

MONTHLY

ENERGY UPDATE

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Exclusive Interviews



Yaqoob Ahmed
Chairman & CEO
Artistic Milliners



Shahjahan Mirza
MD, PPIB

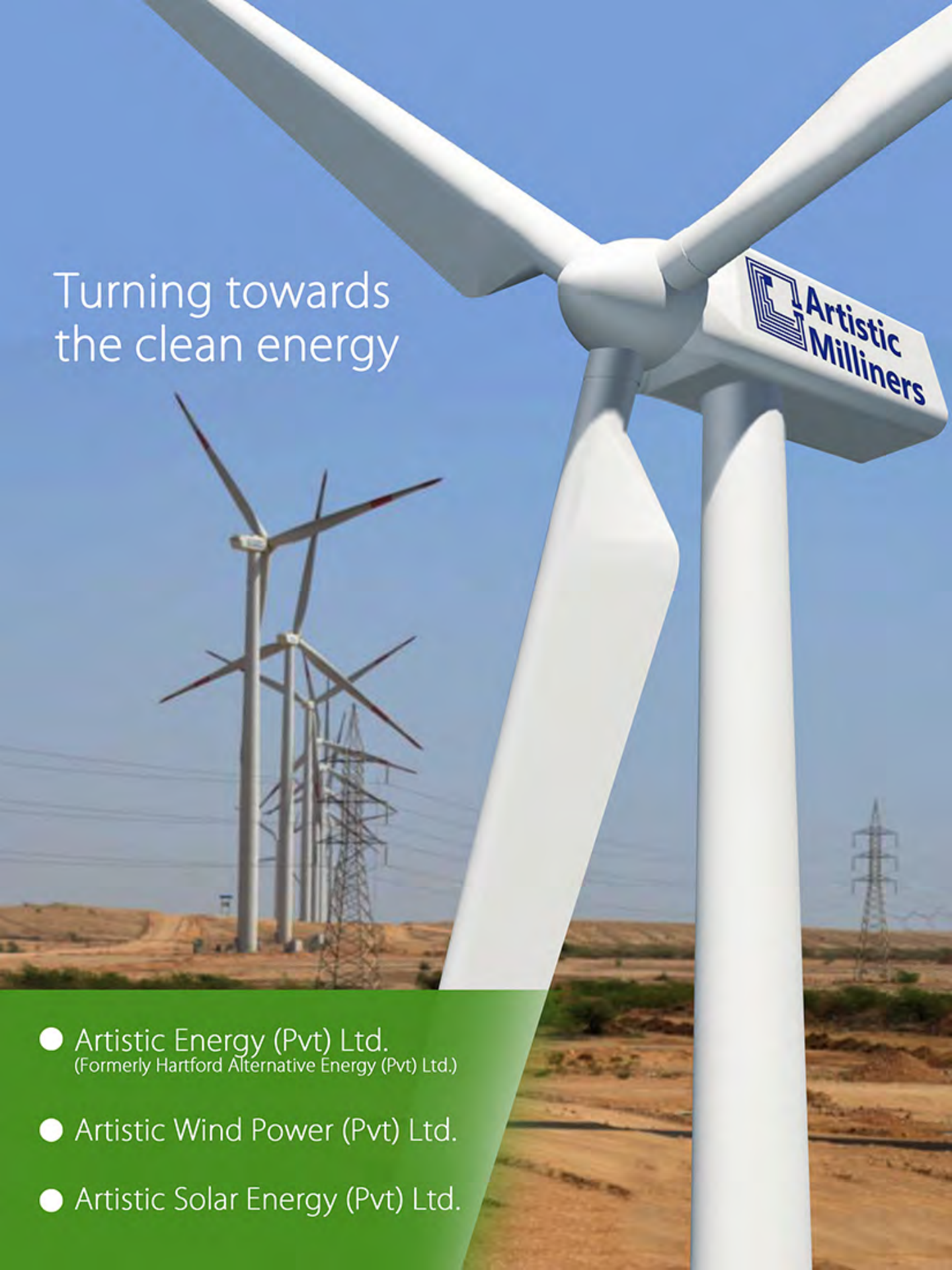
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to keep rising**

**Circular Debt
rising alarmingly**

Abbasi Govt drops
another bomb of
price hike

Pakistan gets
1st Water Policy

Pakistan facing
severe water
shortage



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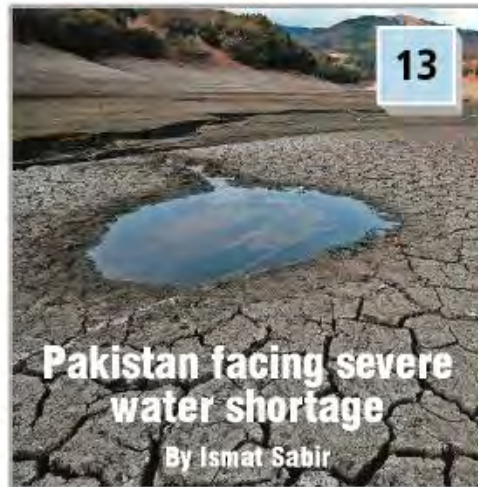


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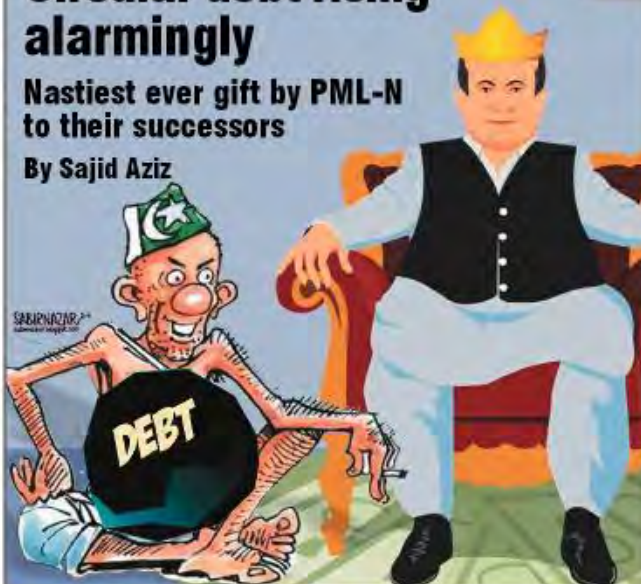


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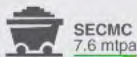
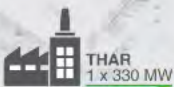
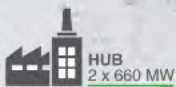
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From the editor's desk...

Energy sector gets meager allocation in budget

The Ministry of Finance has recommended a Rs800 billion development budget for upcoming financial year 2018-19, decreasing it by 20 percent as compared to the current fiscal.

This cut could impede the physical progress of around 1,100 schemes including energy sector as well.

The Ministry of Planning, Development and Reform (MPDR) has officially informed by the finance ministry regarding its proposal to set the development budget at Rs800 billion for FY 2018-19.

Adviser to Prime Minister on Finance, Revenue and Economic affairs, Dr. Miftah Ismail has stated the next FY 2018-19 budget wouldn't have an increased Public-Sector Development Programme (PSDP) budget.

Mr. Ismail has said the next years development budget would be allotted for ongoing current schemes.

But the Planning Ministry opposes this policy of allotting the budget for current schemes underway. It believes the outgoing government must provide fiscal space in macroeconomic framework for the next government to work with and launch new schemes, as per a senior government official in the planning commission.

Planning Secretary, Shoaib Siddiqui said the Rs800 billion proposed development budget set for next financial year wasn't sufficient and the planning ministry would take up the issue with the Prime Minister Shahid Khaqan Abbasi corroborating the figure above.

He added the proposed Rs800 billion development budget also includes Rs140 billion quota for non-core development projects and means would contribute to decrease of quota for important development projects.

According to sources in the planning ministry, the proposed gross development budget of Rs800 billion would reduce the speed of present projects underway which include water sector, national highways and power projects.

To determine development needs of six dozen departments, an inter-ministerial body Priorities Committee is set to start work on this in the days to come.

Cut in development budget is a consequence of bad governance of the present government that remained busy in non-issues, putting the national economy in hot-waters and rampant corruption that is reflexing in energy sector as well by hitting snags in ongoing power projects.



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1st ever National Water Policy 2018

Water Policy to ensure Pakistan water sufficient - Javed Ali Shah

Pakistan to have first ever National Water Resource and Conservation Policy 2018 in the history of 70 years, as the Ministry of Water Resources has prepared the policy under the supervision of Minister for Water Resources, Syed Javed Ali Shah while realising the fact that Pakistan is among the countries facing threats of severe water crisis in the years to come.

While talking to the Energy Update, the minister said that his emphasis is on making the country as water sufficient country in order to sustain and prosper in future instead of a starving nation. For this we have to construct more dams across the country, save precious water during mon soons worth billions of dollars, making under-ground water drinkable and ensuring equitable water distribution among the provinces.

Over the years, multiple democratic and military governments of Pakistan have been unsuccessful in providing their country with a formal water policy. This comes as a major setback since Pakistan is primarily a 'water economy' and faces exponen-

By Sajid Aziz

tially growing problems of water scarcity, climate change, increased population demand for water and mismanagement of water for industrial and agricultural consumption.

There have been many drafts that came into existence at the national and provincial levels. However, none have been approved as a policy. The National Water Policy (NWP) draft was initially prepared in 2005 after a World Bank comprehensive policy study, however, once at the federal cabinet this draft could not see the light of day. In 2010, the decision to revise the NWP was taken to incorporate the recent developments in the water sector and the growing impact of climate change on water resources. A joint committee was formed to finalise the water policy. In 2012, the committee presented its final version to the ministry of law and justice who were of the view that the constitution does not provide any provision for the NWP as this was a provincial matter. In

2015, upon the prime minister's instructions, the updated NWP was made available to all stakeholders for review and updated accordingly. After much debate and consensus building among the federal and provincial governments, the NWP was sent to the Council of Common Interests in 2017 where despite being on the meeting agenda, it was largely ignored.

Given that water is a highly politicised issue, the need of the hour is consensus building and taking forth difficult decisions which are beneficial for all. Water is everyone's business, therefore, for an effective water policy we need representation from all sectors of the economy and an understanding of the fundamental changes that have to be undertaken to safeguard our finite water resources. These policies should reflect a concise structure with well-defined objectives, action items, implementation methodologies and a time frame to achieve all its set aims and goals.

Land, water and geography are the major natural resources of Pakistan to build and sustain its future development.

Our water policy should be focused on capitalising on these three for expanding the water supply. Pakistan is an agro-based economy where agriculture accounts for up to 20% of GDP. Pakistan recently achieved the highest growth rate of 5.28% in the last decade largely due to the agriculture sector recovering from 0.27% to 3.46% growth. Agriculture is also the largest consumer of water. It is estimated that up to 95% of all surface water and groundwater is utilised in irrigation. Therefore, water is the essential factor driving our economy via water embedded in the production of various agricultural outputs and further commodities.

There are additional 22 million acres of land that can be irrigated by extending the Indus basin irrigation networks to arid areas of southern Punjab, eastern Sindh, southern K-P and eastern Balochistan. The policy should bring forward future exploration and development of new water infrastructure as well as management and repair and replacement of the existing systems. The water policy should target promoting sustainable use of our available water resources by increasing the current water efficiency. There is a huge potential for increased water supply by increasing our canal irrigation water efficiency which currently stands at 33% in comparison to 90% in the developed countries. Repairing the downstream leakages, smart metering and creating effective solutions for reducing the demand for water form the core of increasing water efficiency. Pakistan can store only 10% of its annual rivers flow as compared to the world average of 40%. The absence of these translates into massive economic losses. For instance, three years of repeated floods in 2010, 2011 and 2012 inflicted severe damage on the national economy, reducing its potential economic growth by half. The economy grew on average at a rate of 2.9% per year instead of its potential growth rate of 6.5%.

Another key feature the water policy should address is the rights and entitlements of all users of water. Water rights in the Indus basin are linked to land ownership where preferential land allotments along the canal system ensures that only the rich and influential few control the access to water. Allocating water for rural water-deprived areas should be a priority as the social and economic development in these areas cannot be achieved without access to water. The water policy should call for an equitable distribution of water. Water sharing among districts should be distributed according to the share of ground water, surface water and precipitation combined. Per capita water entitlements should be established to determine

the water supply for domestic use and beyond the set entitlement. The users should pay the economic value of water.

At the international level, the Indus Water Treaty governs Pakistan's rights to water from the Indus basin shared with India. The treaty has stood the test of time even though the growing environmental and economic pressures on either side of the border give way to water resource conflict with national security implications. The water policy must address the need to go beyond the treaty as it does not cover groundwater usage and the impact of climate change on water availability. For transboundary water management, a regional perspective must be adopted besides India; both Afghanistan and China must be included as our river systems originate there and we currently have no treaties with either.

The water policy should strive to achieve improved water quality for all purposes. In Pakistan, the percentage of wastewater released without any form of treatment has been estimated at 82%. Establishment of water treatment facilities and developing and adopting cost-effective technologies for filtration and disinfection of water utility should be a priority of the water policy to provide people with safe water consumption. An

estimate reveals that drinking contaminated water causes up to 40% of the diseases in Pakistan which result in income losses of Rs25-58 billion annually, accounting for approximately 0.6-1.44% of our GDP.

In order to achieve the targets of the water policy, large investments in the water sector are required. The policy should feature a plan for attracting local investors such as local banks and financial institutions, public-private partnerships to raise the funds for water infrastructure and development projects, and subsequently not depend on foreign aid. The opportunity for gains form this emerging market of water scarcity and investments in the entire value chain of water need to be capitalised upon. Besides these investments in human capital are also required to bring forth a generation of water professionals to meet the challenges of this sector with scientific knowledge and research.

As Pakistan enters its 71st year, the government needs to move beyond highlighting water issues as a part of the National Climate Change Policy and the National Drinking Water Policy towards a comprehensive NWP to address the challenges of the water crisis that we are facing. ■

'Environmental degradation is a threat to water availability'

To commemorate World Water Day, 2018, environmentalists, including officials of the ministry of climate change, deliberated over 'Nature for Water' at Barrett Hodgson University in Karachi.

The chairperson of the environmental science department, Dr Syed Shahid Ali, talked about the importance of water day in relation with the Sustainable Development Goals (SDGs) defined by the United Nations.

He elaborated that Pakistan is facing an acute shortage of water due to population increase, lack of water storage reservoirs, unjust use of water in agriculture, untreated industrial effluents and domestic sewage in the water bodies. These factors have resulted in a significant threat to human, animal and marine life.

Ministry of Climate Change National Ozone Unit's National Programme Manager Ziaul Islam spoke about the impact of climate change and environmental degradation in Pakistan. He quoted figures given by the World Bank regarding cost of environmental degradation, which reached Rs900 billion in 2009, as compared to earlier estimates of Rs365 billion per year by 2006.

Islam, who was instrumental in the promulgation of the Pakistan Environmental Act in 1997 which attempts to implement some measures of environmental controls, said that due to the 18th Amendment and delegation of powers to the provincial assemblies, environmental protection has become a provincial issue and now the provinces are supposed to make and implement environmental protection laws.

On the issue of water scarcity and Pakistan becoming a water stressed country, he emphasised on the need to build new dams and reservoirs. He contended that dam building was politicised to such a degree that various provincial assemblies passed resolutions against the building of new dams. In his opinion, a technical issue has been politicised and it should now be brought back to the technicians to be sorted out. ■

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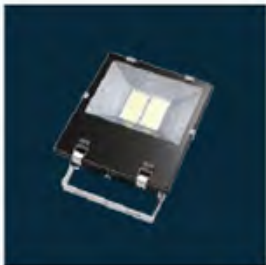
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CONSERVE WATER FOR FUTURE

Pakistan facing severe water shortage

Besides air, water is the most important element necessary for human beings, animals, insects, plants and for earth as a whole. Sources of water available in Pakistan are rainfall, surface water available in rivers and underground water.

After the Indus Basin Treaty with India, water of only two rivers, i.e. Jhelum and Chenab is available to Pakistan while the availability of water in the remaining three rivers, i.e. Ravi, Sutlej and Bias depends on the will of India. The construction of dams and barrages by India over River Chenab and River Jhelum in violation of the Indus Basin Treaty created the problem of water shortage for Pakistan which is becoming more and more severe with the passage of time. According to the UNO Report, Pakistan ranked 7th position in the list of countries, which

By Ismat Sabir

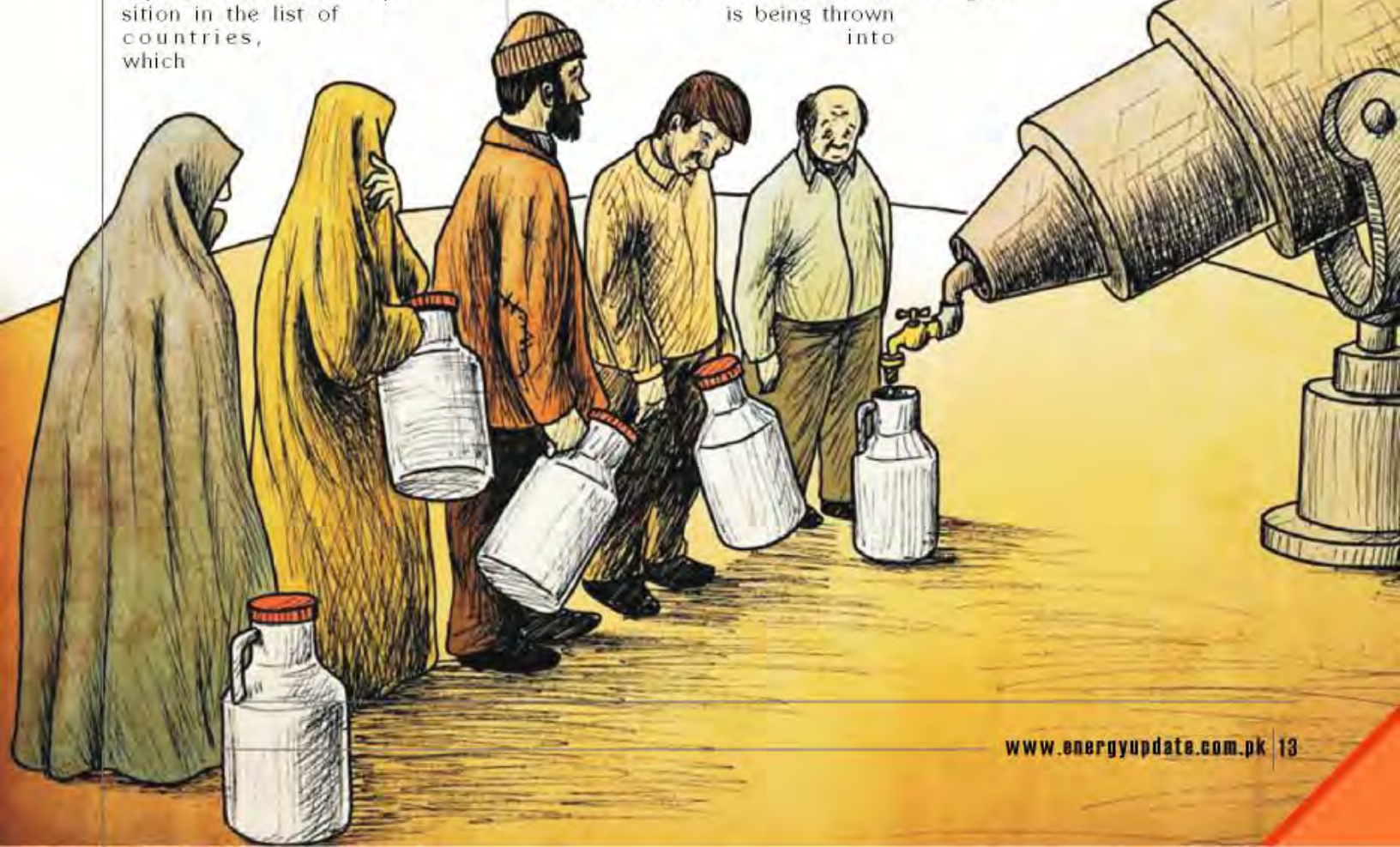
are facing water crisis. Presently, Pakistan has a surface water of 153 MAF and underground water resources of only 24 MAF and Pakistan may face water shortage of 33 MAF during the year, 2025.

The population of Pakistan is increasing at a rate of over 2pc annually. Pakistan has a population of over 200 million people and at the same rate it will be almost double by the year, 2025 and hence, the consumption of the underground water will also add to the problem which will be further aggravated due to factors such as global warming and other climate changes. According to a research report on water resources of Pakistan, water has economic values of \$70 billion is being thrown into

sea every year due to non-construction of water reservoirs.

A water starved country like Pakistan that has the foreign exchange reserve of only \$20 billion, cannot afford throwing water of economic value of \$70 billion every year into sea.

Study of Pakistan Council of Research on the water resources of Pakistan (PCR-WR) indicated that rapid depletion of ground water may soon worsen the water crisis in Pakistan's major cities, causing a drought like situation. Such crisis needs to be taken on war footings; otherwise, a large majority of Pakistan's population, especially those living in big cities, will be facing se-



vere shortage of water.

Due to excessive pumping of underground water, the quality of underground water is being contaminated rapidly with heavy metals like Copper, Nickel and Cobalt etc, which are the causes of spread of Hepatitis in the people of Pakistan, especially in big cities.

Water is life and this life is becoming more miserable with every passing day because it is becoming a scare commodity around the globe. This situation is so serious that the World Bank (WB) has warned that the wars of the next century will be about water, if there is no war there would be serious regional and global conflicts. According to the WB global water consumption is doubling every 20 years, i.e., more than twice the rate of population growth, while the quantity of water is limited in the world.

By 2015, it was estimated that about 40 percent of the world's population will be facing lack of adequate water, while a third of the world's population will be living in water stressed countries. It is estimated that by 2025 this is to rise to two thirds. According to the UN, more than one billion people on earth already lack of access to fresh drinking water. If the current trends continue, by 2025 the demand for fresh water is expected to rise by 56 percent. The UN recommends that people need a minimum of 50 liters of water a day for drinking, washing, cooking and sanitation.

Water shortage is affecting industrial production in places like Sicily and Malaysia. The lower estuaries of the Yellow River, China's most important river, are now drying by the rate of two thirds each year. The water beneath China's fertile northern plane is falling by 1.5 meters a year.

Water will become more precious than oil and is increasingly emerging as a conflicting economic reality and as a destabilizing factor for international peace and regional stability. The increasing incidents around the globe, especially in Sri Lanka clearly indicate the importance of availability of water resources in Asia.

Developing countries are most affected one shortage given the lack of clean drinking water and adequate sanitation in these states which has been exacerbated by rapid development, population pressures and significant urban-to-rural migration. More than 50 countries might soon be caught up in water disputes unless they move quickly to establish agreements on how to share reservoirs, rivers and underground water aquifers. Since 1948 alone, close to 40 incidents of hostilities have taken place over water resources, most of which have taken place in the Middle East.

In South Asia, there is a dispute between India and Pakistan over the Wular Barrage while India and Bangladesh have disputes over the Faraka Barrage and Nepal has disputes with India over the Mahakali River Treaty. The conflicts on water sharing between Pakistan, India, Bangladesh, and Nepal are of a serious nature because their national economies mainly rest on irrigation waters.

From 1997 to 2002, Pakistan had faced a severe shortage of water due to a cycle of drought and reduced storage capacity of the two reservoirs, Mangla and Tarbela.

Pakistan's per capita water availability has already reached the alarming figure of 1126 m³ per person, while anything less than 1000 m³ per person is considered as the death knell. It is recommended that there is urgent need at least 7.5 MAF to 10.0 MAF of extra water to fulfill the emerging shortfall. First the need is to replenish the depleted storage capacity by 4.89 MAF of the existing three mega water reservoirs, i.e. Tarbela, Mangla and for irrigating some area out of the 22.5 million acres of awaiting lands. Currently, it has the capacity of storing only 11 percent of total surface water, while generating only 12 percent of total hydropower potential.



Due to excessive pumping of underground water, the quality of underground water is being contaminated rapidly with heavy metals like Copper, Nickel and Cobalt etc, which are the causes of spread of Hepatitis in the people of Pakistan, especially in those living in big cities.

As regards the remedial measures needed to overcome this horrible water shortage in Pakistan, steps required to be taken immediately including: Preparation of country's water policy, Construction of water reservoirs; National Action Plan to be formulated for rational judicious use of available water. Reduction in water losses through seepage, leaching and percolation by lining of Canals, Distributaries and Water Channels. Controlled over pumping of underground water and over irrigation practices. By increasing the water use efficiency of the crops by switching from conventional agriculture to conservative agriculture. By adopting water use efficient methods of irrigation like Sprinkler, Basin and Drip irrigation. If prioritized, water can serve as the engine of economic growth and regional trade expansion.

Global Scenario

Pakistan needs to employ smarter and less water intensive practices. The country has seen its fair share of supply side measures such as building mega hydro projects and dams. The focus of the future reforms, however, should be on improving water use efficiency especially in the agriculture sector which continues to be the largest consumer of water while escaping taxation or lightly taxed at the provincial level.

Apart from bringing the agriculture sector under the tax umbrella, there is a need to reform water tariffs and cost recovery. Canal water is heavily undervalued and the cost of recovery is poor, i.e. only 24 percent of the annual operation and maintenance cost is recovered leading to water use inefficiencies and a financially unsustainable irrigation system. Moreover, the uniform pricing structure of major crops does not reflect their different water consumption rates. Reforming tariffs to represent their true value, therefore, will not only increase efficiency but will also generate revenue to maintain the water infrastructure, thereby reducing system leakages. Similarly, inadequate urban water tariffs have affected drinking water quality and there is a need to revise urban utilities to promote conservation and efficient water use.

Besides pricing incentives, maintaining infrastructure and innovation have an important role to play in water management

and conservation. Maintaining infrastructure, especially in the agricultural sector, can reduce water loss significantly, two thirds of irrigation water is lost due to system leakages while practices such as crop zoning and innovative technologies like direct seeding drip irrigation should be encouraged and emphasized which increase agriculture water use efficiency. Innovative methods in water conservation, recycling, waste water management, water treatment, and rain water harvesting should become realities in cities and towns. However, care should be taken in making innovative practices cost effective and accessibility.

Water crisis is one of the biggest issues of Pakistan. Pakistan is at the 17th position in the list of the countries, which are facing water crisis. Some people do not have water to drink and they are compelled to drink unsafe water, like in Thar, which is full of darts. These small dangerous bacteria make the people sick and it is more painful to say that if some people in Pakistan have a small amount of water they start wasting it; they do not bother to save water for the poor.

At many places in Pakistan, people are dependent upon rains and monsoon downpours when water flows down the rivers and also goes down the land surface to raise the underground water level utilized for irrigation and drinking purposes. According to Pakistan Water Partner (PWP), the total available surface water is about 153 million MAF and the total ground water reserves are approximately 24 MAF, of which a substantial part is pumped out without allowing for a natural recharge. The population of Pakistan will be doubled by the year 2025 and hence the consumption of the underground water will also add to the problem further aggravated by the factors of the global warming and the climate change.

The permissible level of arsenic in drinking water for Pakistan was fixed at 0.05mg per liter (50 ppb) which is safe enough; population should be sensitized to use deeper water tables to avoid contamination; the Punjab government may allocate substantial resources as 50 percent urban and 27 percent rural sector is without proper water supply system; a programme be initiated to observe changes in surface and per d groundwater quality as well as groundwater levels; water testing laboratories, presently in five cities of the Punjab only, be established at all district headquarters; local governments be equipped with technical know-how and

funds for regular monitoring of water quality, low cost arsenic removal filters developed by PCRWR be distributed among the people of the affected areas where no alternate water supply is available; tube wells should not be promoted further in the arsenic high risk areas or they should have treatment facilities attached to them and a comprehensive survey be initiated in other district of the Punjab. Worldwide, the water crises have been quietly growing for decades.

Across the densely populated Indo-



Gangetic Plain, home to more than 600 million people in India, Pakistan and Bangladesh, groundwater is being pumped out at an unsustainable and terrifying rate, said Graham Cogley, a professor emeritus at Trent University in Ontario Canada. It was indicated that more than half the water in the same basin is undrinkable and unusable for irrigation due to elevated salt and arsenic levels, according to a recent study. It said groundwater provides drinking water to at least half of humanity and accounts for more than 40 percent of water used for irrigation.

Exhausted groundwater supplies also cause land to subside and allow, in regions, saltwater to seep into the water table. Dozens of mega cities, rich and poor, are sinking: Jakarta, Mexico City, Tokyo and dozens of cities in China, including Tianjin, Beijing and Shanghai have all dropped by a couple of meters over the last century.

Half a billion people in the world face severe scarcity of water all year round, said Arjen Hoekstra, a water management

expert at the University of Twente in the Netherlands.

More than one in three live in India, with another 73 million in Pakistan, 27 million in Egypt, 20 million in Mexico, 20 million in Saudi Arabia and 18 million in Yemen are water starved people calculated in a recent study.

For each degree of global warming, about seven percent of the world's population half-a-billion people will have 20 percent less freshwater, the UN's climate science panel has said. By 2030, the world will face a 40 percent water deficit if climate change continues unchecked. Glaciers in the Himalayas and Andes upon which half-a-billion people depend are rapidly retreating.

The latest situation is that Indus River System Authority (IRSA) said that Tarbela Dam had attained its dead level of 1386 feet and Punjab and Sindh might face shortfall of about 70 to 80 percent in their canal systems in coming days. Seasonal shortages for both Punjab and Sindh would remain at 36 percent as announced by Irsa at the start of the Rabi 2017-18 seasons.

However, this season provinces of Punjab and Sindh received, excessive water with respect to allocations made by Irsa while Balochistan and Khyber Pakhtunkhwa received less water despite the fact that both the provinces being smaller are exempted from sharing of shortages.

Any province, if aggrieved from any decision of IRSA may approach the Council of Common Interest (CCI). Irsa emphasized that in the backdrop of climate change scenario, reducing capacities of Tarbela and Mangla, the water availability situation would remain volatile and the country's water economy would remain grim. The situation needs immediate attention of the planners for construction of at least two mega dams simultaneously on war footing. ■

STUPID questions

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Me: "No, I m just watering it so that it grows into a big bus. :):):):):)"

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Me: "I'm in market with a telephone around my neck!!"



Would the govt. able to eradicate nationwide power cuts before 2018 elections?

While several commendable efforts have been made to improve the energy situation in the country, it is unfortunate that some projects have faced obstacles during the course of the year as well.

The year 2017 was touted as one of development for the energy sector of Pakistan, with several energy projects progressing and also receiving approval. The country has been bearing the brunt of a multi-pronged power crisis for decades, and these recent developments in the energy department are all attempts towards curbing the crisis faced by the nation. According to Prime Minister Shahid Khaqan Abbasi, 10,000 megawatts have been added to the national grid, with plants to add the same amount to the grid over the course of the coming two years.

In terms of progress, Pakistan has been able to increase power generation on a year-on-year basis. Numbers reported in November 2017 indicate that power generation has increased by 2.3% since last year. In actual terms, 6,994 GWh of power was produced in November 2017, compared to the production of 6,840 GWh in November 2016. However, the data reported by National Electric Power Regularity Authority (NEPRA) indicates that there has been a change in the energy mix of Pakistan.

Power generation has experienced a 51% reduction from furnace oil and 22% reduction from hydel sources. Coal and re-gasified Liquefied National Gas (RLNG) have increased in terms of their production contribution in Pakistan. This change has been witnessed amid decisions to opt for low cost fuels for energy production in the country.

The end of October 2017 saw the closure of eight furnace oil based plants that produced more than 4,000 megawatts of energy and the start of LNG and coal plants for the production of 5,000 megawatts of energy. In December, some furnace oil plants such as Hub Power and Kot Addu have been allowed to resume production with the condition of using only imported furnace oil.

The Thar Coal Power project has been progressing at a satisfactory pace, and is set to be completed by June 2019, according to Sindh Engro Coal Mining Company (SECMC) Chief Shamsuddin Ahmed Shaikh. The project is known to support a generation capacity of nearly 660 MW.

In recent news, the World Bank has recently granted Pakistan a loan of \$825 million for upgrades in energy and public finance. It is estimated that nearly \$425 million will be channeled to modernize the national grid based on the National Transmission Modernization Project - I (NTMP-I). The project is set to cover the rehabilitation, expansion and upgrade of 500kV and 220kV substations and transmission lines.

Besides this, the government has recently approved power purchasing payments for five energy projects that have the capacity to generate 1,300 megawatts of electricity for the country. The approval was extended under the second Supplemental Agreement to Implementation Agreement of CPEC projects. The approval signifies the government's commitment to keep the energy generation wheel rolling whereby the Ministry of Finance will fulfill payments for the CPEC projects in case power purchasers fail to pay up. This is supposed to render the CPEC projects risk free from the issue of circular debt that has plagued several projects in the country.

This year also saw a couple of firsts, especially when the recent news of the Sindh government's intention to launch a tariff-based auction surfaced. This is the first project that is being implemented based on NEPRA's decision to implement tariff-based auctions for solar photovoltaic (PV) power projects. Under this, the Sindh government intends to develop a 50 megawatt solar project in the province.

While several commendable efforts have been made to improve the energy situation in the country, it is unfortunate that some projects have faced obstacles during the course of the year as well. The Asian Development Bank (ADB) had granted funds totaling to \$325 million under the Access to Clean Energy Investment Program for projects in Punjab and KPK, setting aside \$237.3 million for projects in KPK and the remaining \$87.6 million was to be utilized by projects in Punjab. Under the program, 25,587 schools and public health units in the provinces were to be provided with electricity. However, as of today not a single solar facility has been set up in either of the provinces owing to lack of interest of the concerned officials of the provinces.

On the other hand, the power plant

projects located along the banks of the Neelum River, are now coming to a close. As they approach their completion, there are concerns of how Pakistan's downstream project might be deprived of water by neighboring rival India who also has a project being completed on the opposite side. This deprivation could result in electricity production to contract by as much as 10-13%. According to Arif Shah, an engineer who has been working on the site for the last eight years, Pakistan might be able to complete the project before India does, as pressures mount up to eradicate nationwide power cuts before the 2018 elections.

This year has overall been one of progress for the nation's energy sector. Several projects have been approved to boost the power generation capacity of the nation, while others seem to be progressing well in general, minus a few hiccups. The ruling party is pursuing the fulfillment of its commitment to end the energy crisis evident by initiating several projects during the course of this year. And the government appears to be confident about the new projects being completed in 'record time'.

As the new year is around the corner, what remains to be seen is whether these promises are fulfilled. ■



Exclusive Interview

By Naeem Qureshi

“No more power plant on imported coal in Punjab - Shahajhan Mirza”

We are trying to comply with all environmental laws, MD PPIB

The present government has been working on a plan to make Gwadar self-reliant for its power needs as the town is being developed as an international port city being part of China Pakistan Economic Corridor (CPEC) project”, this was stated by Shahjahan Mirza, Managing Director of Private Power and Infrastructure Board (PPIB), in his recent interview with Energy Update. In the interview he deliberated upon about support being extended by PPIB for present and future power supply projects being built in the private sector of the country. Following are the important excerpts of his interview:

Energy Update: What is PPIB's involvement in power supply project being built for Gwadar?

Shah Jahan Mirza: Gwadar should have its own power supply on reliable basis as it is being developed as an international port city. For the purpose, a 300 Megawatts power plant has been made part of the CPEC project. We have given this project Lol (letter of interest). At the moment proponents of the project have approached the Nepra (National Electric Power Regulatory Authority) for determination of tariff. At the same time, they conducted environmental studies for the project so to obtain environmental clearance for it. The land for the project is being allotted. They have been doing initial preparatory work for the project. Once the Nepra announces tariff for the project, we will issue them LoS (letter of support) after achieving the financial closure. It is expected that the project will be completed by

mid of year 2020. The commissioning of the project means that it would fulfill energy requirements of entire Gwadar for next five years. Meanwhile, in the near future additional 100 MWs electricity will be drawn from Iran for meeting immediate electricity needs of Gwadar as this project will come online by 2020.

EU: Please do comparison between the costs of importing electricity from Gwadar with self-generation of electricity by the town on its own?

Mirza: In my opinion, the cost of doing both jobs is more and less the same. For importing electricity from Gwadar, we have to build a much longer transmission line from across the border that is a very costlier work to do. Here also the work has to be done to link up the proposed 300 MWs power plant at Gwadar with the

national grid. This work also involves much cost. So it is more and less the same. It is priority of the government to make Gwadar self-reliant for its power needs as the town should not be dependent upon external power supply for the purpose. For the same cause, this project is being built on a priority basis.

EU: What are the updates of coal-based power plants being established in the country?

Mirza: We have not undertaken any new power project on basis of coal as only projects given approval in the past have been in progress. Power projects of total 4900 MWs capacity are being built on basis of imported coal while power projects of 4600 MWs are being established on Thar coal. We have stopped giving permissions for any new power project on basis of imported coal. At present, mainly three projects are being in progress on basis of imported coal as one is at Sahiwal, other one at Port Qasim, and third one is that of Hubco at Hub. Other than these three, no new power project is being done on basis of imported coal.

EU: There have been environmental concerns raised regarding coal-based power projects being constructed in the country. What is opinion your on this issue?

Exclusive Interview

Mirza: We have been trying our best that all new power plants on basis of imported coal should comply with environmental and emission standards set by the World Bank. The Pakistani environmental standards for the same are not as much stringent as are the same set of standards of World Bank, ADB (Asian Development Bank) or that of the IFC. We are trying to meet all these standards at the same time. In fact, the emission standards currently being maintained by the Sahiwal power plant, at present operational now, so far have been less than half of the criteria defined by the World Bank for the same. Now it is up to the provincial environmental protection agencies to monitor these power projects. Under the law, these projects are also bound to issue quarterly reports on the emission standards and quality being maintained by them. So I don't think so we are taking any risk with regard to the issue of environment.

The transportation of coal also usually takes place on such longer stretch of routes like in the case of Sahiwal power plant. For this transportation, the railway authorities are not using their old wagons as instead they have been using state-of-the-art wagons for the purpose. So I believe that all the required precautions could easily be taken for handling and transportation of coal. While talks are on to install new power plants in the country on basis of imported coal but in my opinion, it is now advisable better not to establish any more new such plant in Punjab on basis of imported coal. The railway authorities have also launched a project to upgrade its entire railway line infrastructure as they have been tasked with transportation of coal in the country.

EU: Tell us your progress in hydro-electricity and indigenous coal sectors?

Mirza: Hydroelectricity projects of total around 6800 MWs capacity have been in the pipeline. We would try to advertise up to maximum four new hydro power projects in the country in next one to two months. The priorities of PPIB at present are only two that are power projects based on hydro power and that on Thar coal. We are trying to link up timelines of commissioning of Thar coal project with demand-supply position in power sector. So synchronizing Thar coal-based power plants is a major challenge for us as transmission lines have to be laid for the purpose. All the coal mines in Thar will be developed in phases as they could not be established simultaneously. The mine in Thar block-2 will be developed in the first

phase. More than half of the work on first coal mine there of Sindh Engro Coal Mining Company has been completed for the 660 MWs power plant. This will be ready by the third quarter of 2019. Later on the same coal mine will be used to provide coal to two new power plants, one is that of Hubco and other one of Thalnova. In the third phase, they have to give coal to two more power plants that of Lucky Electric and Siddiq Sons. All this combined together will produce 2200 MWs of electricity on basis of Thar coal on basis of the power projects given approval so far. Ultimately capacity of this mine will be increased to 4000 MWs that will also be helpful in decreasing fuel cost of this project. The fuel cost of Thar coal-based power plant could be decreased to below 1.5 cents when the mine will come to its full capacity. We have given equal priority to coal-based, hydro power, and renewable energy projects.

EU: It seems that government has been giving less emphasis on power projects being developed on basis of renewable energy?

Mirza: It is certainly not the case. The national grid in the present status does have the limitations. We have to touch the overall generation capacity of 30,000

MW as by doing so our generation capacity on basis of renewable energy will also be increased. The bottlenecks in the way of national grid are being removed as the grid will be upgraded. This will improve the stability and sturdiness of the grid. We have to install special equipment in the grid to deal with the issues of volatility and intermittency of renewable energy sector. Some power plants have to be ready in the back up to cope with the situation of sudden drop in power generation input from renewable energy projects. For instance production from wind power plants could witness a sharp drop with decrease in wind speed due to the weather factor. If you have power plants available as the backup then these would be much helpful to stabilize the grid. After doing all these things, we will be in a position to explore renewable energy sector in a big manner as at present our target is around 1200-1400 MWs to be generated on basis of clean electricity. We have to do bidding for new wind power projects of 1200 MWs capacity on basis competitive bidding regime allowed by the Nepra. The main issue concerning the transmission network is being overcome through work on the grid to resolve the problems of intermittency and volatility related to renewable energy sector. ■

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Circular debt rising alarmingly

Nastiest ever gift by PML-N govt to their successors

By Sajid Aziz

The nastiest ever gift one can present to his successor is Circular Debt that is crossing to the dangerous level of Rs1,000 billion by the end of present regime. Circular Debt has now reached to an alarming level of Rs922 billion by the mid of March 2018 and if the trend continues the amount might be touching over Rs1000 billion, the highest ever liability on one single sector in the 70-year history of Pakistan.

"This can be termed as most irresponsible attitude by the PML-N government that has followed the footsteps of PPP as Zardari led government had left a mammoth debt of IPPs and had passed on to the PML-N government and now its Nawaz League Government's turn to reciprocate with the same indifferent and irresponsible intention.

The circular debt is haunting the nation since the Independent Power Producers (IPPs) have started supplying electricity to the power distribution companies (DISCOs), it has now almost doubling from the levels back in 2013. The

highest figure suggested is Rs922 billion for total circular debt in the country's energy chain, including the Rs450 parked separately with the Power Holding Private Limited (PHPL) that has the purpose of raising funds from commercial banks. Recently, the Ministry of Power Division has reported that circular debt has increased to over Rs750 billion, which is still a significant jump from 2013 levels.

Recall that back in 2013, when P M L - N



Soaring Debts

government took charge, it decided to eliminate this menace in just one go. As a result, the government ended up paying Rs 480 billion for the debt retirement. It was well-known that the relief from the move would be temporary, and hence the dragon started lifting its head in no time, reaching the levels it has not seen before.

In Asian Development Bank's recently published assessment of \$7 billion loan approved in 2005 for the country's energy sector to shape its future line of action, circular debt continues to be the top power sector challenge. The report titled, "Sector Assistance Programme Evaluation (SAPE) for the Pakistan Power Sector" highlights that there has been limited action in addressing the underlying causes of the circular debt, which has kept investments at less than desired levels until 2017. One underlying factor for the rise in circular debt is a lack of focus on the transmission and distribution aspect of power supply amid the country's increased focus on adding capacities. The losses in the transmission and distribution system have remained there for a long time. Other causes for the circular debt menace as highlighted by ADB in its earlier supplementary documents still remain unaddressed at large. These include weak governance, delayed release of Tariff Differential Subsidy by the Finance Ministry, issues in revenue collection by the distribution companies that still remain

in some areas, delays in tariff determination by Nepra and liquidity issues due to the fuel-price methodology.

Where the last formula of ad hoc payment to the sector didn't pan out right, the government has reportedly worked out a new circular debt settlement plan where initially around Rs80 billion will be cleared by raising funds from commercial banks. Beware, the debt servicing cost is planned to be recovered from the electricity customers.

How far the plan succeeds is what would be interesting especially with the elections around the corner. The ADB has also set the alarm bells ringing with its evaluation of the CPEC energy projects in the wake of increasing circular debt levels. It says, "Given that the circular debt problem has not yet been resolved, it is not clear how the CPEC has induced several private enterprises from Pakistan and PRC in investing in new IPP projects, when they might not get paid".

Another factor to even increase the burgeoning debts is the continuing devaluation of Pak rupee due to the incompetency of the present government, the present level of debts would rise further. The burden of this monstrous debt would have to be borne by the poor consumers in the end. The inept rulers of this country are continuing to play havoc. Alas! the nation must get rid these looters and plunderers. ■

Dialogue is the only way to end Indo-Pak hostility, Om Parkash

"A meaningful dialogue between India and Pakistan is the only way forward to improve relations between India & Pakistan". These thoughts were expressed by Indian peace activist Mr. Om Parkash Shah at a seminar "Challenges to Indo-Pak Relations and Secularism" that was organized by Awami Workers Party & Society for Secular Pakistan.

Mr. Om Parkash, who is also the Chairman at Center for Peace & Progress in India said that the two neighbors must build an atmosphere of trust and confidence before resolution of their longstanding disputes. Mr. OP Shah currently visiting Pakistan.

Earlier, Mr. Babar Ayaz introduced the speakers Mr. Akhtar Hussain, Chairman Awami Workers Party; Ms. Anis Haroon, Pakistan India People's Forum for Peace and Democracy and Dr. S. Haroon Ahmed. While answering questions, OP Shah said that not a single political party in India could take a major policy decision on resolution of contentious issues with Pakistan. "There has to be a national consensus achieved in a sitting of different political parties in India on how to move forward to normalize relations with Pakistan", he said.

On this occasion, members of the Awami Workers Party & Society for Secular Pakistan also addressed the seminar. They stressed the need for people-to-people contact to create conducive environment for a purposeful dialogue between the two neighbors.

In the end Mr. Om Parkash said that the two countries need to have a serious introspection and to develop an understanding of limitations and compulsions of each other. He also said that if the two countries had any confusion on how to move forward, they should think of the common man. "They should take steps which benefit the common man in the two countries", he added. ■

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Construction of dams, need of the hour

By Ismat Sabir

Sindh Chief Minister Syed Murad Ali Shah warned that under the National Water Policy (NWP), no new water storage facility or dam on River Indus would be allowed until a consensus is developed among all the stakeholders. He said Sindh will resist construction of new dams on River Indus. He said that Sindh and Balochistan have already faced serious water issues. The construction of new dams would further cause devastation. Therefore, under new water policy until the proposed amendment is incorporated in the new policy, it would not be approved. For construction of reservoirs during financial year 2013-14 to meet future power needs an amount of Rs2 billion was released for new dams, water reservoirs that also included Rs231.51 million which is WAPDA's self financing. The government has set nine goals to achieve long term vision of power sector and to overcome its challenges.

These goals are to build a power generation capacity that can meet Pakistan energy needs achieving goals of energy conservation and responsibility, insuring generation of inexpensive and affordable electricity for domestic, commercial and

industrial use.

Moreover, Imran Khan said that his government would construct several small dams to overcome growing energy shortages and to supply electricity to consumers on subsidize rate in the Khyber Pakhtunkhwa.

The provincial government has identified more than 350 locations, out of which small dams would be constructed at 300 places and after completion of this project, electricity will be supplied on cheaper rate across the Khyber Pakhtunkhwa. Imran Khan said that a small dam is being constructed in Kalam, district Swat, through which electricity will be provided on lowest rate in the area, and load shedding also be ended.

Imran Khan said Khyber Pakhtunkhwa has capacity to generate electricity to fulfill demand of the entire country but unfortunately the previous governments did not spend on construction of small dams in the KP. He said the provincial government would take up with NHA in this regard.

Pakistan is mainly dependent on

agriculture, which in turn is dependent on water, and that require reservoirs, i.e. dams. Out of the 79.6 million hectares of land 20 million are available for agriculture. Of those 20 million hectares, 16 million are dependent on irrigation. It is estimated that up to 90pc of Pakistan's agriculture is dependent on irrigation. (Kotri barrage-1956, Taunsa barrage-1958 and Guddu barrage-1962), link canals (Marala-Ravi (MR), Bambanwala-Ravi-Bedian-Dipalpur (BRBD) and Balpcoloki-Salimanki (BS) were also constructed.

The Maffitt Dam was constructed by Des Moines Water Works (DMWW) as an emergency water supply. Construction started in August 1943 and the dam was completed in March 1945. Water was pumped from the Raccoon River to fill the reservoir. Maffitt Reservoir stores 1.57 billion gallons of water. The original plan was to store water in the reservoir that could be released during periods of low flow in the Raccoon River. The plant was made to use water from the reservoir as an emergency raw water source for the L.D. McMullen Water Plant.

In May of 1982, DMWW entered into a contract with the State of Iowa to



purchase storage capacity in the Saylorville Reservoir. DMWW paid a portion of the Saylorville Reservoir construction costs and makes annual payments for a portion of the operational costs. These payments give DMWW access to 3.2 billion gallons of Saylorville Reservoir water that can be utilized in a drought situation.

Between the Maffitt and Saylorville Reservoirs, DMWW has access to 4.77 billion gallons of water to meet the water needs of the customers in the event of an emergency or drought situation.

Water is the most important essential item for human being's life on earth. But it is not evenly distributed all over the world and even its availability at the same locations is not uniform over the year. While the parts of the world, which are scarce in water prone to drought, other parts of the world, which are abundant in water, face a challenging job of optimally managing the available water resources. No doubt the rivers are a great gift of nature and have been playing a significant role in evolution of various civilizations, nonetheless on many occasions, rivers, at the time of floods, have been playing havoc with the life and property of the people. Management of river waters has been, therefore, one of the most prime issues under consideration. Optimal management of river water resources demands that specific plans should be evolved for various river basins which are found to be technically feasible and economically viable after carrying out extensive surveys.

Since the advent of civilization, man has been constructing dams and reservoirs for storing surplus river waters available during wet periods and for utilization of the same during lean periods. The dams and reservoirs world over have been playing dual role of harnessing the river waters for accelerating socio-economic growth and mitigating the miseries of a large population of the world suffering from the floods and droughts. ■



STUPID questions

At movies: "Hey ! What are you doing here ?"

Me: "I am here to apply for the popcorn seller post?"

:-) :-) :-) :-) :-) :-)

In bus: An uncle steps on my feet: "Sorry did that hurt ?"

Me: "No not at all. I'm on local anesthesia. Why don't you try again ?"

MD - Haseen Habib Trading (Pvt.) Limited, Mr Fawad Barry received the "Distributor of the Year Award 2017". This is the third consecutive award received by Haseen Habib Trading (Pvt.) limited from TYCO (now owned by Johnson Controls) for their consistent performance. It shows their never ending passion to contribute towards a Fire Safe Pakistan.



Nepra to modify Wheeling of Electric Power Regulation

The Ministry of Energy recommended to the National Electric Power Regulatory Authority (NEPRA) to bring modifications in 'Nepra's Wheeling of Electric Power Regulation 2016, as with prevailing regulations headway was difficult in opening the market and moving towards bilateral trade of electricity between buyers and sellers independently.



The Ministry of Energy, on March 16, after consultation with stakeholders had requested Nepra that these regulations should be limited to wheeling on dedicated feeders (132kv and 11kv) for loads more than one megawatts. The wheeling should be limited to the same distribution company (Disco) where seller and buyer are located. Besides, it suggested that for the time being, no inter Discos trade be allowed.

It is pertinent mentioning that on 13 February 2016, Nepra had notified these regulations, aimed at opening up the market for electricity sale and purchase without intermediaries i.e. Central Power Purchasing Agency (CPPA). Since its notification, not much headway was made because of certain observations of key stakeholders regarding the regulations, the letter says.

In its recommendations the Nepra to bring modifications in 'Nepra's Wheeling of Electric Power Regulation 2016, otherwise headway was difficult in opening the market and moving towards bilateral trade of electricity between buyers and sellers independently. In its letter the power division had mentioned these obstacles and observations in detail. The "wheeling" or "wheeling services" means the use of the distribution system of the Disco for the transport of electric power.

The wheeling should be limited to the same distribution company (Disco) where seller and buyer are located. Besides, it suggested that for the time being, no inter Discos trade be allowed. It has also been recommended that any interested consumers utilizing these regulations should be allowed to retain power utility connection for which relevant charges will be paid by them.

According to the earlier regulations, there was no provision of holding such connection. It further said that in case of non-utilization of energy by the buyer, banked energy should be allowed for a month after that the seller should either sell this energy to another buyer (other than Disco) or shut down the plant.

It will not be mandatory for the Discos to buy this energy. The ministry further suggested that in case the bulk consumer is taken out from the consumer base of distribution company, the displaced capacity charge should be added to the wheeling charges for a period of one year or new tariff determination whichever is later. ■



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Pakistan's LNG imports will keep rising, fuel demand to halve by 2020: Report

S&P Global Platts survey of several companies has revealed Pakistan's rising LNG imports will contribute to fuel demand halving by 2020, the study predicted.

Four brokerage houses, Topline Securities, Optimus Capital Management, Intermarket Securities in conjunction with S&P Global Platts shared their forecasts for Pakistan's fuel consumption and demand.

State-owned oil marketing giant and nations largest fuel oil importer, Pakistan State Oil (PSO) was also surveyed for this study.

As per the report, fuel oil demand is expected to fall from 9.6 million mt in financial year 2016-17 to roughly 4.5 million or less by FY 2019-20.

Fuel imports are likely to tumble as Pakistan switches to coal for power generation purposes. Projects under China-Pakistan Economic Corridor are coming online, like Sahiwal coal-fired power plant and the one recently inaugurated at Port Qasim, Karachi.

Although, the country's fuel mix for power generation is still dominated by furnace oil, but that will be change as several LNG-fired power projects in Punjab like Havelian, Balloki etc. come online.

Also, thirst for rising LNG imports can be assessed from the opening of PGPL's second LNG terminal at Port Qasim, Karachi which was inaugurated to much fanfare in November by Prime Minister Shahid Khaqan Abbasi.

In October, PM Abbasi ordered phasing out of power plants dependent on expensive furnace oil for generation and be converted to gas as soon as possible in view of the availability of ample gas for the power sector.

This stirred the hornets' nest as pandemonium hit the oil and gas sector, and created a power crisis as plants

By Mohammad Farooq

suddenly went offline at start of November. Not only did it cause major impediments for oil refineries across the country, but created headaches for PSO which had ordered several shipments of the commodity for power-generation purposes.

Then in third week of November it was reported that a ban on imported furnace oil was under consideration by the government due to topped up storages and supply challenges. The miseries compounded further as Byco was forced to shut down its refinery capable of producing 120,000 tons of oil due to low lifting of high sulphur furnace oil (HSFO).

In an ironic twist, the newly inaugurated 2nd LNG terminal developed technical faults in early-December, crippling the energy supply chain and exposing the inadequate planning on part of the government's energy managers.

The pot kept boiling as overstocking of furnace oil created shortage of jet fuel used by aviation aircrafts and the Pakistan Airforce. PSO said it had forwarded more than five warnings to petroleum ministry regarding forthcoming dry-outs at airports which could force Civil Aviation Authority to declare NOTAM.

And governments expected you-turn didn't take long to materialize, as earlier this week it was reported they had agreed to lift imported and domestic furnace oil for power plants to ease jet fuel crisis considering problems at 2nd LNG terminal.

This decision would allow easing of

pressure on refineries which have been on verge of shutdown due to non-lifting of furnace oil and crippled production of JP1 and JP8 fuel for aviation industry and the airforce.

S&P Global Platts survey said "We were forecasting overall fuel oil demand to witness flat growth from fiscal year 2018 to fiscal year 2020," said Umair Naseer, head of research at Topline Securities.

"But given the government's resolve to utilize LNG for upcoming power plants, we now forecast fuel oil sales to decline from around 8 million mt in FY2018 to 4 million mt in 2020," he added.

Furthermore, "We were forecasting overall fuel oil demand to witness flat growth from fiscal year 2018 to fiscal year 2020," said Umair Naseer, head of research at Topline Securities.

"But given the government's resolve to utilize LNG for upcoming power plants, we now forecast fuel oil sales to decline from around 8 million mt in FY2018 to 4 million mt in 2020," he added.

Pakistan's LNG demand is estimated to increase over next five years, with "Pakistan LNG estimating unconstrained demand at 30 million mt/year, or 4 Bcf/day of gas equivalent, by 2022, which is half of the country's total gas demand projection of 8 Bcf/d for that year, according to government estimates," read the S&P Global Platts report. ■



LNG revolutionising Pakistan's energy sector

Some four centuries ago, French philosopher Jean de La Bruyère remarked: "The pleasure of criticism takes away from us the pleasure of being deeply moved by very fine things."

If one looks at Pakistan's print and electronic media, it would appear that nothing has gone right for the liquefied natural gas (LNG) projects in the country. However, the rest of the world has a completely different view of the matter.

They marvel as to how quickly the government of Pakistan was able to sign contracts at the most economical prices, build LNG terminals and other infrastructure, and actually begin using the gas to alleviate severe energy shortages.

Natural gas has always been a great blessing for Pakistan. The year 1952 was a difficult one as the country was facing serious challenges such as drought, locust attack, balance of payments problems and settlement of millions of refugees.

Then fortunately, a major discovery of natural gas was made at Sui. Over the next six decades, Sui and other subsequently discovered gas fields played a major role in the economic development of the country.

The development of infrastructure to transport gas to the entire country has been quite a success story. Pakistan now has the world's most extensive inland natural gas supply system with around 140,000km-long pipelines.

Over the years, there has been a phenomenal increase in the demand for gas. This has been caused by several-fold increase in population and growth in the economy which has been on average over 5%. This has caused the demand to outstrip production.

In 1996, Inter State Gas Systems was established with the initial mandate to import natural gas through a proposed Iran-Pakistan-India (IPI) pipeline project, which was later renamed as Iran-Pakistan (IP) pipeline after the withdrawal of India from the project. Despite various political commitments for its early completion, the situation is unclear.

By Dr Manzoor Ahmad

Another project was envisaged to bring gas from Turkmenistan to Pakistan via Afghanistan and onwards to India. Work on this project has started and is scheduled to be completed in 2020.

Alternatives

There being no certainty about piped gas from the neighbouring countries and the energy crisis getting serious, the government looked at alternatives and concluded that LNG was the most economical and feasible option.

with the availability of abundant low-priced LNG.

Benefits

Already some results are becoming evident. The most obvious effect has been on the use of compressed natural gas (CNG) in automobiles. Almost 75% of around 3,200 CNG pumping stations operating in 2012 have restarted their operations, according to the All Pakistan Compressed Natural Gas Association.

Pakistan was amongst the top CNG-user countries with 3.7 million CNG-run vehicles before 2012. Since LNG is at least 30% more economical to use, its availability to automobiles will result in considerable savings for consumers as well as the government. The other advantage is that CNG is a cleaner fuel.

It is not just transport and power sectors that are the major beneficiaries, other sectors benefit as well. Gas is used as raw material in the manufacture of fertilisers and this year Pakistan has

become a net exporter rather than an importer of the commodity. It is time other sectors such as Railways start planning to switch from diesel-run locomotives to LNG. This would save 40-60% of fuel cost. Our obsolete furnace-oil based power plants should be replaced by more energy-efficient LNG-based plants as is already being done in India. This is expected to save \$1.5-2 billion in foreign exchange annually.

With the availability of cheaper fuel, Pakistan's competitiveness will increase, resulting in revival of exports and the overall economy.

With the completion of the China-Pakistan Economic Corridor (CPEC) early harvest projects, and no energy worries, the incoming government in 2018 would inherit a Pakistan different than what it was only four years ago. ■

The writer served as Pakistan's ambassador to the WTO from 2002 to 2008, Courtesy: ET



In 2005, the first LNG policy was announced. This was later revised in 2011. However, not much progress could be made to actualise these policies.

When the PML-N assumed power in June 2013, it started working at a swift pace. The government entered into direct negotiations for LNG purchase from the government of Qatar, the world's largest producer and exporter.

At the same time, it awarded a contract to Engro to set up an LNG regasification terminal at Port Qasim. In a record time of about one year, all the work including dredging at the port, setting up the complex infrastructure and building the regasification plant was completed.

Imported LNG is now being sold to power plants and other sectors. Another processing plant with the same capacity as the first one (600 million cubic feet per day) is expected to be commissioned in November 2017.

Two more plants are under process. When all the LNG terminals are completed, it would revolutionise the energy sector

Pakistan is set to stage self reliance in Energy sector soon: Yaqoob Ahmed

Artistic Milliners is setting up 50 MW wind power plant at Jhimpir

An exclusive interview of Chairman & CEO, Artistic Milliners

Yaqoob Ahmed, Chairman Artistic Milliners, narrates an excellent story of success from textile to alternative energy production in Pakistan. Mr. Yaqoob Ahmed, Chairman Artistic Milliners says that true and superb success story as to how a textile company after achieving excellence, leading position and recognition in its parent business has now invested in energy sector to launch alternative power projects in Pakistan. The story he narrates, surely inspires others in business and industrial sectors to invest in energy sector of Pakistan especially to tap vast potential of the country to generate electricity using alternative sources of power generation. Pakistan is sure to secure the stage of self-reliance in energy sector that too on most sustainable and economical basis while using the indigenous natural and renewable resources, if more companies like the Artistic Milliners continue to invest in the power sector.

Mr. Yaqoob's story is a must read for all those entrepreneurs and businessmen who have been weighing pros and cons of the option to invest in alternative energy sector of Pakistan.

The profile and history of the Artistic Milliners as narrated by Mr. Ahmed surely tells a success story par excellence. The profile explains well the phenomenal and rapid expansion of a company from textile to energy sector. The Artistic Milliners is all set to become a successful venture in energy sector after being one of the leading companies in the textile sector. This all being achieved as sustainable use of resources, environmental conservation, best use of technology and manpower, being equal opportunity employer, doing employees' welfare, and corporate social responsibility are some of the fundamental principles of the company both in textile and energy sector.

The company's profile is surely a rich source of inspiration for entrepreneurs and other people associated with business, industry, and energy sectors. More companies could follow the footsteps of the Artistic to enter into the arena of energy. Use of renewable energy resources for power production on sustainable basis in the country is really a commendable job. It is obligatory upon the government and all the relevant authorities and agencies of the government to fully facilitate and promote such excellent examples of investment in energy sector especially to harness alternative resources of power in the country that too in minimal possible time. The government and regulatory bodies should fully welcome such clean investment in the power sector. The mainstream conventional media and new social and digital media should also highlight and promote such good instances of energy sector investments in the country. Yaqoob continues to say.....



By Naeem Qureshi

Energy Update: What are the details of your company and its success story?

Mr. Yaqoob Ahmed: Since its inception our company Artistic Milliners has been a front runner in the global textile industry and has been spearheading denim innovation and sustainability, continually pushing the boundaries of what a pair of jeans can be. Recently Artistic Milliners has also invested in alternative energy and is in the process of developing Hartford Alternative Energy and Artistic Windpower as both are 50 MWs wind power

projects in wind corridor of Sindh.

Our mission statement is all about sustaining our reputation as one of the top denim manufacturers in the world by striving for excellence in each function of our business. We have been maintaining state of the art manufacturing facilities to run our core textile business. Our state of the art spinning and denim fabric manufacturing facilities are designed to ensure minimum amount of materials handling, to avoid bottlenecks, minimize machine interference, ensure competent employees' morale and safety, and to ensure flexibility in our products.

EU: What are the distinguishing and innovative features of your core textile business?

Mr. Ahmed: With a capacity of 1.8 million garments per month, our garments facilities are equipped with state of the art, automated machines and functions capable of producing a large variety of fashion garments. Our company Artistic Milliners now aims at developing a continuous stream of upgrade and adaptation in its infrastructure and technology. Our latest endeavor, LEED Platinum will raise our stature as envisaged in our vision.

EU: Please state for our readers how best your company has been fulfilling its corporate social responsibilities?

Mr. Ahmed: For the sake of employees' well-being our company regularly conducts awareness sessions on health and safety topics, organizes medical camps; recreational activities etc. It also launched AM's flagship employee training programme. For fulfilling the cause of women empowerment, our company provides free food and transport services; it also employs dedicated Female Welfare Officers in all its factories. It also collaborated with the relevant stakeholders to run long-term and sustained women advancement programmes. For the sake of community engagement, our company adopted a school in rural area; established library, provided free uniforms to its students. The company also regularly arranges educational trips. Our company also bears entire operational costs of the adopted school that include salaries of teachers and non-teaching supporting staff.

EU: Please inform our readers the steps taken by your company for the cause of environmental conservation?



Recently Artistic Milliners has also invested in alternative energy and is in the process of developing Hartford Alternative Energy and Artistic Windpower as both are 50 MWs wind power projects in wind corridor of Sindh

Mr. Ahmed: The Artistic Milliners is working proactively to reduce the company's environmental impacts. It recorded highest verified vendor score in the Environmental and Social module in Higg Index in Bangladesh and Pakistan region. The company is also a corporate Engagement Partner of WWF.

EU: What are the innovative features and initiatives of your company to fulfill its social obligations?

Mr. Ahmed: PACE programme at Artistic Milliners, is aimed to provide women workforce the opportunity to create a better life, one that gives them greater control over their own personal and professional development. The centerpiece of the program is 65 to 80 hours of module-based instructions focused on women's welfare and professional skills. Once the workers complete the life skills modules, they are given the opportunity to participate in enhanced technical skills training. The modules covered at PACE program are communications, problem solving and decision making, time and stress management, water, sanitation and hygiene, execution excellence, general and reproductive health, financial literacy, legal literacy and social entitlements, safety and security, and functional literacy.

Then we are also doing the HERhealth initiative. The HERhealth workplace

programmes strive to improve awareness and behavior related to general and reproductive health, to challenge harmful taboos, to promote preventative care, and to increase access to critical health products and services. In each factory and farm, a group of women are selected as peer health educators, and are provided with a series of trainings that take place at workplace during working hours.

EU: How do you ensure sustainable operations of your company?

Mr. Ahmed: Actually balanced Ecosystem Traceability, risk and quality management Reduce the use of toxic and persistent pesticides and fertilizers. This all ensures better health for the farmers and weavers.

Wood fiber from sustainable forests Solvent and water are looped back into our production system. This requires about 70% less acreage of land for a ton of fiber compared to cotton. We do use water efficiently and care for its availability. We do strive to conserve natural habitats. We do care for and preserve the quality of the fiber. We also do sustainable operations through reduced use of virgin cotton and non-renewable fossil fuels. We also ensure reduced use of chemicals, water and land. We also ensure reduction in the amounts of solid non-degradable waste going to landfill.

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Artistic Milliners



Artistic Milliners is a superb story of perfection, excellence, and success from textile to alternative energy sector.

The phenomenal and rapid expansion of a company from textile to energy sector. The Artistic Milliners is all set to become a successful venture in energy sector after being one of the leading companies in the textile sector. This all being achieved as sustainable use of resources, environmental conservation, best use of technology and manpower, equal opportunity employer, employees' welfare and corporate social responsibility are some of the fundamental principles of the company both in textile and energy sector.

The company's profile is surely a rich source of inspiration for our readers, other people associated with business, industry, and energy sectors. More companies could follow the footsteps of the Artistic to enter into the arena of energy.

Since its inception Artistic Milliners has been a front runner in the global textile industry and has been spearheading denim innovation and sustainability, continually pushing the boundaries of what a pair of jeans can be. Artistic Milliners has also invested in alternative energy and is in the process of developing Hartford Alternative Energy (50 MW Windfarm) and Artistic

Windpower (50 MW Windfarm). To sustain our reputation as one of the top denim manufacturers in the world by striving for excellence in each function of our business.

Our state of the art spinning and denim fabric manufacturing facilities are designed to ensure minimum amount of materials handling, to avoid bottlenecks, to minimize machine interference, to ensure high employee morale and safety, and to ensure flexibility. With a capacity of 1.8 million garments per month, our garments facili-

ties are equipped with state of the art, automated machines and functions capable of producing a large variety of fashioned garments.

Artistic Milliners aims to develop a continuous stream of upgrade and adaptation in their infrastructure & technology. Our latest endeavor, LEED Platinum will raise our stature as envisaged in our vision.

CSR Focus Areas:

The company regularly conducts awareness sessions on health and safety topics, organizes medical camps; recreational activities etc. It also launched AM's flagship employee training programme. The company provides free food and transport services; it also employs dedicated Female Welfare Officers in all factories. It also collaborated with the relevant stakeholders to run long-term and sustained women advancement. The company adopted a school in rural area; established library, provided free uniforms to students; regularly arranges educational trips. It also provides for operational costs of the school that include salaries of teachers and non-teaching supporting staff. The Artistic Milliners is working proactively to reduce the company's environmental impacts. It recorded highest verified vendor score in the Environmental and Social module in Higg Index in Bangladesh/Pakistan region. The company is also a corporate Engagement Partner of WWF. PACE programme at Artistic Milliners, is aimed to provide women workforce the opportunity to create a better life, one that gives them greater control over their own personal and professional development. The centerpiece of the program is 65 to 80 hours of module-based instructions focused on women's welfare and professional skills. Once the workers complete the life skills modules, they are given the opportunity to participate in enhanced technical skills training.



The modules covered at PACE program are communications, problem solving and decision making, time and stress management, water, sanitation and hygiene, execution excellence, general and reproductive health, financial literacy, legal literacy and social entitlements, safety and security, and functional literacy. HERhealth workplace programmes strive to improve awareness and behavior related to general and reproductive health, to challenge harmful taboos, to promote preventative care, and to increase access to critical health products and services. of toxic and persistent pesticides and fertilizers. This all ensures better health

Energy sector:

Artistic Energy (formerly Hartford Alternative Energy). The Artistic Energy, a 49.3 MW wind power project is located in Jhimpir, which is located approximately 135 km from Karachi, Pakistan's commercial hub and coastal/port city. The project site consists of 360 acres of land, which is leased by Government of Sindh (GoS). The Karachi-Hyderabad Motorway (Super Highway) and National Highway are the connecting roads to the project's site. The Jhimpir wind corridor is identified as potential area for the development of wind power projects. The project has achieved its Financial Close in December 2016 by obtaining syndicated debt facility from consortium of local banks. Mandate for EPC work has been given to Hydrochina Corporation and Hydrochina International



Engineering Company whereas state of the art GE Wind turbines having capacity of 1.7 MW-103" diameter will be installed for generation of electricity. Currently, the project is in commissioning phase and

expected to achieve its Commercial Operation by the first quarter of 2018.

Alternative Energy sector: Artistic Wind Power (Pvt) Ltd. The Artistic Wind Power, a 50 MW wind power Project is located in Jhimpir, which is located approximately 135 km from Karachi, Pakistan's commercial hub and main coastal/port city. The Project site consists of 462 acres of land, which is leased by Government of Sindh. The Karachi-Hyderabad Motorway (Super Highway) and National Highway are the connecting roads to the Project site. The Jhimpir wind corridor is identified as potential area for the development of wind power projects. Currently the Project is at development phase cycle in which initial technical feasibilities along with wind resource assessment and grid interconnection study have been completed and the power evacuation letter is also awarded by National Transmission and Dispatch Company to evacuate the power by July 2019. The Project is expected to complete its Financial Close by June 2018 and expected to start its commercial operation by September 2019. SArtistic Wind Power (Pvt) Ltd. The Artistic Wind Power, a 50 MW wind power Project is located in Jhimpir, which is located approximately 135 km from Karachi, Pakistan's commercial hub and main coastal/port city. The Project site consists of 462 acres of land, which is leased by Government of Sindh (GoS). The Karachi-Hyderabad Motorway (Super Highway) and National Highway are the connecting roads to. ■

Interview of Yaqoob Ahmed, Chairman & CEO, Artistic Milliners

continued from page # 28

EU: How the Artistic Milliners have now ventured into the arena of alternative energy?

Mr. Ahmed: We are doing the Artistic Energy project, which is a 49.3 MW wind power project is located in Jhimpir, which is located approximately 135 km from Karachi, Pakistan's commercial hub and coastal/port city. The project site consists of 360 acres of land, which is leased by Government of Sindh. The Karachi-Hyderabad Motorway (Super Highway) and National Highway are the connecting roads to the project's site. The Jhimpir wind corridor is identified as potential area for the development of wind power projects. The project has achieved its Financial Close in December 2016 by obtaining syndicated debt facility from consortium of local banks. Mandate for EPC work of the project has been given to Hydrochina Corporation and Hydrochina International Engineering Company whereas state of the art GE Wind turbines having capacity of 1.7 MW-103" diameter will be installed for generation of electricity through this projec. Currently, the project is in the commissioning phase and expected to achieve its Commercial Operation by the first quarter of 2018.

We are also doing the Artistic Wind Power project, which is again a 50 MW wind power Project is located in Jhimpir, it is located approximately 135 km from Karachi, Pakistan's commercial hub and main coastal/port city. The project site consists of 462 acres of land, which is leased by Government of Sindh. The Karachi-Hyderabad Motorway (Super Highway) and National Highway are the connecting roads to the Project's site. The Jhimpir wind corridor is identified as potential area for the development of wind power projects. Currently the Project is at development phase cycle in which initial technical feasibilities along with wind resource assessment and grid interconnection study have been completed and the power evacuation letter is also awarded by National Transmission and Dispatch Company to evacuate the power by July 2019. The Project is expected to complete its Financial Close by June 2018 and expected to start its commercial operation by September 2019. ■



The coming gas conundrum

By Khurram Husain

GIVEN all the noise in the system these days, a few crucial developments that will have far-reaching implications for the economy are passing by unnoticed. One of these is the growing role of imported gas in Pakistan's economy.

This is a necessity, and was required over a decade ago. But the original deal for importing LNG was scuttled due to noise in the system, and we floundered with the consequences, suffering years of gas load-shedding that saw industry shut during the winters and street protests in key industrial cities like Faisalabad. A new deal was arranged by the present government, which began in earnest last year, and now some of those years of shortages are receding from memory.

But a new conundrum is opening up before us. In the years to come, imported LNG will play a rapidly growing role in our gas sector as at least six more terminals are under negotiation. According to some estimates, LNG imports could rise fast enough to become as large as the total stock of domestic gas in the system in less than a decade, if things go forward smoothly. This will be a positive development undoubtedly, but it presents the economy with a steep challenge.

Imported LNG is far more expensive than the domestic gas we have grown used to. The two are identical, except for technical differences such as differential heat rates. For the layperson, it is enough to understand that both can be mixed and carried in the same pipeline to the same consumer. Except one is cheap, because its price is set by the government of Pakistan, and the other is not cheap, because its price is set either by the market or the terms of a long-term supply contract.

Our stocks of domestic gas are dwin-

dling and we are relying more and more on imported gas to fire our furnaces and boilers.

Now as we are mixing expensive and cheap gas in the system, and the proportion of the expensive gas is expected to grow rapidly in the years to come, it follows that something will have to change in the pricing regime for the mixture to be feasible. And that is where the run comes in.

Simply put, the conundrum is this: our stocks of domestic gas are dwindling and we are relying more and more on imported gas to fire our furnaces and boilers and keep our economy going. With this growing reliance comes a price shock, and sooner or later the price of natural gas is going to have to move upwards sharply if the enterprise is to continue smoothly.

At the moment, our pricing regime is built on the fact that all the gas in the system was domestically produced, largely from fields owned and operated by the government. So the government extracted the gas, transmitted it to the load centres, and distributed it onwards to final consumers. Along the way, the government set the price as well. The price varied depending on the category of consumer. So household consumers receive a steep subsidy, as do fertiliser producers. Power plants are less lucky, and the textile industry was less luck still.

So now a choice will have to be made, and very soon, over who is going to bear the brunt of the price increases as LNG replaces more and more domestic gas in the system. And this will entail the most brutal wrangling amongst all the various categories of consumer.

There are five main categories of consumer in the gas sector. Households account for the largest share, and they are likely to be the last to feel the price

influx of LNG because politically this is a very sensitive issue. In industry, the main stakeholders are fertiliser, power generation, textiles and vehicular. The last one has shrunk significantly in the past three or so years though.

A few years ago, when the wrangling over dwindling stocks was at its peak, and LNG imports were on the cusp of getting going, the four main industry stakeholders fought a battle amongst themselves over who would be forced to switch to LNG as their source, and effectively be evicted from the regime of subsidised pricing that dominates the gas sector.

The vehicular sector lost that fight, and CNG stations were told to import their gas supply themselves, after the government agreed to reduce its role in determining the end consumer price of CNG. As a result, the CNG sector has been devastated, shrinking to a fraction of what it used to be even three to four years ago.

Now that choice will have to be made once again. As LNG imports grow, once more a choice will have to be made as to who will be the next to be evicted from the regime of subsidised natural gas pricing and told to arrange their own supplies from global LNG markets. If the example of the vehicular sector is anything to go by, the consequences can be potentially devastating for whoever loses the next round. Fertiliser cannot survive if its feed-stock gas, with which the sector makes the fertiliser, is not heavily subsidised. Textiles is already screaming about the 'high cost of doing business' in Pakistan, that it claims is eroding its competitiveness and pushing it out of key export markets. Both are highly organised sectors, with a large voice in policymaking.

That leaves the power sector. The key thing here is that the price of fuel is what they call a 'pass-through' item, which means the power producers can simply bill their buyer for the cost of fuel separately from the power tariff. This makes the sector the next suitable candidate for eviction from the regime of subsidised domestic gas, something that is already afoot with the introduction of LNG-fired power plants.

But it will not stop there. Eventually, all industry will have to adapt to the shock of shifting to LNG pricing, and if they are not prepared for the eventuality, which is approaching faster than they may realise, they could share the fate of the CNG stations. ■

Courtesy: Daily Dawn

Abbasi Govt drops another bomb of price hike

By Sofia Kanwal

The government has decided in principle to increase gas prices by 5-7 per cent, involving additional revenue of Rs18 billion to cover losses of the two gas utilities — Sui Southern Gas Company Ltd (SSGCL) and Sui Northern Gas Pipeline Ltd (SNGPL) — with retrospective effect from 2012-13. The forthcoming meeting of the Economic Coordination Committee (ECC) of the Cabinet is expected to issue formal instructions to the Oil and Gas Regulatory Authority (Ogra) to make past adjustments in system losses (commonly called unaccounted for gas-UFG) since 2012-13.

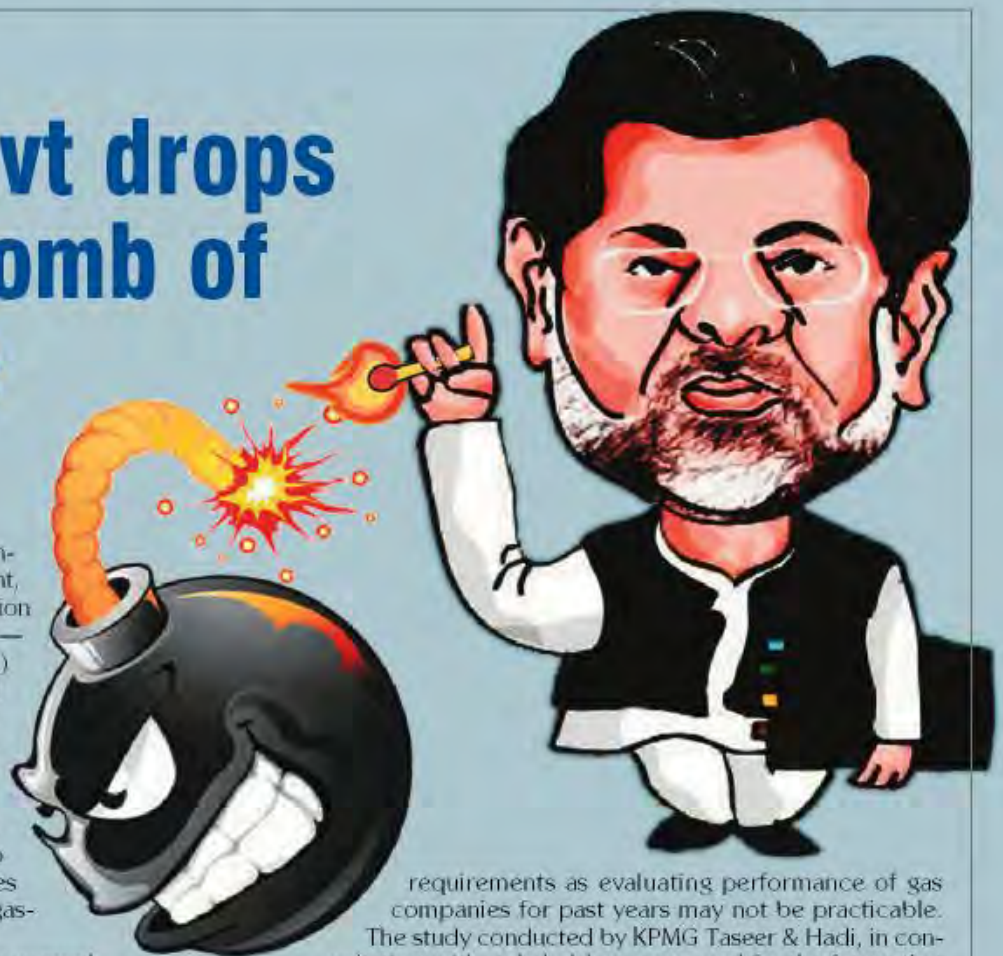
In a summary, the Petroleum Division warned that if the two companies were not given Rs18bn through gas tariff, they would turn negative and the government would have to inject funds from the budget to keep them floating. The crux of the proposal is to undo the past performance standards set by the regulator for the gas companies over a period of ten years and restart the practice afresh. In the meanwhile, SNGPL be given Rs6.535bn through 'retrospective application of UFG study' and SSGCL Rs11.257 bn in the same manner.

"This division proposes that Ogra may finalise the provisional benchmarks set from 2012-13 to 2016-17 in line with recommendations of the UFG study ie the benchmark at 7.6pc (fixed rate of 5pc UFG plus 2.6pc for local conditions) so as to ensure that gas companies continue to remain financially viable and sustainable". The ministry said Ogra had been advocating the finalisation of provisional UFG benchmarks after an independent study was carried out for the purpose. During the previous decisions of the revenue requirements, the "regulator had categorically conceded that UFG benchmark determinations were provisional and subject to review once a UFG study was finalised by it," Petroleum Secretary Sikandar Sultan Raja claimed.

He said the ECC in a decision on Nov 20, 2014 had instructed the Ogra to provisionally allow three major volumes as "deemed sales" for the purpose of revenue requirement of gas companies that included gas pilfered by non-consumers but detected and determined by gas companies, gas lost in law and order affected areas and impact of change in bulk-to-retail ratio.

Mr Raja noted that these allowances were linked to the condition that the UFG study would be completed as soon as possible. "Subsequently, Ogra allowed provisional treatment of certain volumes pilfered by non-consumers and loss in law and order affected areas.

The said study was concluded in August 2017, saying the regulator should issue directives to close the provisional revenue



requirements as evaluating performance of gas companies for past years may not be practicable. The study conducted by KPMG Taseer & Hadi, in consultation with stakeholders, proposed for the future that a fixed benchmark of 5pc UFG in addition to 2.6pc linked to key performance indicators (KPIs) be allowed.

The gas companies asked Ogra to decide the provisional UFG rates for previous years too but the regulator took the position that rates for past years cannot be made based on current year KMI indicators. Ogra stated in its final revenue requirement that for 2013-13 to 2016-17 the volumes provisionally allowed as per policy decision of the ECC shall be reconciled with the result of UFG study and any variation shall be adjusted accordingly, and that "it will not be practicable to assess the performance of gas companies on KMIs with retrospective effect." After taking into account the fact that UFG allowance over and above the 4.5pc benchmark on local challenging conditions, Ogra concluded the revenue requirements on the same basis as was done provisionally. Such a "treatment is going to cause adverse financial conditions for SSGCL as only Rs2.4bn equity would be left as of Jun 30, 2016 cannot provide sustainability to account for leftover unabsorbed loss of Rs18bn occurred due to the decision of Sindh High Court".

"If the previous benefit was not allowed to SSGC, then equity would be converted into a huge negative and jeopardise the gas supply operation to millions of customers," it added. The ministry claimed Ogra, under former Chairman Tauqir Sadiq, had changed UFG back to 7pc instead of 5pc for 2009-10 but reverted to 4.625pc and 4.5pc for the next two fiscal years that led to a political scandal and the court cases. The Lahore and Sindh High Courts initially stayed the reduction in UFG to 4.6pc and 4.5pc and allowed 7pc as requested by the gas companies but finally upheld the regulator's revised decision. It said the companies had challenged the decision of the two high courts in the Supreme Court but in the meanwhile the duration of litigation raised significantly the financial liability of the SSGC to the extent of Rs16.2bn. ■

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Water scarcity can paralyse country, warn experts

EU Report

Experts on water and environmental issues warned on Thursday of potentially disastrous consequences Pakistan faced owing to increasing water scarcity, a problem, they said, which had intensified owing to India's active strategy to control and manage water resources and the fast changing climatic patterns.

They were speaking at a briefing organised by Pakistan Water Partnership in collaboration with Ferozan and The Nature magazines at the press club.

Raising the issue, Dr Pervaiz Amir regretted that water had become a highly politicised subject in the country, leaving the country without a water policy for seven decades.

He favoured construction of large dams to address growing agricultural and electricity needs of the country as the storage capacity of Tarbela and Mangla dams had been reduced over the years owing to silting.

"A dam is like a water tank. It's the people who decide how to regulate it. Small dams could only meet minimal localised needs," he said, while rejecting what he described as 'misconceptions' and propaganda on dams' constructions.

Responding to a question, he said work on Bhasha dam was at a standstill for many years whereas Dasu dam was about to be completed but it was only for the purpose of storage.

"India's strategy is to maintain status quo in Pakistan. Around 750MAF water is available to India yearly of which 287MAF is stored in dams. Its storage capacity is 30pc, which they want to increase up to 50pc. In comparison, Pakistan with 140MAF available water has a storage capacity of 7pc," he said.

Striking off Article 161

Elaborating further, Sardar Mohammad Tariq said that India had control over 85pc of water that came from Indian-held Kashmir. Now, it was out to damage Pakistan's water interests more as it planned to finance a dam over Kabul River in Afghanistan.

"There has been a 10MAF reduction in our rivers since 2002. Unfortunately, successive governments didn't develop a comprehensive long-term plan to meet country's water needs," he said, adding that the country lost 111bn cusecs of water in past three floods.

The experts also spoke about high

water wastage (owing to poor agricultural practices), which stood at around over 40pc, and suggested growing high-value crops with less water needs.

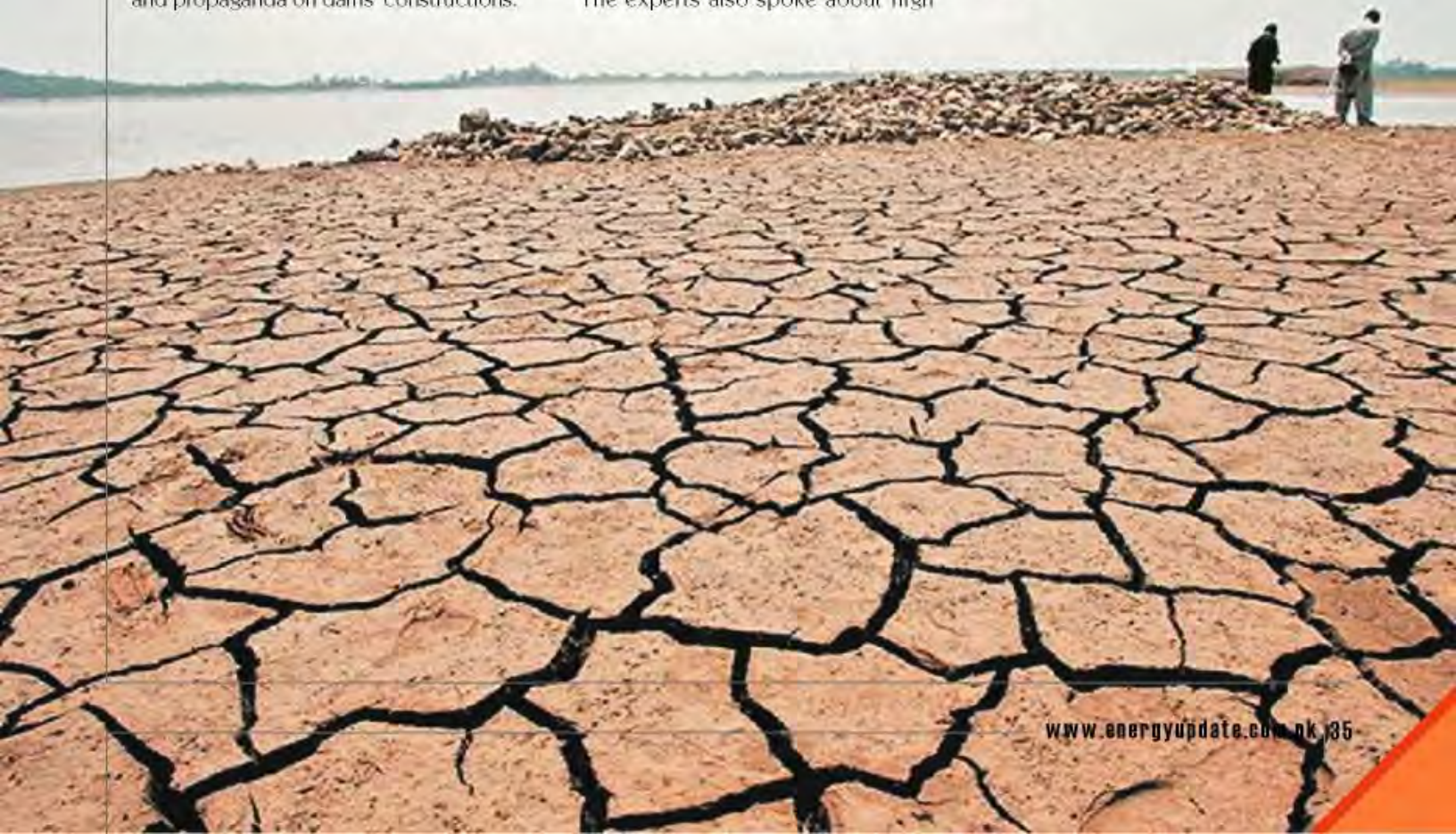
They also suggested striking off Article 161 of the Constitution under which a province with a power plant would get its royalty.

"A dam can exist or affect people of two provinces. Second, the royalty can be shared per the 1991 Water Accord," they said.

On Karachi, they said the city needs planning and infrastructure to tackle a heatwave and a tsunami in the face of rising temperature.

"Water shortages in the city can be easily addressed by building at least three desalination plants and plugging water theft. The sea must not be used for dumping sewage and should be nourished so that people could benefit from it," Dr Amir noted.

Both experts described polythene bags as a major threat to environment and water safety and suggested a complete ban on their usage across Pakistan, particularly Karachi. ■



Haveli Bahadur Shah Power Plant Nears Completion



SEPCOIII and GE Power (NYSE: GE) successfully completed a Reliability Run Test (RRT) at the Haveli Bahadur Shah Power Plant in Jhang, Pakistan. The RRT is a critical milestone towards the completion of the plant, which is being developed by the Government of Pakistan through the National Power Parks Management Company Limited (NPPMCL). The project is among the largest gas-fired combined cycle plants in the country, expected to add up to 1,230 megawatts (MW) to Pakistan's national grid - the equivalent power needed to meet the electricity needs of up to 2.5 million Pakistani homes.

SEPCOIII Electric Power Construction Co., Ltd (SEPCOIII) is the engineering, procurement and construction (EPC) contractor for the project, responsible for setting up the power plant. SEPCOIII is a wholly-owned subsidiary of Power Construction Corporation of China with a professional engineering enterprise in the electric power sector and includes EPCO, EPC, BOT, BOO and PMC. Founded in 1985, SEPCOIII has aggregated installed capacity of 86,000 MW and was ranked 58th in the Top 250 International Contractor of ENGR (Engineering News Record) in 2014. At present, its customer base has spread across 18 countries through 46 turn-key projects including India, Nigeria, Pakistan, Bangladesh, Kuwait, Myanmar, Jordan, Saudi Arabia, Oman, Iraq, Egypt, Morocco, Turkey, Indonesia and Singapore etc. GE is providing two of its advanced H-class heavy-duty gas turbines, one steam turbine and two heat recovery steam generators (HRSGs) for the plant.

"We are committed to meeting the

growing demand for power in Pakistan to drive industrial growth, economic progress and the welfare of our people," said G.M. Site, M. Saleem Akhtar. "I am pleased to note that working together with SEPCOIII and GE, we are setting up the Haveli Bahadur Shah project maintaining the highest standards of quality and excellence. The facility will soon help to meet up to 20 percent of the energy shortfall in the country."



The RRT at the HBS site involved continuous plant operations under real conditions, without any failure, for a period of 7 days. The successful completion of the RRT demonstrates that the power plant is operational to the highest standards of safety and security. It also marks the completion of all major commissioning activities at the site. Following the RRT, the power plant will undergo a performance test where specialized, calibrated instrumentation will be used to measure important performance-related indicators such

as output and efficiency levels. The performance test is expected to take place in April 2018, following which the plant should reach full-fledged commercial operations and feed power to the national grid ahead of summer 2018.

Wang Zengxu, Project Director of HBS 1230 MW RLNG Combined Cycle Power Plant Project from SEPCOIII said, "Almost as large as 65 football fields, more than 10 million-man hours and staff from over 35 countries came together to set up the Haveli Bahadur Shah Power Plant. The project is a strong example of bringing the world's best together to power Pakistan. By deploying leading Chinese engineering skills, advanced American and European technologies, as well as local staff with knowledge of on-the-ground conditions, we are building the most efficient combined cycle power plant in Pakistan today."

"As a committed partner in Pakistan's progress and development, we understand how critical it is to bring the latest technologies to meet the country's rising energy needs. GE's HA gas turbines have helped set a world record for combined cycle power plant efficiency in France and we are proud to help set a new industry benchmark in Pakistan by bringing efficient, affordable, reliable and sustainable power to the country," said Mohamad Ali, President and CEO of GE's Gas Power Systems - Projects Business in the Middle East, Pakistan and India.

GE's HA technology has undergone full-speed, full-load validation tests at GE's Greenville, South Carolina facility in the United States at extreme conditions well beyond those encountered while in service. More than 75 units have been ordered to date by over 25 customers across more than 15 countries, including the United States, Mexico, Brazil, Pakistan, Japan, Bahrain, China, France and others. Among its many benefits, the HA can ramp up or down quickly, while still meeting emissions requirements to help balance grid instability. It thus offers an excellent flexible complement to intermittent renewable sources as Pakistan and other countries across the region increase the proportion of alternative energy.

The technology is also being used at Pakistan's upcoming Bhikki and Balloki Power Plants. Together, HBS, Bhikki and Balloki will add up to 3,600 MW to Pakistan's grid, going a long way towards helping the government realize its goal under Vision 2025 to enhance access to electricity to over 90 percent of the population. ■

Irregularities detected in solar plant contract

By Khalid Hasnain

Auditors have detected irregularities in the award of the engineering, procurement and construction (EPC) and operation and maintenance (O&M) contract for the establishment of the 100 megawatt (MW) solar plant of the Quaid-i-Azam Solar Power Private Limited (QASPL) to a private firm.

Auditor General of Pakistan's (AGP's) auditors found illegalities in the 2013-2017 audit of the company, according to an audit report.

The Punjab government's subsidiary - QASPL- was established under the Companies Ordinance of 1984 in 2013 to build, own, operate and maintain the solar power plant in Bahawalpur. The company achieved commercial operation date on July 15, 2015 after the National Electric Power Regulatory Authority granted generation license to it, which is valid till December 30, 2039.

The auditors found the management advertised the tender for the EPC and O&M contract for the plant in newspapers on Nov 1, 2013. The last date of submission of bids was Nov 19, 2013. The response time in the case was only 18 days as against minimum 30 days. Twelve parties, of 45, were prequalified for further process. After technical evaluation, three parties were shortlisted by the committee, whose financial bids were opened. Of them, M/s Chint stood the lowest with \$206.281 million followed by M/s TBEA with \$225.768 million. After opening of financial bids, the management started due diligence of the bidding documents. The consultants carried out due diligence of M/s Chint on March 21, 2014 and disqualified it without citing reasons. The due diligence process of the second lowest bidder i.e. M/s TBEA was carried on April 14, 2014 by the same consultant that recommended that EPC and O&M contract be awarded to the second lowest bidder. The contract with M/s TBEA was executed on June 2, 2014. The report says that due to rejection of the bid of M/s Chint, the company sustained a loss of \$19.345 million.

"The audit sees the due diligence process started after technical and financial evaluation just to provide an opportunity to the second lowest bidder i.e. M/s TEBA which was against the PP Rules. The irregularity was pointed out to the management on Dec 21, 2017 and other quarters concerned on Dec 23, 2017, but no reply was received till the finalisation of the report," the report reads. "Audit required investi-



gating the matter as to why the bidding documents were made in violation of the provision of Punjab Procurement Rules? Fix the responsibility," it recommends.

Calling the appointment of the consultant (Emeritus) for Rs82.737 million irregular as having conflict of interest, the team observed that that Rashid Majeed was appointed consultant emeritus without any specific terms in a selective manner in the company on Nov 13, 2013. The officer attended the QASPL board of directors and finance and procurement committee meetings from Feb 15, 2014 to June 12, 2014. He was a member of technical and financial bid opening committee and managed to get the consultancy services for the EPC and O&M contracts in favour of the firm where he was the country head in Pakistan. He was also technical adviser of the Bank of Punjab (BoP), the lender bank of the QASPL. Thus, the officer took advantage and got the consultancy services awarded in non-transparent manner. Furthermore, the consultant not only provided vital information to his company but also to the other stakeholders.

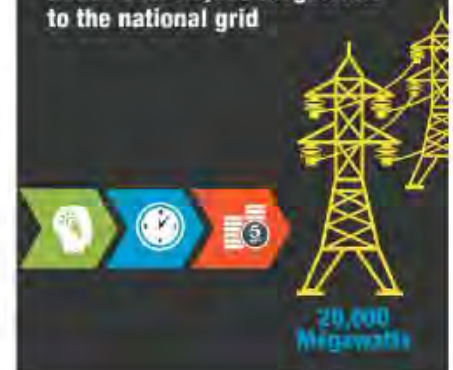
"Audit is of the view that the consultant provided important and vital information to the company which created a strong case of conflict of interest. Hence, the entire expenditure of Rs82.737 million incurred on hiring of consultancy services is considered irregular and non-transparent," the report reads.

The report recommended investigation into the appointment of the consultant emirates.

The audit team also found irregularities in hiring of services of foreign engineer for O&M services, provision of vehicles and other expense to energy department, payment of bonus to officers, appointments and payment of pay and allowances, payment to a company for additional services and site relocation allowance, loan agreement with the BoP on excessive

payment of markup, opening of letter of credit in favor of parent company, purchase of old office equipment, retention of equity funds in the BOP, appointment of former CEO, hiring of independent technical consultants, adjustments of advances to the Bahawalpur district administration, hiring of a rent a car company, appointment of the CEO and excess payment of salary and gratuity, purchase of vehicles, expenditure without approval of the competent authority; LIBOR given on local loan, installation of solar panels and inverters, non-recovery of liquidated damages from a firm, loss due to non-calibration of backup metres, non-recovery of cost of electricity, non-imposition of liquidated damages, non-transparent award of consultancy contract, non-inclusion of insurance charges and tax refund in annual tariff, non-compliance of code of corporate governance rules and government instructions regarding verification of staff degrees, non-payment of the Punjab Sales Tax and non production of record. ■

If we had used the major costs accumulated over the past ten years to produce more energy we could have added over 20,000 megawatts to the national grid



Dr Pasha rates KPK as No 1 in growth

Led by a remittances-led service economy, Khyber-Pakhtunkhwa (K-P) has grown at the fastest pace among the four provinces during the last four years, registering an average growth of 5.1%, claims Dr Hafiz Pasha in his new book, 'Growth and Inequality in Pakistan'. K-P's average growth rate of 5.1% was better than the national average of 4.5% for the period of 2013-14 to 2016-17, according to the publication. Punjab, the powerhouse of the ruling PML-N, is in second place, behind the war-torn K-P province since 2008. Pakistan Tehreek-e-Insaf (PTI) has been the ruling party in K-P since 2013. Sindh, which was the fastest growing provincial economy from 2000 to 2007, lost its momentum in 2008 when the PPP came into power, writes Dr Pasha.

Balochistan has struggled with a growth rate that has not exceeded 3% at any time during the last 15 years. The writer says that this is one of the worrisome features of the growth process since 1999-2000. "The people of Balochistan are probably suffering today from a greater sense of deprivation and exclusion."

The author, who is former finance minister of Pakistan and husband of Punjab's incumbent Finance Minister Dr Ayesha Ghous Pasha, has for the first time segmented Pakistan's economic growth into provincial performance.

In his book, Pasha explains the interconnectedness of inequality and low growth in Pakistan. The book states that the economic and social structures have perpetuated high income, wealth and regional disparities.

The publication shows that Punjab had a share of 54% in national GDP in 2016-

17. The next economy in terms of size is Sindh, with a share of 30%. K-P and Balochistan have shares of 13% and 3%, respectively.

However, findings suggest that the highest growth rate in K-P was more because of the structure of its economy than the economic policies of the provincial government. Although Punjab has remained behind K-P, the pace of growth that was 2.9% in 2008 in Punjab jumped to 4.6% in 2016-17.

Compared to this, K-P's economy that grew at a pace of 4.9% in 2008 posted 5.1% economic growth rate in the last fiscal year 2016-17.

Dr Pasha's findings come as a surprise, as it is usually believed that K-P has suffered due to worsening law and order situation since 2001 when Pakistan decided to become an ally in the US-led war against terrorism. The basic contributing factor to growth, however, is the large inflow of remittances per-capita, both foreign and domestic, according to the author. Almost 20% of household income in K-P comes from remittances, as compared to less than 10% in Punjab and below 3% in Sindh and Balochistan.

Afghan transit trade and NATO supply movement have contributed to the higher growth in the transport sector. The ownership of dwellings sub-sector has achieved a high growth rate of 6.5% due to the investment in housing from home remittances. These inflows have also created high demand for economic and social services.

Pakistan's most populated province grew at an average rate of 4.6% since 2013 – lower than K-P but higher than the other



two provinces.

This rate was 2.9% for the period of 2008 to 2012-13. According to the author, the performance of the agricultural sector has a vital role to play in the growth process of Punjab. He states that unfortunately, the emerging structural problem for Punjab is the loss of dynamism of agriculture. This sector grew at the rate of almost 4.5% in the decade of the 90s, but since then it has managed a growth rate of only about 2%.

During 2013-14 to 2016-17, Sindh's economy grew at a pace of 4.2%, which is even lower than the national average but only better than Balochistan. The book states that the economy of Sindh had shown exceptional dynamism in the Musharraf period.

Conditions in Sindh changed fundamentally after 2008. The breakdown of law and order in the metropolitan city of Karachi has led to a severe loss of economic momentum, from over 6% growth in the earlier years to below 2% after 2008. This implies a loss to the regional economy of almost Rs400 billion per annum, according to the author.

Industry has actually contracted since 2008. Agriculture in Sindh has also performed poorly over the last 15 years, with an average growth rate of less than 2%. The services sector, especially trade, has also been impacted by periodic closures and lack of security.

Balochistan has remained the slowest growing province since 2000. It registered an average growth rate of 3.6% for 2013-14 and 2016-17 periods.

The insurgency in the province and actions taken in response by the military has reduced investment and economic activity, and in some years the real per-capita income may have actually fallen, according to the author. However, the province has had spectacular success in the production of fruits and vegetables, which has made it the fastest growing province in agriculture. In some products, Balochistan contributes a large share to national output ■



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Contract for 1320 MW Coal Fired Power Project Jamshoro signed



In a simple but graceful ceremony held at Islamabad last month, the EPC Contract for first unit having capacity of 660 MW (out of two units of 660 MW each) and 5 years O&M Contract of 1320 MW Jamshoro Coal Fired Power Project was signed between Jamshoro Power Company Limited (GENCO-I) and the Siemens-HEI (Harbin Electric International) Joint Venture. This will be the first supercritical coal fired power project in public sector to be installed at Jamshoro, Sindh.

EPC Contract price for Lot-I (unit 1 of 660 MW and balance of plant) signed today is USD 562 million. EPC contract price of Lot-II (unit 2 of 660MW and expansion of balance of plant) is USD 313 Million which will be signed in next phase once financing arrangement is finalized.

The contract was signed in the presence of the Secretary, Ministry of Energy (Power Division), Chief Executive Officer of GENCO Holding Company, the Commercial Counsellor of the Embassy of People's Republic of China and other officials from Ministry, GHCL / GENCOs, Asian Development Bank, Siemens, Harbin Electric International, Project Consultants Mott McDonald, etc. The signed Lot is being funded by the Asian Development Bank, and each unit will be completed

within 42 months.

Mr. Muhammad Imran Mian, Chief Executive Officer, GENCO Holding Company, in his welcome speech, highlighted salient features of the Project and stated that along with the EPC contract, a contract for five years' O&M of the project was also signed today. This project will use 80% Imported sub-bituminous coal and 20% local Thar lignite and, as a result, cheaper energy will be generated to meet the future electricity need of the country. Mr. Imran informed that arrangement for financing for second unit of similar capacity is underway at advanced stage and EPC will also be signed very soon in the try to bring both units as quickly as possible. Mr. Imran acknowledged the support extended by the Power Division, Ministry of Energy, Asian Development Bank and other stakeholders to achieve this historic milestone. Mr. Imran further expressed the hope that all stakeholders will work as the team to complete the project within 42 months.

The Secretary, Ministry of Energy (Power Division), Mr. Yousuf Naseem Khokhar also appreciated the efforts of the teams from ADB, GHCL and JPCL to achieve the milestone of contract signing of this project. He further expressed the hope that this project will be a major milestone to achieve a good fuel mix for the country. ■

Husband: I found Aladin's lamp today.

Wife: wow, what did u ask for darling??

Husband: I asked him to increase your brain ten times..

Wife: oh..jaan..luv u so much.. Did he do that??

Husband: He laughed and said multiplication doesn't apply on zero.



Shell's executive visits Pakistan to look at opportunities in LNG sector

Executive Vice President for Shell Energy, Steve Hill has visited Pakistan to meet key stakeholders and look at LNG opportunities in the country.

A dinner was hosted for him by Thomas Drew CMG, the British High Commissioner, and was attended by Jam Kamal Khan, Minister of State for Petroleum & Natural resources.

British High Commissioner Thomas Drew said: "Shell is a significant investor in Pakistan with a long track record of working alongside the government of Pakistan to develop the downstream oil sector with investments in pipelines, refining and distribution. I am delighted that Shell is exploring further opportunities in LNG to meet Pakistan's energy requirements. The British government is delighted at the prospect of further UK foreign direct investment strengthening Pakistan's economy for the benefit of both our countries."

Country Chairman Shell Pakistan Jawwad Cheema said: "Shell has a legacy of over a hundred years in the region. Since Pakistan's inception, Shell has played an integral role in developing the country's energy landscape while proudly serving the energy needs of millions of customers across the country every day. We believe that the supply of natural gas, the cleanest fossil fuel, can help meet Pakistan's growing energy needs and we look forward to bringing LNG to Pakistan. Shell is a worldwide leader in LNG and we bring credible gas and LNG expertise and experience to develop the Pakistan market and offer secure and competitive supply from one of the world's largest LNG portfolios."

Earlier in the day, Steve Hill alongside prospective consortium partners met with Prime Minister Shahid Khaqan Abbasi to discuss opportunities in the energy sector. Pakistanis facing declining domestic gas production, To bridge the supply-demand gap, the government of Pakistan (GoP) introduced the LNG Policy with the objective of facilitating and incentivizing LNG imports in Pakistan. ■



Karachi nuclear power plants heavily protected: IAEA Chief

International Atomic Energy Agency (IAEA) Director General Yukiya Amano has praised the arrangements made for the security of nuclear power plants operating in Karachi.

Mr Amano, who visited the plants, said that the new Kanupp II and III "plants are very heavily protected. Your country needs more electricity and you are committed to nuclear safety; you are working with the IAEA".

"The IAEA greatly values cooperation with Pakistan in peaceful uses of nuclear technology," he said. He stated that access to nuclear power should not be limited to developed countries as developing states should also have the right to use atomic power.

"Your country is an experienced user of peaceful nuclear technology. You have the knowledge; you have the pool of well-trained people to do their job. We [IAEA and Pakistan] have a fruitful two-way relationship," said the IAEA chief while addressing a seminar.

"I come to your country to share latest priorities of IAEA. In the public's mind IAEA prevents [the spread of] nuclear weapons. But IAEA's work covers other scientific issues as well," said Mr Amano, detailing everyday uses of nuclear technology in sectors such as industry, agriculture, etc. In a lighter vein, he said he enjoyed Pakistani mangoes treated by nuclear technology.

The seminar titled 'The Peaceful Uses of Nuclear Energy and Pakistan' was organised at a hotel jointly by the Centre for International Strategic Studies (CISS) and the Pakistan Institute of International Affairs (PIAA).

The IAEA chief said that while his organisation is known as a global nuclear watchdog, he is motivated by the body's new motto: atoms for peace and development. "Our focus is to transfer knowledge and technology, especially to developing countries. Nuclear power is an important area of cooperation between Pakistan and IAEA," he said, while adding that other areas include food safety and food production. He observed that nuclear technology can help in food safety processes and the export of livestock.

"Induced mutation technology helps accelerate mutation in food products. This is widely used in your country. All countries



are suffering from climate change; in order to address climate change mutation technology is very important." Amano said that cancer is an important focus of IAEA.

"Asia has the highest burden of cancer in the world. The trend is rising. Sadly, Pakistan is no exception. Quite often women are the victims. We need to do something in this area. You are much more advanced than certain countries. Training of medical professionals is at the heart of what we do." He said that a new project was being launched focusing on radiotherapy and cancer treatment in the country.

"Energy is indispensable for development. Nuclear power can help address challenges. It's incontestable that nuclear is low-carbon energy. Without nuclear power targets of the Paris Agreement cannot be achieved. People are worried about the future of nuclear power. We see steady growth of nuclear power. We need to address climate change; nuclear power is one of the very effective responses. I believe in the future of nuclear power but I recognise the differences [in opinion over use of atomic energy] before and after the Fukushima accident."

The IAEA chief observed that the centre of nuclear power was moving from the global North to the South, from Europe to Asia, to China, India, and Pakistan. He said the UAE, Bangladesh, Turkey, Egypt and Saudi Arabia were all considering or have already started work on civilian nuclear power projects. "Access to nuclear power should not be limited to developed countries; developing countries should also have access." He added that if countries opt for nuclear power, IAEA helps them use it safely and sustainably.

During the welcome remarks, CISS executive director Ali Sarwar Naqvi pointed out that this was Mr Amano's second visit to Pakistan. He said Pakistan has had a relationship with IAEA since the 1950s. "The relationship has been mutually beneficial," he said, adding that Dr Abdus Salam's statue was unveiled in Vienna by Mr Amano last year. Dr Zafar Ali, Director General Security Division, Ministry of Foreign Affairs, said that all civilian facilities in Pakistan are under IAEA safeguards in perpetuity. "Pakistan has offered to share experience and expertise with other states under IAEA auspices. We are willing to share our best practices in non-proliferation. Pakistan gives highest importance to nuclear safety and security. No pilferage or theft of nuclear material has ever happened in Pakistan." ■



Renewable Energy: A blessing becoming dilemma

By Ahsan Gaylani

At this point of time when all around the globe economies have shifted to renewable energy (RE) and few have even moved a step ahead and are now touching the new horizons of Captive Energy and Energy Transition ideology for private and corporate sector instead of limiting to public sector/govt backed PPAs in RE sector whereas the future of RE sector remains gloomy in Pakistan.

If its not the beaurucracy, its the tussle between provincial and federal govt on ownership of projects and electricity produced in light of 18th Amendment coupled with determination of authority for revision/amendment in RE Policy 2006 allowing new procedures and policies for tariff determination regardless of how impractical and nonaligned these are for a fairly young sector of developing country with different dynamics from countries these innovative tariff schemes are being imported from.

24 projects of 1200 MW are waiting tariff determination procedure for almost two years while their sponsors mostly textile tycoons have spent more than USD 3.5 mln in securing LOI, feasibility, GIS, GL and land lease and registration process to name a few not computing the cost of EPC. The whole of 2017 went by waiting for RFP for competitive bidding which hasn't been even approved by stakeholder tossing between CCOE & CCOI. While NEPRA refused to issue up-front tariff for WE/SE/LNG and Hydel on directive of GoP while alternative tariff determination schemes remain ambiguous.

After waiting for a year based on never ending commitments of AEDB/NEPRA issuing RFP for

Competitive bidding on reverse auction, 13 sponsors opted for cost plus petition option which applied in Dec 17-Jan 18 which were duly admitted by NEPRA. In the midst of all this govt announced another impractical policy shift of reducing EPA tenor from 25 to 15 years on take and pay basis contrary to competitive bidding fundamental of lower tariff and making the projects in-bankable on take and pay basis an attempt to shut the current window of RE.

Despite all this NEPRA complying with rules and regulation have announced hearing against all admitted cost plus tariff petition in 2nd week of April 2018 out of compulsion. However ordeal does not end there as Ministry of water and power has declined Nepra's requisition to issue gazetted notification for tariff awarded to solar projects through cost plus tariff stating that since CCOE has approved amendment in RE policy to award tariff to RE through competitive bidding MoWP can't endorse these tariffs. In addition CPPA and AEDB playing delaying tactics in signing IAs and EPAs for various RE project which is criminal.

No expectation of fruitful outcome of these hearings as NEPRA has many reasons to reject these petitions though not all valid or justified. Even if a few out of 13 get lucky MoWP won't notify the tariff leaving no options for sponsor to either go to court or reside to unending wait to get clarity on way forward on tariff which makes all their previous futile.

It is indeed criminal to burden the consumer with expensive power when cheaper options are available and we are blessed with so many resources. I wonder if it was a predetermined intend of govt through regulatory institution to discourage investors and deprive a struggling Nation from development and cheaper energy to serve their vested interests. Pity the Nation!

[3/25, 3:59 AM] NASDA Ahsan Gaylani: Cartel are never good for industry but a great force to push govt for

policy implementation or decision making sponsor must make own decisions but who wants to bell the cat as mostly textile tycoon and do not want to be a bad guy or take initiative to surpass or upset the other as core business interests are aligned. Banks on a shorter tenor will not give you favorable terms thus higher installment plus ir so higher tariff. ■

HVAC&R Industry on Path of Growth Hand in Hand with Infrastructure Development

Heating, Ventilation, Air Conditioning and Refrigeration (HVAC&R) sector in Pakistan is currently showing progress and experts hint at prominent growth every five years in this market. Construction is on the growth, which has contributed significantly to the growth in this market. With the current growth and development in the HVAC market, there has been advancement of more advanced technology that improves on HVAC systems.

Major industry players are following the trend of getting in to HVAC systems because the market has shown itself to be profitable. It has essentially become a growing business for many key players in the HVAC equipment manufacturing industry. Most companies are now marketing building control and automation services, having realised that it is productive ground for them. This has brought about competition, as manufacturers of HVAC equipment try to break into the building control and automation market. Software is yet another area that has contributed ominously to the evolution of the HVAC market. The main aim of the current trend that is being experienced in the market is to provide customers with an interface that can be easily used.

Nucon Engineers, a group of expert engineers and professionals related to HVAC markets, are working in Pakistan for distribution of Carrier and TOSHIBA equipment having latest and advanced technological features contributing to helping the environment to remain clean, healthy and green. ■



Wind power producers seek tariffs for 650MW projects

Wind power producers sought tariffs from the National Electric Power Regulatory Authority (Neptra) for their upcoming projects of 650 megawatts, an official document said. At least 13 wind power producers approached Neptra seeking feed-in tariffs for a cumulative 650MW of electricity generation projects to tap into the country's growing renewable energy market.

The proposed feed-in tariffs range from Rs7.01/kilowatt-hour (kWh) to Rs8.09/kWh



depending on the technology and debt arrangements.

Wind electricity producers that sought

feed-in tariffs for their respective generation facilities of 50MW each include Gul Ahmed Energy, Din Energy, Nasda Green Energy, Metro Wind Power, Liberty Wind Power-I, Liberty Wind Power-II, ACT2 Wind, Shaheen Renewable Energy, Western Energy, Master Green Energy, Indus Wind Energy, Artistic Wind Power and Lakeside Energy.

The power regulator will consider the "tariff petitions to determine whether the proposed costs, capacity, financing terms and return on equity are rational and justified," the document said.

Currently, 15 wind energy projects having a combined capacity of 788.5MW are operating in the country and nine wind energy projects having a combined capacity of 445.8MW are at different stages of construction.

Pakistan is moving ahead towards overcoming its energy crisis. A key solution is the injection of electricity through base load power plants run on liquefied natural gas and coal.

While 10,000 megawatts of electricity is expected to be added into the system by this year the country still needs to pace up to meet ever-increasing power demand due to growing economy size.

Base load plants are generating electricity through imported fuels, which increase the burden on the foreign exchange reserves. Therefore, it is imperative for Pakistan to look for indigenous/cheap energy resources for sustainable growth.

Renewable energy is the cheapest form of energy with no environmental impacts. Pakistan has abundant wind resources with an estimated 50,000MW potential, which should be utilised to provide affordable electric energy.

The country's coastal belt is blessed with a wind corridor that is 60-kilometre wide from Gharo to Keti Bandar and 180km long up to Hyderabad.

Analysts said wind power could become a significant contributor to Pakistan's electricity supply in the near future.

Wind power generation projects support the government objectives of reducing dependence on fossil fuels, increasing diversity in energy mix, decreasing greenhouse gas emissions and saving foreign exchange reserves. ■

Two year vacuum created in large renewable projects.....By Danish Iqbal

As investors who have been investing in Pakistan since last six decades, we had invested in LOI and issued a bank guarantee to Sindh government to back up the LOI. Then we acquired hundreds of acres of land from Sind govt two years ago to make a bankable feasibility. As per the RE policy we then developed a full project feasibility as that is requirement of Govt of Sindh (Energy Department) and AEDB for projects . To move to next stage as previously they had stopped projects to apply for tariff if this milestone was not completed. To complete bankable feasibility, there are numerous studies and permissions the projects have to do and take from many govt entities like environmental approvals from SEPA, grid data sharing permission from NTDC and then higher consultants to make a Grid study and then finally getting the Grid study approved. The Grid study approval took one year to complete . The other costly exercise for feasibility is installing wind masts and then preparing wind resources study to predict revenues for projects and also submit them to lenders provide debt to projects . The third time consuming and costly exercise is to sign EPC agreements and sign Lenders term sheets . The lenders require some upfront fees to reserve debt for the project. All these requirements listed above our milestones by Sindh Energy department and AEDB and conditions to allow projects to apply for Generation license from NEPRA. The next process after receiving GL is to apply for Tariff. Now after almost 13 projects have gone through this exercise for more than two years and one fine morning on December 12 2017, CCOE decides that these milestone are not going to matter and all who have invested in LOI and developed feasibility and applied for Tariff has no value in the new policy. The new policy states that only competitive bidding process will be followed for renewable and small hydro projects . The competitive bidding process in tried markets is usually done on solicited sites, on sites bought by government. Here projects have leased land on the basis of the Letter of Intents issued and believing in the Government policy. Here government entities have taken payments for LOI, grid data approval and generation license and money can be seen in their accounts. So how can now all money received and letters and approvals given, CCOE can decide a new policy without executing the previous LOIs, issued more than two years ago. Now CPPA which is a obliged to purchase power after tariff is being awarded is refusing to issue consent to purchase power and sign EPA of Renewable technology projects like wind. And in exchange giving Consents this year and last year to purchase power from RLNG plants. This in turn has taken away opportunity from Pakistanis in the past two years to have access to cheap electricity and in turn buy some expensive RLNG energy in the years to come . Wind is the cheapest form of power available these days based on good wind sites in Southern Pakistan. ■

When I get woken up at midnight by a call: "Sorry, Were u sleeping ?"

Me: "Na ! I was doing research on monkeys in Africa. You thought I was sleeping, u stupid fool."



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Inlet pressure	3 MPa
Outlet pressure	variable from 90 to 180 kPa
Solenoid voltage	12 VDC
Solenoid absorption	17 W
Inlet connection	M10x1 pipe ϕ 6 mm
Outlet connection	Fixed fitting ϕ 12 mm
Engine power	from 80 to 135 HP, with T _a > 10 °C



LPG / CNG DRY GAS FILTERS

Body : Aluminium
Filtering Material : Filter paper Vh134
Inlet & Outlet Diameter : From 11mm up to 16 mm

LPG / CNG INJECTOR

VOLTAGE
WORKING PRESSURE
MAXIMUM WORKING PRESSURE
OPENING TIME
CLOSING TIME
RESISTANCE OF THE COIL
TEMPERATURE RANGE
GAS INLET
DISTRIBUTOR COMPOSITION
NORMALLY

:12V
:0,4-2,5 Bar
:4,0 Bar
:1,6 msec
:1,3 msec
:3 Ohm +/- 4%
:-30 /+120 C
:12 mm Distributor
:2-cyl, 3-cyl, 4-cyl
:Closed



Hose and assembly set



TOROIDAL AND CYLINDRICAL MULTIVALVE



FILLING VALVE



GAS-TIGHTS HOUSING




together we rise



Engro has come a long way since its inception (then Esso), as the nation's first fertilizer company, to becoming one of the largest conglomerates in Pakistan. The fertilizer business introduced modern farming practices that improved the quality of life not only for farmers, but for the nation at large. Over the decades, the Company has gone from strength to strength, and diversified into other businesses.

In 2009, Engro reached another milestone by setting up Sindh Engro Coal Mining Company with the Sindh Government, to explore the untapped potential of the coal reserves in Thar that will meet power generation needs, spur economic development, bring energy security to the Country, and provide sustainable livelihoods for the people of Thar. With a rich legacy of innovation and growth, we are committed towards a brighter future for Pakistan.

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Engro Polymer & Chemicals Limited | Engro Powergen Thar Limited | Engro Vopak | Engro Elengy Terminal Limited

HUBCO, Fauji Fertilizer to set up 330MW coal power plant



Fauji Fertilizer Company Limited (FFC) and Hub Power Company Limited (Hubco) signed an agreement to set up a 330-megawatt local coal-based power project in Thar. Hubco, FFC and China Machinery Engineering Corporation, which is a state-owned enterprise of China, signed the shareholders agreement at an event in Islamabad, the statement added. The power plant will be part of China Pakistan Economic Corridor project and will be built under a special purpose company Thar Energy Limited. The project will be based on local coal to be mined from the coal fields of Thar Block-II in which Hubco has eight percent equity stake.

The project's financial close is expected in June 2018, whereas the ground work on the site has already commenced and the project is expected to begin commercial production by December 2020. Saleemullah Memon, Chief Executive Officer of Thar Energy Limited said the project, with strong backing from professional sponsors, would be completed within the allocated time.

Shafqaat Ahmed, managing director of FFC said Hubco holds 60 percent stake in Thar Energy Limited, while Fauji Fertilizer has 30 percent shareholding and China Machinery Engineering Corporation has 10 percent stake in the project. Ahmed said the project will help address the power shortfall in the country while utilising local coal, which is also a major objective of the present government, besides adding value to the company's long-term investments in the best interest of its shareholders. Khalid Mansoor, chief executive officer of Hubco said Thar coal

mine will be a game changer for Pakistan as it will indigenise the country's energy source.

"The project would be amongst the first of the series of power plants based on Thar coal and would bring about substantial savings in foreign exchange of the country," the statement quoted Mansoor as saying. "This strategic partnership will open up new avenues of business growth, whereas the excellent financial position, credibility and best business practices of the two corporate will provide synergy and confidence for all the stakeholders." Sindh Engro Coal Mining Company set up the country's first power plants with 660MW production capacity to be run on from coal in Thar that is estimated to hold 175 billion tons of coal reserves. The two billion dollar project is expected to start operation from December. Additionally, the country is seeing development of a number of coal-combusted power plants, which would use imported coal as inputs. Major one is under development by China Power Hub Generation Company with 1,320MW capacity and that has already achieved financial close. ■

PPL discovers oil in Adhi Field, Punjab



Pakistan Petroleum Limited, operator of Adhi Field, together with its joint venture partners Oil and Gas Development Company Limited and Pakistan Oilfields Limited has discovered hydrocarbons from exploratory well Adhi South X-1, located in Rawalpindi District, Punjab. The prospect was delineated on the basis of 3D seismic data and the well was drilled and tested utilizing indigenous expertise. Adhi South X-1 was spud on June 30, 2017 and was drilled down to 3395 metres to test the potential of Khewra and Tobra formations.

Based on the wireline logs, hydrocarbon bearing zones were identified in both formations. Modular Dynamic Testing confirmed the presence of hydrocarbons. The well flow was tested at various rates to get estimates of well productivity. From Khewra, the maximum flow rate for oil was recorded at 1550 bbls/day oil and 2.62 MMscfd gas at 32/64" choke size.

The discovery lies in the down thrown block and has opened new horizons in Potwar and Kohat area. The newly discovered reserves will assist in plugging the demand supply gap in the country. ■

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Conocarpus plantation is prohibited in Karachi: Commissioner Karachi

There is a ban in place to plant more Conocarpus Erectus mangrove trees in the city owing to the potential harmful effects of this alien plant species on the environment of Karachi as the concerned government agencies and citizens' groups should fully abide by this direction.

Commissioner Karachi Ejaz Ahmed Khan stated this as he on Friday formally launched the plantation drive in the city of current spring season by planting a tree sapling in his office.

Participants of the ceremony to formally launch the plantation drive were informed on the occasion that a total of 50,000 tree and plant saplings would be planted in the city under the current



CSR Club, NFEH delegation meets Governor Sindh plants Saplings at GH



Governor Sindh Muhammad Zubair Planted Tree at Governor House. On the occasion Nfeh President M. Naeem Qureshi, President CSR Club of Pakistan Anis Younus, Secretary General CSR Club Ruqiyah Naeem, Engr. Nadeem Ashraf & others also seen in the picture.

drive within the period of two months. The plantation campaign is being conducted jointly by National Forum for Environment (NFEH) and Health, Saylani Welfare Trust, Bohra community, and Forest Department of Sindh Government.

He said that all the concerned citizens and stakeholders were required to work together for doing plantation in the city and later to look after grown up plants and trees.

He said that plantation activity in the city should be promoted for lessening the harmful effects of environmental degradation and to mitigate human sufferings due to menacing situation of air and other forms of pollution.

Secretary General of NFEH Engineer Nadeem Ashraf said that NFEH would continue to play its due role to promote greenery and tree cover in the city for the cause of improvement of environmental and living conditions for people of Karachi.

Also present on the occasion were Additional Commissioner Dr Afshan Rubab, ADC Ejaz Hussain Rind, Arif Khokhar of Forest Department, Mustafa Tahir, John Richard, Shakeel Qureshi. ■

Launching of Tree Plantation Ceremony in Disst South

Launching of Tree Plantation Ceremony of Disst. South DC South Karachi office held at Ferer Hall Karachi in collaboration of National Forum for Environment & Health and Forest Department Sindh Forest Deptt. Large number of citizens including women, NGOS, Corporate Sector and high officials were attended this ceremony.

DC South Asif Jamil, Asst Commissioner Sadder Sara Javed, President NFEH Naeem Qureshi, Engr. Nadeem Ashraf, Jhon W Richard, Mustafa Tahir, Ali Asghar, Salman Siddqui, Akhtar Alavis, Simran Hussain, DFO Sindh Forest Deptt. Arif Khokhar, Conservator Qazi A Jabbar, President Karachi Press Club Ahmed Malik, Sonia Akhund, Riaz Mahar, Imran Hussain & others attended this ceremony. Plantation started in city and 50 thousand trees will be planted in next 2 months. ■





Int'l World Forest Day celebrated at Archroma Pakistan

Int'l day of forest celebrated in all over the world on March 21, 2018, a leading global company Archroma Pakistan National Forum for Environment & Health jointly celebrated this important day at Jamshoro Sindh. President NFEH Naeem Qureshi was the Chief Guest while Engr Nadeem Ashraf, GS Ruqiyah Naeem Director NFEH, Qazi Naeemuddin, Site Manager Erwin Lucic, Joerg Huebner, Abdul Salam, Head of Safety Health and Environment, Ahsan Siddiqui S. M. Mansoor, Abdul Qayyum and others were also attended this colorful ceremony. Archroma having 1000 large trees herbs and flowers plants and well maintained lawns around the plant. more than 50 saplings were Planted in this campaign on this occasion. ■



NFEH & Rotary Club has organized a tree plantation campaign at Dr. Ziauddin University last week Vice Chancellor Dr. Perzada Qasim, Naeem Qureshi President NFEH, District Govt., Rotary Club Ovais Kohari, Engr. Nadeem Ashraf, Ms. Simran Hassan and others are seen in the picture.



Tree Plantation by Mohammad Zubair, Governor Sindh at GCT School Thar

Asia's most tree-filled countries

Laos, followed by Bhutan and Brunei has highest percentage of forestin Asia. The graphs shows proportion of land area covered by forest in 2015.

92.7	LAOS
81.5	BHUTAN
79.7	BRUNEI
67.6	MALAYSIA
63.7	SOUTH KOREA
62.7	INDONESIA
57.3	MYANMAR
35.3	PHILIPPINES
33.3	SRILANKA
32.1	THAILAND
29.2	NEPAL
24.9	SINGAPORE
24.8	CHINA
24.1	INDIA
11.2	BANGLADESH
8.4	MONGOLIA
1.9	PAKISTAN



Source: Asian Development Bank, 2016

Pictorial Glimpses



Vice Chancellor Air University AVM (R) Faaiz Amir, Air Chief Marshal Mujahid Ahnwar Khan and Registrar AU Air Cdre (R) Muhammad Saleem on the occasion of 7th Convocation held at Air University.



MOU signed between OGDCL & Cancer Care Hospital & research centre at OGDCL house, Islamabad



Malik Ahmed Jalal hosted a dinner on his residence. Picture shows governor Sindh M. Zubair, President NFEH M. Naeem Qureshi, Shaff Zuberi, Ashraf Bawany, Pervez Madraswala and others also seen in the picture



Syed Nasir Hussain Shah Minister: Transport & Mass Transit presenting award to Mrs. Ruqiya Naeem for her efforts in event management



Mr Muhammad Ali Malkani Minister Environment Sindh presenting shield to Mr. Naeem Qureshi President nfeh at launching of tree plantation campaign. Mr Fahad Sikandar CEO Greene pk also seen in the picture



Naeem Qureshi Chairman CSR Club of Pakistan and President nfeh presenting memento to Ms. Rabia Abbasi speaker of cyber security conference from UK. Chairman Cyber Security Mr. Ammar Jafri and Dr Murtaza Mughal also seen in the picture

ENERGY UPDATE 12th

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By the grace of Almighty we have emerged as the largest circulated magazine in the field of energy & environment for the last Eleven years. We owe this success to the untiring efforts of our dedicated team, contributors, advertisers, sponsors of energy related events and especially our readers.

9th

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