented a shield as a token of goodwill and appreciation gesture to Mr. Q.S. Imran Azam, General Manager Integrated Management System for leading this event on behalf of SPL. Mr. Azam thanked the NFEH delegation team for taking precious time out of their hectic schedule to make this a highly significant event and urged to maintain and cultivate long term relationships in the future.

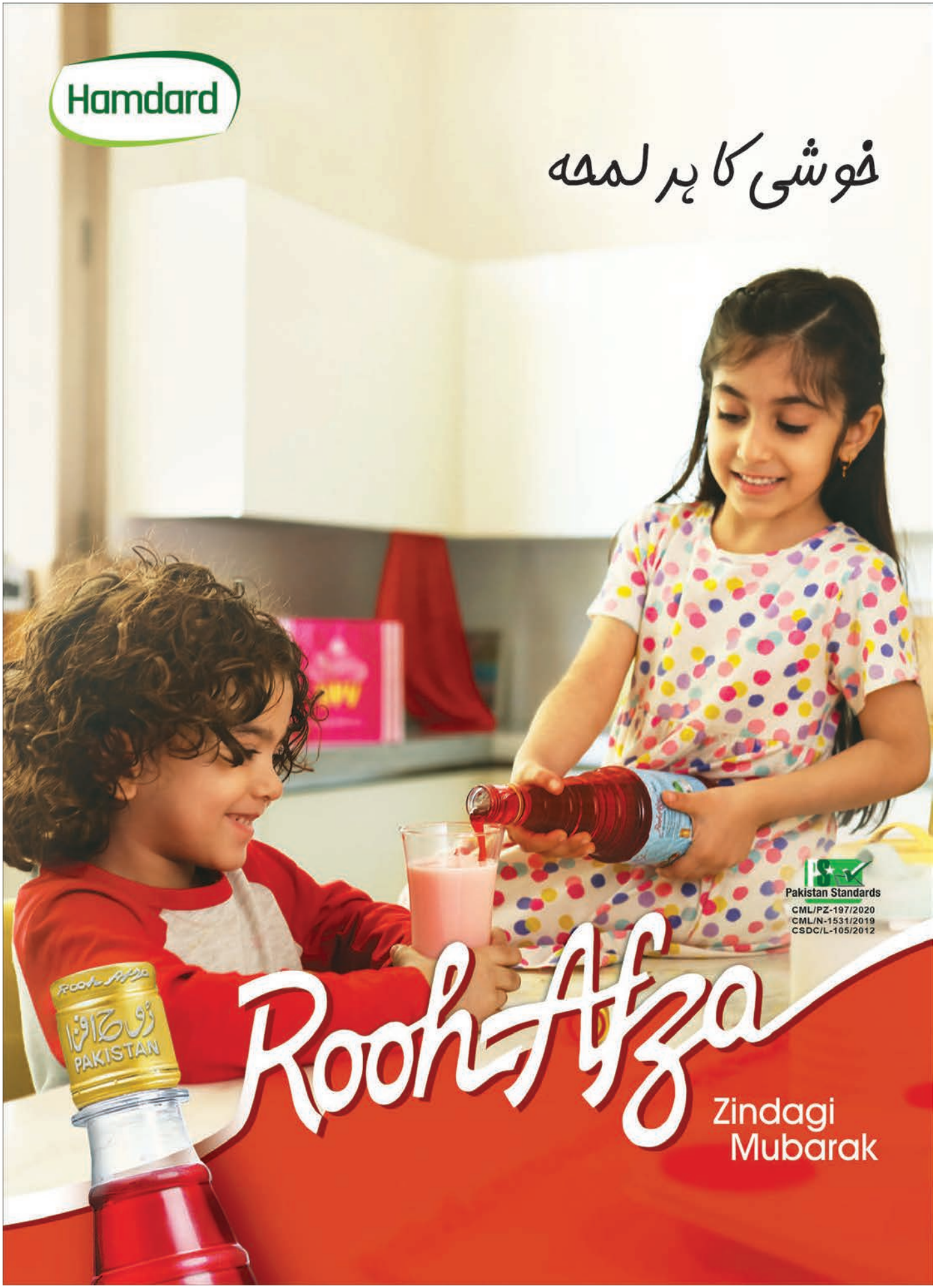
Long-term planning and policy making in energy sector missing in Pakistan

Long-term integrated energy planning and policy-making in Pakistan's power sector has been mostly missing or ineffective. The fundamental reasons are lack of adequate human resources, static skill sets of workforce and inaccessibility to specialized tools. The Energy Institute at LUMS ("LUMS-EI") was created purposely to serve as a think tank, knowledge base and network, and capacity-building entity to institutionalize an indigenous, sustainable center of technical expertise. This can be attributed to LUMS-EI's unique position through access to industry-experienced academics (both foreign and local), existing footprint in specialized courses at graduate level, and partnership with key entities in the power sector.

A three-tier capacity-building program is envisioned under its newly established Power Sector Centre of Excellence (PSCE). This comprises:

1. Advanced Development Program (ADP). This will significantly enhance technical skill sets of engineers and other professionals in areas of integrated system planning, electricity market framework, regulatory practices, substation engineering, specialized system studies and many more. The target audience are professionals with 5 to 10 years' experience in their respective fields and disciplines.
2. Professional Development Program (PDP). This will be an induction program for fresh engineers joining different entities/participants of the power/energy sector, undergoing a structured and customized training across various occupational areas.
3. Continuous Development Program (CPD). This program is already being offered to management professionals of many sectors through the Rausing Executive Development Center (REDC) at LUMS. Going forward, LUMS EI and REDC will jointly work in designing specific management programs for power/energy sector, catered towards middle and senior management professionals to ensure continuous improvement in capabilities.

The ADP is already under development in collaboration with Central Power Purchasing Agency (CPPA) as part of building adequate resources to enable a smooth transition to the envisioned competitive market (CTBCM) in 2022. It will be provided to operations level personnel at DISCOs, NTDC, NEPRA, CPPA and other key stakeholders, providing hands-on certified trainings resulting in practical outputs. Courses include demand forecasting, generation planning, transmission planning, tariff modelling and electricity market framework and regulations. LUMS-EI will deploy renowned industry professionals, professors, research associates, and additional foreign and local guest trainers to impart the requisite trainings.


Hamdard
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Pakistan Standards
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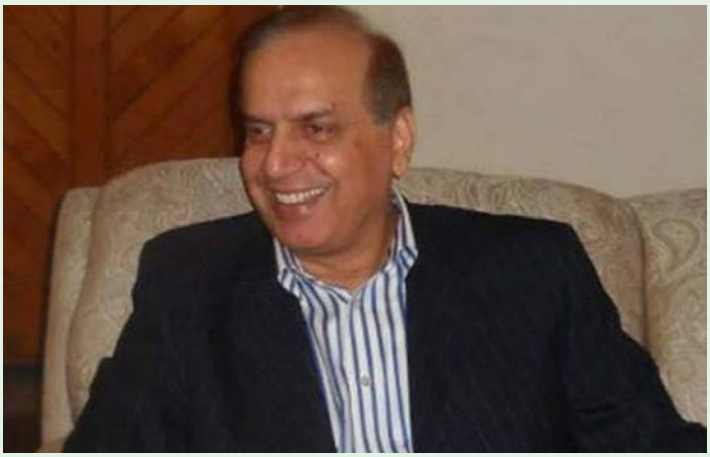
CSDC/L-105/2012
Rooh Afza
Zindagi
Mubarak
PAKISTAN

400MW solar-wind plant for industry on the cards



Sindh Minister for Energy Imtiaz Ahmed Sheikh that Sindh Energy Department, Engro Energy Limited and a group of Karachi-based industrialists would soon ink a memorandum of understanding (MoU) to establish a 400-megawatt solar-wind electricity generation power house to provide low-cost and uninterrupted power to the industrial units in Sindh, especially Karachi.

In a statement, he said that the Sindh government would provide land at Jhimpir for the proposed power plant that would initially produce 50MW electricity in the first phase, and later its capacity will be increased to 400MW.

He said that Sindh Transmission and Dispatch Company (STDC) will install a grid and transmission line to supply uninterrupted power to Karachi's industries from this power plant. He said that the legal matters with regard to the MoU were decided in a meeting held Wednesday in the Sindh Energy Department, adding work on the project will start soon after the signing of the MoU. ■

Govt plans to power Gwadar Port with Iranian electricity

Mehtab Haider

The government has decided to start negotiations for importing 70 to 100 megawatt Iranian electricity to power up Gwadar Port. A decision to this effect was taken during a session of Cabinet Committee on China Pakistan Economic Corridor (CCoCPEC), which met under the chairmanship of Federal Minister for Planning, Development, and Special Initiatives Asad Umar.

Different options were considered during the meeting for the provision of electricity to the deep sea port as the 300 MW power plant under-construction in Gwadar would be completed by 2023 as it was delayed owing to various reasons. A transmission line of 220 KV would also be constructed to connect with the national grid, the meeting was told. For the time being, the meeting observed, the only available option was import of 70 to 100 MW power from Iran.

Tehran was earlier providing electricity to Balochistan but after witnessing decrease in its hydel production, it suspended it in the last couple of years. The meeting instructed the Power Division to kick-start negotiations for buying 70 to 100 MW from Iran as currently the neighbouring country was enjoying a surplus. When the local power plant would be completed over two to three years and 220 KV line also be installed the extra power would be provided to the national grid, according to the minutes of the meeting. The meeting also discussed the options for the provision of clean drinking water that was another problematic area to be tackled. The meeting could not take up land dispute between Pakistan Coast Guard and Pakistan Navy as land of 50 to 70 acres would be provided to a Chinese company for developing Gwadar Master Plan. The sources privy to the matter said the relevant authorities were not available so this issue would be taken up in next meeting. The verification of land record was underway in consultation with the Defense Ministry and this issue would be resolved, they added.

The Chinese company -responsible for developing Gwadar port, gave a presentation on the marketing plan for developing Gwadar Free Zone. Out of 2,500 acres of land, the Chinese company had the possession of 70 to 75 percent of the land. Pakistani authorities inquired how many international investors had so far shown their interest to relocate their industries into Gwadar Free Zone. Chinese company informed the CCoCPEC that meeting those different provisions such as electricity, clean drinking water and other infrastructure requirements would be essential to lure investment into Gwadar Free Economic Zone. Without basic facilities, the expectation of luring investors would remain just a pipe dream.

Dr. Waqar Qureshi

New Chair of EEA Asset Management Group

The EEA Executive Committee are pleased to announce that they have appointed Dr. Waqar Qureshi, GM Network & Technology at Horizon Energy as the new Convenor of the EEA Asset Management Group. Dr. Qureshi has over 15 years experience in the energy sector and has held a range of technical, management and executive positions. He gained a Master of Engineering, and doctorate from the University of Auckland. Waqar is a Chartered Professional Engineer; a certified Project Management Professional (PMP); and holds a Level 3 diploma in Te Reo Maori.

In welcoming Waqar, EEA CEO Peter Berry said, "We are delighted he has agreed to lead this important group which has a significant work programme around the management of existing legacy assets and the technical implications of emerging technologies upon future asset management. "Waqar has been a leading member of the EEA Asset Criticality Working Group and has been contributing to EEA conferences, publications, and events since 2008. He also brings a strong international perspective as a member of the USA-based IEEE Power Engineering Society, and the European CIGRE power engineering group." Dr. Qureshi is currently responsible for the Horizon Energy Group portfolios of Asset Management - Operations; and Technology. His expertise is focused on the impacts of decarbonisation, electrification and climate change on the electricity and infrastructure sectors. ■

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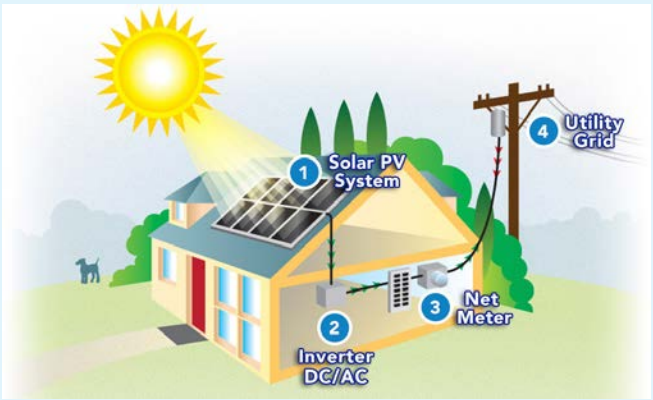
Process for net metering simplified



In a bid to boost solar power consumption and ease the pressure on oil-based power generation, Pakistan's Board of Investment (BOI) and the National Electric Power Regulatory Authority (NEPRA) have eased the process of obtaining new electric connections for solar systems i.e. for net metering. The development is part of regulatory reforms being introduced by the government, said the BOI.

"Earlier single-phase consumers were required to obtain a normal three-phase connection before applying for a bi-directional meter, which resulted in extra costs of Rs15,000 as well as extra time and procedures," said BOI. However, with the latest simplification, consumers can now directly obtain a bi-directional meter for a net metering facility. "This reform will save cost, time and reduce hassle for consumers. It will also help SME businesses engaged in providing solar power generation solutions to become more competitive and efficient," read the statement.

By the end of May 2021, the total installed generation capacity in the country reached 34,501 MW. Of this, 34% remains renewable comprising of hydro-electric, solar, wind and bagasse based technologies and 66% thermal plants which comprise of natural gas, local coal, imported coal, RFO, and RLNG based technologies, revealed the Indicative Generation Capacity Expansion Plan (IGCEP) for 2021 prepared by the National Transmission and Dispatch Company (NTDC). As of May 2021, Pakistan has a solar power-installed capacity of 400 megawatts. The country aims to transition towards renewable sources to meet its energy needs. The government by the year 2030 intends to generate 60% energy from solar, wind, and biogas, while 10% gas, 10% nuclear, 10% coal, and the remaining 10% come from local sources, as per reports.

Fatima Fertilizer wins award for best social media campaign

Sarsabz Fertilizers (Fatima Fertilizers) strived to introduce a dedicated day for farmers through 'Salam Kissan' campaign, as a first-ever initiative to elevate their image and importance for the national food security. The intention was to let the day serve as a reminder and drive the stakeholders and policymakers towards a dialogue to come up with possible solutions, that can benefit our small farmers and put them on the path to prosperity.

The day, eventually recognized as 'Kissan Day' in 2019, by the Federal Government, is now being celebrated every year on December 18 to pay tribute to the contributions of Pakistani farmers across the country. In 2020, at the occasion of the second Kissan Day, Sarsabz used the fastest growing platform of TikTok to pay tribute to these farmers. The idea for the campaign was simple- TikTok users had to make videos to pay tribute to the farmers of Pakistan on the Salam Kissan song produced by Sarsabz. Entries from all over Pakistan were received and the 'Salam Kissan' campaign became a massive hit instantly as millions of

people including general public, celebrities and influencers joined in to celebrate Kissan Day with a renewed fervor to highlight the role of these unsung heroes.

The campaign was also recently recognized as the best TikTok campaign of 2020 by Pakistan Digital Awards. The Pakistan Digital Awards is an independent platform which recognizes the very best in digital platforms and talent across the country by rewarding the best performing websites, apps and bloggers.

Joe Biden announces new fuel economy rules

President Joe Biden wants to erase Donald Trump's rollback of automobile pollution and fuel economy standards. He proposed new rules last week and unveiled a nonbinding deal with most automakers to have electric, plug-in hybrid or hydrogen-electric vehicles make up half of their US sales by 2030.

The moves are part of Biden's plan to fight climate change by persuading people to swap their gas-powered vehicles for those that run on electricity. They basically return pollution and gas mileage requirements close to those adopted when Barack Obama was president. The Obama standards required the fleet of new vehicles to average 5 per cent in carbon dioxide emissions cuts every model year through 2025.

Trump rolled that back to 1.5 pc per year and added another year to the rules. Biden's plan requires 10pc emissions reductions in 2023 and 5pc every year after that through 2026. Trump's standards ended with the fleet averaging about 29 miles per gallon (mpg) in real-world driving.

The Biden rule should be close to the Obama mileage requirement, about 37mpg. Consumer Reports calculates that the new standards will deliver only 75pc of the emissions cuts from the original Obama standards because of delays caused by Trump and loopholes. They should, although environmental groups say they don't move fast enough to tackle an acute problem that has warmed oceans and spawned more powerful storms, wildfires and floods. They also complain that the standards don't make up for increased emissions during the Trump years, and bemoan credits that will let automakers offset gas-guzzling vehicles. Some say there should be a plan to phase out gasoline passenger vehicles entirely by 2030.

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Usman Waheed
Country Manager
of Pakistan

Greetings to readers and stakeholders of **Monthly Energy Updates Magazine,** my name is **Usman Waheed, Country Manager** for **Sungrow Power Pakistan.** We were delighted to be part and the **Energy Update Conference** held on **June 23rd,** that conference indeed gave exhibiters an opportunity after a long time to showcase their views, products and achieving under the banner of Sustainable energy.

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GAMING LNG

Khurram Husain

This is now getting suspicious. What looked like rank incompetence about a year ago is now beginning to smack of malfeasance. In case you have not had a chance to follow how this government is repeatedly fumbling the business of LNG imports, here is a snapshot of the latest episode on Tuesday. There are many more.

In mid-July, Pakistan State Oil tendered in the spot markets for one cargo of LNG to be delivered in August. When the bids came they were priced above 27pc of crude. So if the price under the long-term contract translated to $9.6 per unit, the spot price in July that Pakistan received in response to its tender was above $20, which would make it the most expensive LNG ever to be purchased by the country, and possibly in the world at that time. PSO says it scrapped the bid and decided to tender again, on Aug 5 in hopes of fetching a better price. But somehow the price ended up getting notified by the oil and gas regulator, Ogra, five days later on Aug 2 and stayed notified until this newspaper carried it in a story.

Consider how the system works to understand this properly. There are two entities in Pakistan that are authorised to buy LNG — PSO and Pakistan LNG Limited, or PLL for short. The country's requirement is communicated to them, and they float tenders in global LNG markets asking for bids for delivery on the specified dates. Once the bids come in they approve some, reject others and forward an 'LNG price determination' to Ogra, telling the regulator 'this is the price at which we will be getting LNG for the forthcoming month'.

The price determination document is quite detailed, consisting not just of the price at which the LNG is being bought, but many other costs that are itemised in painstaking detail, like transmission losses, retainage fees, margins allowed to PSO and PLL as well as the terminal operators who re-gasify this LNG and inject it into the country's distribution network. Some of these costs can vary as the days pass, and because Ogra has to notify a price at the start of the month for the forthcoming month, it calls its price determination 'provisional' because a few of the line items in the cost build-up could change as the days pass. In reality, these changes are very small, rarely more than 1pc of the total cost. The provisional nature of the cost never refers to the price at which the LNG is being purchased from the supplier since that is fixed as per the tender.On Aug 2, Ogra uploaded on its website the LNG price determination for the month of August as is usual practice at the start of every month. From the moment this document is uploaded, those customers buying LNG start getting billed as per the price notified in the document. And in this price notification, Ogra included one cargo of 3.2 million units priced at 27pc of crude, or $20 per unit, more than double the price at which the LNG from the long-term contract was being procured in the same month.

The next day this newspaper ran a story announcing this on the front page. But within hours, Hammad Azhar, the energy minister, took to social media to denounce the story as "fake news" saying this tender had in fact been scrapped days ago. But the question still remained: how did Ogra end up notifying a price on the basis of a tender that had already been scrapped? Since both the ministry and PSO have stated their position, perhaps Ogra should now clarify where they received the price determination from since their role begins after bids have been accepted and passed on by PSO.

A few hours later, Ogra released a public statement saying only that its LNG price determination issued the previous day is being withdrawn because they have been informed by PSO that the tender has been scrapped. As an aside, I think this might be the first time I've ever seen Ogra actually withdraw an LNG price determination. For a day that price determination was up on the regulator's website and apparently nobody from the government noticed. Most likely some bills were also issued as per the new price, yet not a squeak from anywhere. An LNG price was notified on the basis of a scrapped tender and Hammad Azhar only woke up to it after reading about it in the newspaper. Then his first reaction was to pounce on the newspaper and claim it was "fake news" rather than ask how this had happened. Consumers could be billed according to that notification but the media should not report it?

On a good day we could say this was a monumental level of incompetence and foolishness. But Tuesday was not a good day for Hammad Azhar. The cost to the country of the foolishness plaguing LNG procurement — to be the subject of a future column — is now in the hundreds of millions of dollars. And in this game one party's loss is another's gain. Last year, they received an offer to buy long-term LNG at $4, and they refused it. Today, they are paying around $15 instead in the spot markets, compared to $9.6 in the long-term contract that they vilify because it was the handiwork of the previous government. Time and again we see them doing things whose net effect is to sabotage LNG supplies, either by delaying orders or driving up the cost or both. It is high time to start asking whether or not this might be deliberate.■

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MESSAGE FROM CEO

Muhammad Saleem Shaikh CEO

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