

MONTHLY

ENERGY UPDATE

ISSN 2309-6578

Event Report
9th PowerGen 2017

100 MWs NPP milestone achieved

Project after project but
Where is electricity?

Another big rip-off

Are we going to have serious
climate threat?



EXCLUSIVE INTERVIEWS



S. Asif Mahmood
Chairman, Sindh
Nuriabad Power Co.



Amjad A. Awan
CEO
AEDB



Sarim Shaikh
President & CEO
GE Pakistan



M. Amjad
CEO Quaid-e-Azam
Solar Power Ltd

Rs. 300/-

www.energyupdate.com.pk

Regd. # SC-1295

July 2017

Where can strategy take you? With the right technology, anywhere.



Forward-thinking strategy and innovative technology. When the first is enabled by the second, your business is equipped with a competitive edge. Our unique approach helps you react quicker, scale easier and capitalize on rapidly emerging opportunities. With strategy enabled by technology, your business is positioned to adapt and grow — today and tomorrow. That's high performance, delivered.

High performance. Delivered.

KEEP YOUR HOUSE
COOL IN SUMMER
 WARM IN WINTER



BENEFITS

THERMAL PERFORMANCE

Insulation acts as a barrier to heat loss and heat gain, particularly in roofs, ceilings, walls and floors. Diamond Jumbolon board enables you to improve the thermal performance of your house or building.



REDUCES ENERGY BILLS

Insulation is the most practical and cost effective way to make a house or building more energy efficient, keeping it cooler in summer and warmer in winter, and saving up to 50% in heating and cooling bills. In addition, insulation may reduce condensation in the house or building. This can provide health benefits by reducing mould and damp.



ACOUSTICS

Adding insulation helps prevent unwanted outside noise from penetrating the living space.

Insulate your buildings



BUILDINGS INSULATED WITH
 DIAMOND JUMBOLON BOARD



JINNAH INTERNATIONAL AIRPORT



ARFA SOFTWARE TECHNOLOGY PARK



TOLIINTON MARKET

DIAMOND

Jumbolon-Board®

WORLD'S BEST INSULATION MATERIAL

with unique structural strength

Exchange: 042 3531 4474-5 Ext: 122 | Direct: 042 3531 4391 | Mobile: 0322 44 55 111, 0333 43 11 080
 jumbolon@diamondfoam.com | www.jumbolon.com | diamond-jumbolon

From the makers of **SupremeFoam®**



LAHORE
 0322-9001244
 0322-9001237

KARACHI
 0300-8260878

GUJRANWALA
 0322-9001279

RAWALPINDI
 0322-9001273

MULTAN
 0322-9001260

SIALKOT
 0332-4364455

SAHIWAL
 0321-6952990

BAHAWALPUR
 0322-9001265

D. I. KHAN
 0322-9001256

RAHIM YAR KHAN
 0322-9001263

FAISALABAD
 0322-9001257
 0322-9001259

QUETTA
 0333-4311080

GUJRAT
 0321-6216212
 0335-4422677

PESHAWAR / MARDAN
 0322-9001255

• ENGINEERS • CONTRACTORS • MANUFACTURERS

HI-TEK
ASME CERTIFIED

www.hitek.com.pk

ABOUT US

Since it was established in 1999 HI-TEK has developed from a local contracting company into a world-class Project Developer, Contractor and Facilities Management Service Provider capable to undertake a wide range of challenging projects. Today HI-TEK is an international, multi-disciplined company with diversified operations in:

EPC engineering, procurement and construction in the power, infrastructure, environment and alternate energy sector;

Facilities Management the management and operation of SNG Systems, LPG Bottling Plants, Coal Fired Boilers, industrial plants and Power Plants.

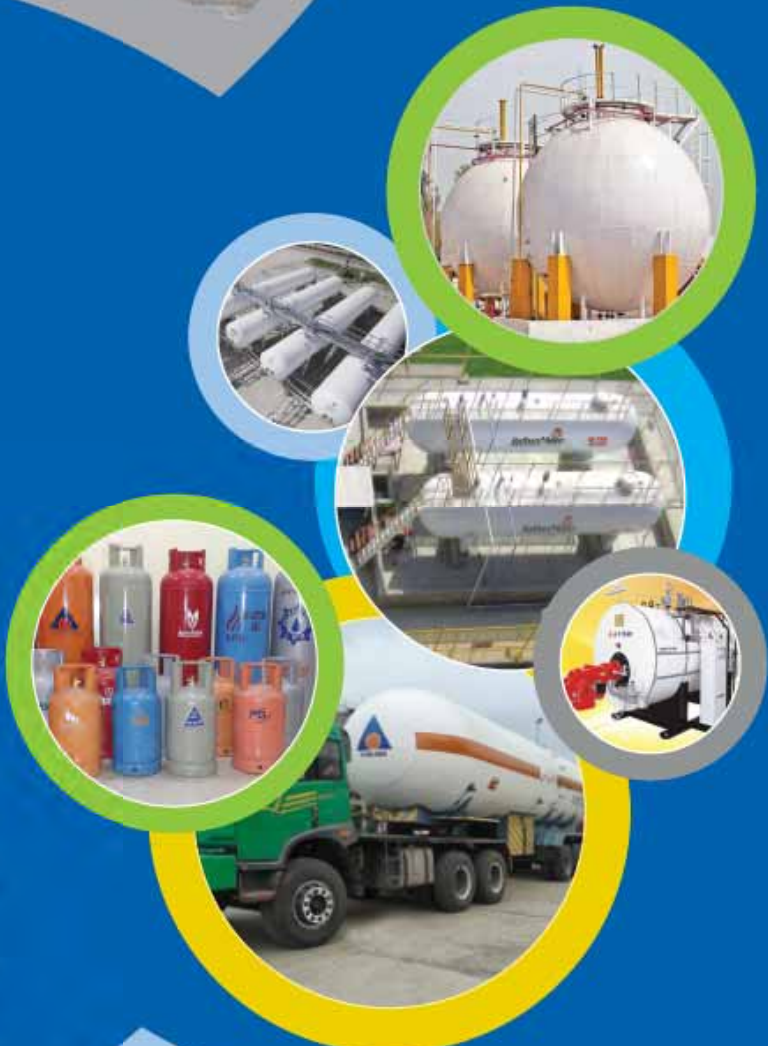
HI-TEK's multi-faceted organization contains all the disciplines mechanical and electrical engineering, instrumentation systems, quality assurance and control processes, and health, safety and environment procedures required to deliver a broad range of development and contracting services to the petroleum, chemical, power and commercial industries.

HI-TEK is an ISO 9001:2008 company and operates in full compliance with ISO quality assurance systems and procedures.



Hi-Tek Manufacturing Pvt. Ltd.

HI-TEK House, H # 1, Service Lane,
Quaid-e-Azam Interchange,
Ring Road, Lahore - Pakistan
Tel +92-42-36556686, 36550234, 36555735
Fax: +92-42-36557104
E-mail: info@hitek.com.pk



Size: 7.25"x10"

AD for Energy Magazine



**BUREAU
VERITAS**

Wind Power Industry

Global services for offshore and onshore wind power projects

Business Challenge

The wind industry is the fastest growing power market. Quality is becoming a major issue as manufacturers increasingly outsource production needs. Owners, operators, investors, insurers and manufacturers require project expertise, conformity assessment, inspections and certification.

Solution

What are Wind Power Industry Services?

Bureau Veritas, with its global coverage, technical expertise and proven track record, is considered the partner of choice by the wind industry. Bureau Veritas provides a one-stop solution for all aspects of the wind power industry. Services include

- Technical analysis (concrete, structure)
- On-site measurements and verifications
- Tower and/or project certification
- Manufacturing inspections for nacelles, blades and towers
- Health and safety coordination during erection and commissioning
- In-service inspections and re-certification



What are the key benefits?

- Consistent technical services provided in the main wind turbine growth markets (Europe, USA and Asia)
- Assurance that the construction of wind turbine parts meet manufacturer and owner specifications
- Confidence that there is a "no compromise" partner to coordinate and execute health and safety plans during the erection of the turbine, through commissioning

Why Choose Bureau Veritas

Over 1,500 machines inspected worldwide, equivalent of more than 2,000 MW of installed power.

- Bureau Veritas Certification is a Designated Operational Entity (DOE) to the United Nations Clean Development Mechanism & an Accredited Independent Entity to the United Nations Joint Implementation scheme for validation & verification services. Bureau Veritas Certification is also authorized to submit new methodologies in all existent sectors.
- Technical experts and calculation engineers well recognized by the offshore and onshore industry having knowledge of local rules and regulations
- Worldwide quality inspection services performed for all types of equipment (blades, nose-cones, nacelles, cast irons, and tower) with adherence to local and international codes
- Unlimited access to online management tool (BVNet) for "paperless" project management

Our Approach

Total project management throughout the wind industry value chain:

- Type certification
- On-site wind measurements
- Foundations and structural calculation review (offshore and onshore)
- Soil/ground/geotechnical analysis
- Construction code compliance
- Vendor second party audits
- Pre-shipment, off-loading and site inspections
- HSE during wind turbine installations
- Qualifications of welding procedures
- Quality inspections & commissioning testing on-site during wind turbines installation
- Shop inspection and expediting; machinery and CE marking; ASME services
- NDT and materials certificates for towers and other major components
- Review of painting procedures according to specifications and standards
- In-service inspections for lifting & crane equipment; verification of test run procedures
- Asset evaluation (noise, leakage, corrosion, other damages)
- Health and safety management during dismantling activities
- Low and high voltage inspections

CDM Registered Projects

- Sapphire 49.5 MW Wind Farm Project
- Yunus Energy Limited 50 MW Wind Farm Project
- Zorlu Enerji Wind Project
- Power Generation through Wind Energy at Metro Power Company Limited
- Power Generation through Wind Energy at Gul Ahmed Wind Power Limited
- Foundation Wind Energy-I & II Limited 50 MW Wind Farm Project

for any desired services, Please contact us at:

UAN +92 21 111 786 013 / Email: bvpakistan@pk.bureauveritas.com / www.bureauveritas.com

Head Office: H.No. 177, Block 7/8, Karachi Memon Cooperative Housing Society, P.O. Box No. 3829, Karachi. F : 92 (21) 34392713
Lahore: UAN : 92 (42) 111 786 013 Sialkot: T : 92 (52) 3557490 Faisalabad: T : 92 (41) 2430531 Islamabad: UAN : 92 (51) 111 786 013

From the editor's desk...

NEPRA dissatisfied over Power companies' performance

At this juncture when country is facing power shortage and menace of load-shedding is still haunting, the National Electric Power Regulatory Authority (Nepra) has expressed its displeasure over the performance of the power distribution companies and IPPs.

"None of the distribution companies (DISCOs) is up to the mark in terms of performance criteria; no company has improved its overall performance (except minor improvements) over the last five years, in fact, there are cases of worsening performance; in relative terms, Lesco appears to be the top performer among two close followers – Gepeco and Mepeco; average performers are Lesco and Fesco; below average performers are K-Electric, Pesco and Hesco; the worst ones are Qesco and Sepco; and in provincial terms, Punjab-located companies are better performers of the lot", the report said.

The Fiscal Policy Statement 2016-17 also says that Parliament was kept in dark about power sector losses. Nepra report is based on transmission and distribution (T&D) losses, recovery of dues, time frame for new connections and safety. It has given equal weightage to all these four issues. The most important issue is T&D losses. The worst performers in terms of T&D losses are Peshawar Electric Supply Company (Pesco) and Sukkur Electric Power Company (Sepco). Sepco has reported a loss of 38.29% against allowed losses of 27.5%. Similar is the case of Pesco with reported loss of 34.8% against the allowed 26%.

Nepra allows tariff-adjustable losses based on the difficulties and objective conditions prevailing in various companies. There is a negligible improvement in terms of these parameters in both of these companies. The improvement shown may be the margin of error in measurement itself. The irony is that the governments in Sindh and Khyber-Pakhtunkhwa (K-P) raise hue and cry against the power ministry and DISCOs if and when punitive action is taken against powerful defaulters and thieves. The only recourse available to take action against unidentifiable defaulters is to disconnect all the customers drawing electricity from a distribution transformer.

It's so disappointing that the performance of K-Electric comes in the poorest compaies. Despite charging highest tariff, no relief to the consumers in case of low oil prices, enhancing its recovery to almost 90 per cent, K Electric continues to haunt the consumers with its poor services though it showed the technique which rewards and punishes areas in terms of load-shedding and quality of service – DHA gets better service than Lyari or Liaquatabad. Reportedly, there used to be a time when large-scale theft was in these areas. K-Electric and Hyderabad Electric Supply Company (Hesco), although among worst performers, have reduced their T&D losses considerably – K-Electric from 32.2% to 23.69% and Hesco from 33.8% to 27.1%. K-Electric's performance has stagnated over the years as its recovery rate has remained static at around 90%. Despite increasing tariff on each and every time, K Electric has also completed its campaign to replace fast meters with old ones.

Now, Karacites are in a fix that whether the K Electric would be sold to a new exploiter or will remain in the old hands to remain exploited and harassed as usual. Abraaj Group while playing hide-and-seek game with its consumers for the last few years is now playing with the nerves of the stakeholders for not disclosing the real facts behind its deal with Chinese firm - Shanghai Electric Power Company (SEPC) as it had made a deal for an amount of \$1.8 billion to sell its controlling shares to the SEPC which was reduced to \$1.7 billion later on but now the rumours are that SEPC has refused to finalise the deal due to one the reasons that K Electric has yet to refund a clear-cut amount of Rs62 billion that has been over-charged from the consumers. Apparently it seems that the two companies may finalise their deal, but the poor consumers have been left in the lurch as where are the regulators who must come to the fore and should ensure that K Electric clears all its dues to the IPPs, WAPDA, PSO, SSGC and the consumers.



Managing Editor
M. Naeem Qureshi
energyupdate@gmail.com

Editor
Sajid Aziz

Associate Editor
Ismat Sabir

Editorial Team
Shabbir Ahmed
Mustafa Tahir

Bureau Chief Islamabad
Shams ul Azhar

Advisors
Dr. Nasim A. Khan
Zafar Sobani
Kalim A. Siddiqui
Dr. Kaiser Waheed
Anwar Shahid Khan

Marketing Team
Engr. Nadeem Ashraf
Ghulam Kibriya

Commercial Designer
Rizwan Rathore
rathore.rizwan@gmail.com

Legal Advisors
M. Nadeem Sheikh Advocate
Saleem Michael Advocate

Circulation & Subscription
Zahid Ali
Noman Khan
Abdul Hayee

Photographers
Ahmed Tareen
Abdul Haleem

Overseas Correspondents
Arif Afzal - USA
Andrew McKillop - France
Mirza Yasin Beg - Canada

Monthly Energy Update

309, Al-Sehat Centre,
Hotel Regent Plaza, Shahrah-e-Faisal, Karachi
Pakistan.
Tel: 021-3565 3676, 3521 3853
Fax: 021-3565 1797
Email: energyupdate@gmail.com
Web: www.energyupdate.com.pk

Published by M. Naeem Qureshi for Energy Update
& Printed at Print Vision, Karachi Cell: 0333-2244586

Project after project but where is electricity Maharaaj?

Bhiki Power Plant another source of headache?

By Sajid Aziz



Not many days ago when government of Punjab had categorically denied the shutting down of newly commissioned Bhikki electricity generation plant, which began producing 720 megawatts in the mid of this month, saw its production tumbling half due to some glitches, but hoping the restoration in 1st week of May.

On April 19, Prime Minister Nawaz Sharif inaugurated the first phase of RLNG- (regasified liquefied natural gas) based Bhikki thermal power plant, near Sheikhpura. The sources said

the plant's present output stands at 350MW against 720MW and it is likely that it would formally resume full power generation capacity of the first phase in a couple of weeks. The Bhikki facility will be the country's first power plant to run on imported supplies of LNG. It is projected to generate up to 1,180 MW – the equivalent power needed to supply approximately 2.5 million Pakistani homes - once it starts combined cycle operations later this year. A spokesman of the ministry of water and power confirmed that Bhikki is partially producing power following

the closure of one of the units. An information officer associated with the minister of water and power said the trial run of first phase of Bhikki plant continued and it would become functional by the first week of May. Its turbine could not start production due to prolonged test as one of the newly installed turbines faltered before and after its formal inauguration.

The trial run of the first phase was initially expected to be completed in March, but despite several attempts the first two turbines of Bhikki RLNG-based thermal plant could not be connected to national grid. A senior official of the power transmission company said Bhikki had to be connected to system as power demand soared from mid-April. "And, it was done despite the fact that trial run of the 1st phase could not be completed." Punjab chief minister, who always takes pride in conceiving and executing this project on fast-track, announced in early February that the prime minister would inaugurate the newly-installed turbine in March. However, there have been some glitches that lead to non-working of new turbines following the successive trappings. Resultantly, the turbines of 1st phase could not be run on consistent basis and failed to fully connect with the national grid even today, sources said.

Punjab chief minister had also announced various dates, on several occasions, regarding the completion of the first phase. On April 15, Punjab chief minister, speaking in Faisalabad, said the plant would start generating electricity from next week. Earlier, addressing members of provincial cabinet on April 4, he said gas-based Bhikki project would start producing 750 MW by mid of the current month. State minister for water and power Abid Sher Ali, on April 11, told media that RLNG-based Bhikki power plant was generating 596 MW of electricity. He said the plant's production would shortly increase to 800 MW. Despite all these tall claims, the trial-run lingers on and yet to be fully completed. In spite of the delays and successive tripping of turbines, the completion of 1st phase has been touted as a success story as it is said to be accomplished less than 18 months after the large turnkey project was first announced. It is part of government's plan to increase power generation by 10,000 MW before March, 2018 with a view to ending outages in the country.

Pakistan has become the first country in the Middle East, North Africa, Turkey and South Asia region to deploy the HA hi-tech gas turbine at Bhikki Power Plant. It is considered the most advanced inno-

vation for efficient combine-cycle power plant. The HA is the result of almost \$2 billion in research and development and is the GE's largest and most efficient heavy duty gas turbine. The turbine can generate up to 385 megawatts (MW) of reliable power that is expected to be distributed for residential and commercial use within a few days.

But despite tall claims and assurances by the government and one of the most expensive and high-tech power project, none of the claims has been proved to be true as on June 15, 2017, the most modern plant as claimed by Shahbaz Sharif, the desired power generation hasn't been achieved. Bhiki Power Project is another reflection of present government's ongoing projects that marred

by rampant corruption and "loot and plundering" by everyone involved from top to bottom. This is not just the claim or accusation but a bitter truth as present government is yet to minimise load-shedding but it even increased spreading to the industrial sector this year while Karachi that was an exception has been engulfed by power breakdowns due to power shortage. Nawaz Sharif has so far inaugurated over half a dozen big power projects but they all marred by incompetence, corruption and deception. ■

Pakistan is entering the red zone of financial crises - Mandviwalla

Senator Saleem Mandviwalla has shown great concerns over the rising trade deficit of the country which has gone up to an all-time high of over \$30 billion during 11 months of the current financial year showing an increase of over 42% compared to the same period of previous year.

In a statement issued from his office, Mandviwalla termed it a dangerous trend as it would create serious balance of payment problems, push the country towards heavy borrowing and plunge the economy into further difficulties.

Mandviwalla said that Pakistan is reaching at a default point very soon-it would not be able to repay its external debt-which has crossed \$73 b. Just a week ago Pakistan has repaid a loan of \$1 billion by obtaining another loan from China. "If this situation continues Pakistan will go again to IMF for another loan", He added.

Saleem said that "Unfortunately in the recent budget PMLN Government has not presented any plan to control

the widening trade deficit of the country". It has not presented any program to increase and diversify its exports. Three year trade policy is a failure- Commerce Ministry has no role and control on it-Trade Policy is completely at the mercy of Finance Ministry, He added.

PPP Senator Saleem Mandviwalla said that "Experienced Team" of PMLN is busy in saving the Prime Minister from PANAMA Case. Commerce Minister did record foreign trips with no reason. Even Pakistan has not been able to avail the GSP plus status of EU. PMLN has wasted its whole tenure.

Mandviwalla said that "Pakistan, with declining foreign remittances and increasing burden of local and foreign debt and liabilities, is entering the red zone of financial crises. Declining exports and declining foreign direct investment (FDI) constitute an ugly add-on to the looming danger".

He was of the view that both the government and exporters need to move out of a mindset of short-term conces-



sions and instead work out a sustainable strategic export plan.

Senator Saleem Mandviwalla concluded that "Pakistan needs to enter new markets, work out FTAs favorable to Pakistan, work on improving country's global perception, shake up the government out of its syndrome of lethargic and non-responsive behavior. Pakistan's economy has to be well pitched to the global markets". This requires a high-level of diplomacy, business wisdom and above all a will to perform and deliver, He added. ■

BUDGET 2017-18

Govt allocates Rs550 billion for water and power sector

PEPCO gets Rs246 billion for its projects

The Pakistan Muslim League-Nawaz (PML-N) government has allocated an amount of Rs550 billion to be spent on power projects and water schemes during the next financial year, 2017-18, which is approximately 4.34 per cent less than the allocation of Rs575.6 billion for 2016-17, budget documents showed.

Available documents disclosed that the government's spending on water and power projects would be Rs550 billion during the next financial year. Also, this amount will be spent on the ongoing and new schemes in the Public Sector Development Program (PSDP) for 2017-18. However, the government allocated Rs575.6 billion for the ongoing as well as new power and water schemes in the PSDP for 2016-17.

According to the detailed breakup for FY 2017-18, allocation for ongoing and more than two hundred new schemes of Pakistan Electric Power Company (PEPCO) is Rs246.409 billion, while the total earmarked amount for ongoing hydel power projects is Rs127.917 billion and the amount for the ongoing and the new schemes is Rs 129.184 billion, besides the allocated Rs36.336 billion for 75 the ongoing and new water schemes during the fiscal year 2017-18. Similarly, the government has also earmarked Rs129 million to establish Pakistan Glacier Monitoring Network Upper Indus Basin Area falling within KPK, Gilgit-Baltistan and Azad Jammu & Kashmir.

It is also mentioned that an allocation of Rs5.2 billion for the transmission of electricity from the Neelum-Jhelum Power Project and Rs8 billion for the transmission system in Karachi's Bin Qasim area has been earmarked in the next federal budget.

Documents also confirmed that the government has allocated



an estimated amount of Rs29 billion for Diamer-Bhasha dam project, while Rs53.775 billion for Dasu-Hydro Power Project stage-1 (2160 MW) in the next federal budget. Similarly, an amount of Rs19.573 billion has been estimated to allocate for Neelum-Jhelum Hydropower Project, while the estimated allocation for Tarbela's fourth extension (1410 MW) is Rs 16.396 billion, the allocation for Jamshoro Coal Power Project is Rs16.23 billion. Furthermore, an estimated allocation of Rs39.25 billion for Balloki LNG power plant, Rs37.18 billion estimated for Bahadur Shah power LNG power plant, while Rs10 billion is to be allocated for the Thar coal power projects in the upcoming budget.

According to documents, Rs631.180 million for 425 MW Nandipur Power Project Genco-III, Rs16.234 billion for installation of 2x600 MW (Net) coal-fired power project Jamshoro, Rs39.256 billion for 1200 MW RLNG based power plant Balloki, District Kasur, Punjab, Rs37.184 billion for 1200 MW LNG-based power plant Haveli Bahadur Shah, Rs2.850 billion for construction of 500 KV T/L for the dispersal of power from 747 MW from Guddu, Rs1.950 billion for evacuation of power from wind power projects at Jhimpir and Ghoro wind clusters, Rs150 million for the inter-connection of Chashma Nuclear (C-3 and C-4), Rs10 million for import of 100 MW electricity from Iran (with 220 KV G/S Gwadar and allied T/L from Iran to Gwadar, and Rs10 billion for the inter-connection Thar-coal based, 1200 MW(Thar Matiani) project. ■



ANOTHER BIG RIP-OFF

Coal Gasification Power Project finally shuts down

So-called gasification project usurped Rs3.2 billion

By Sajid Aziz

SABIRNAZAR²⁻¹¹



Another hallmark of Dr Samar Mubarkmand has met with its natural end when he announced to shut-down his much trumpeted Thar Coal Gasification Project under the interesting pretext of non-release of funds. One can imagine the hollowness of the project that after many years and spending a huge amount of Rs3.2 billion so far on this so-called gasification project Dr Mand once again made hue a cry of non-release of funds despite the fact that this project for generation of 100 megawatts electricity had been declared unfeasible on many occasions due to technical reasons and claiming it very expensive one. But who will take the responsibility of a big money that has gone wasted just because of Dr Mand was adamant to continue with this almost next to impossible project in the given circumstances.

The management of Underground Coal Gasification (UCG) Project Thar has decided to close down the project due to unavailability of funds, this time from the government of Sindh. The Managing Directors of UCG Project Thar, Dr Muhammad Shabbir, has sent a letter to the Sindh Government as a notice

of closure, requesting it to make nomination for handing over/taking over of the assets of the project. The management of UCG Project has also issued discontinuation of services letters to all employees, describing them as a financial burden.

The project of 100 MW was approved by ECNEC in December 2010, with an estimated cost of Rs9 billion and Rs3 billion has been released for project from which 8 MW Syn gas power plant has been established at Thar, including Gasifier Wells, Gas Treatment Plant, laboratories and RO plant. Dr Mand had claimed that it has the potential to produce abundant green coal energy. The UCG Project Thar conceived, developed and operated under the supervision of Dr Samar Mubarakmand was claimed to be producing 8 MW of electricity since May 28, 2015 but its funds were blocked by the federal government since the very day it produced its first megawatt of electricity.

The government has spent Rs3 billion out of promised Rs.10 billion but as a matter of fact for the last two years it failed to construct a transmission line to supply 8MW power to national grid. Moreover, it took no necessary administrative steps towards



supplying electricity to the nearby towns of Tharparkar though Sindh Government negated the claims made by Dr Mand for producing 8 MW power.

"It has also been claimed that instead of enhancing the capacity of UCG power facility to 100 MW as per initial agreement, no budgetary allocation has been sanctioned to this project for the last two fiscal years. Due to this, the project was on the brink of a disaster. Neither is federal government showing any interest in funding this unique project nor Sindh government willing to take over despite several UCG management requests. Manpower was hired through proper channel from the platform Government of Sindh for the implementation of coal gasification scheme vide a meeting held on January 8, 2010 at Planning & Development Department, Karachi".

The first GB meeting was headed by Dr Mand as Chairman GB along with Additional Chief Secretary Development P&D Department and Secretary C&EDD as vice chairman and member. In that GB meeting it was clearly stated that Secretary Coal and Energy would act as Principal Accounting Officer instead of MD, UCG and recruitment and appointment of manpower would strictly follow Government of Sindh recruitment rules. The offer letters dispatched to officers clearly constitute an agreement between the said employee and Coal and Energy Development Department, Sindh. Presently, 457 employees were serving in different capacities at this project. On May 19, 2017 UCG management issued termination letters to all employees working for almost seven years.

As I remember, when the media per-

sons had asked the question of viability of this project in a gathering in Karachi few years back, the most prominent Nuclear Scientist and "Mohsin-e-Pakistan" Dr Abdul Qadeer Khan had said that any such project of coal gasification at Thar is simply

not possible due to the nature of the project and its massive depth without the latest equipment's and mechanized assistance by the Chinese engineers. He also declared the outcome of the project was just an eye-wash.

Similarly, Engro sources too, who are working on Thar Coal Mining Project and construction of two 660 MW coal power projects, have declared the UCG Project as unviable due to the various reasons. It is recalled that the Planning Commission had rejected the same project and stopped further release of funds to Dr Mand when the experts apprised the same reasons and declared it unviable. But then Dr Mand came to media people trumpeting that the project was of national interest and bureaucracy had stopped its funding. One can claim that the such type of journals is responsible of the loss of a huge public money to the tune of Rs3.2 billion as they without investigating into the affairs of UCG Project has started making hue and cry on Dr Mand's whims due to which the government has released another big tranche to the project. How long the nation would be facing this ruthless attitude in the name of so-called national interest? ■

NTDC holds meeting with Energy Experts: Assess Load Forecast and Generation Planning

A meeting of energy experts to assess the load forecast, generation planning and to devise a plan for future needs of power sector was held under the Chairmanship of Managing Director NTDC Dr. Fiaz A. Chaudhry, at WAPDA House Lahore, Welcoming the energy experts, Dr. Fiaz A. Chaudhry said that we all are connected with the power sector of Pakistan and there is a need to share the load forecast and generation planning of NTDC with the players of power sector. Being a team member, we have to review and assess that how demand is growing, what capacity we are going to have, so that the energy crisis is addressed properly to help the government to eliminate the menace of load shedding from the country.

Sharing the views on the load forecast and generation planning, the energy experts appreciated the efforts of MD NTDC for providing them an opportunity to have free and frank discussion on various issues of Power sector. The participants agreed that such discussions will help in assessing the actual load forecast in order to devise and plan action for future needs by all concerns. They also agreed that we have to think alike and evaluate the modus operandi especially the one which is in the better interest of the country. Hence it was decided that all stakeholders will share their input with NTDC through email which will be taken into considerations to build the mutual consensus of NTDC and power industry to be discussed in the next session. Dr. Fiaz A. Chaudhry thanked the participants, stakeholders, Mr. Gul Hassan Bhutto and team of Monthly Energy Updates for coordinating and making the session successful. The experts of Hubco, Orient Energy Systems, Albario Engineering, General Electric, CPPAG, Descon, ABB, Master Wind Energy, Engro Powergen Ltd, SHPL, PAEC, Lucky Electric, Lalpir and Pakgen, HDIP, PPIB, AEDB and Energy Department Govt of Sindh, MAQ International and senior officials NTDC participated in the session in person as well as through video links. ■

Increasing use of coal causing smog in Punjab and Sindh

If you were travelling via motorway from Islamabad to Lahore during November or December 2016, you might have felt like your head was in the clouds. That's thanks to the smog that engulfed large parts of Pakistan's Punjab and Sindh provinces in that period. This was clearly "not a natural phenomenon". Beyond causing acute ailments such as asthma, lung tissue damage, bronchial infections and heart problems, the smog also resulted in dozens of fatal road accidents due to poor visibility. Qamar-uz-Zaman Chaudhry, former director general of Pakistan's meteorological office and now an international climate change specialist at the Asian Development Bank, attributed the smog primarily to toxic car emissions and atmospheric pollutants coming from coal-based industries in neighbouring Indian Punjab. Imagine, then, what will happen to the environment when Pakistan begins mining billions of tonnes of coal, in part due to its plan to open at least five new coal power plants by 2018 under a new agreement with China. Smog would spread across cities and rural areas, including in the

Are we going to have serious climate threat?

That region, which spreads across Pakistan and parts of India. The poor indigenous people there might have to be relocated to other areas thanks to planned coal projects, losing their livelihoods, lands and villages to new mines. Burning coal is not just a matter of local social and environmental concern. It is clear today that the coal that powered the developed world's industrial revolution has also triggered global climate changes.

According to Greenpeace International, coal is the single greatest threat to our climate. Emissions from burning coal fuel global warming, and coal mining is also a source of climate-warming methane gas. Pakistan is responsible for a mere 0.43% of global greenhouse gas emissions, but it is among the world's ten most vulnerable countries to climate change. Domestic climate change experts see the issue as a bigger threat than terrorism. The country is grappling with many issues, including receding glaciers, floods, heatwaves, droughts, shifting weather patterns and declining ground water levels - and the list goes on. Agriculture, which comprises 21% of Paki-

By Fahad Saeed

Project under PPP was meant to earn Rs196 million annually. M/s Fast Track Silverlink seeks relief from the court. Coal transportation to various power plants to be affected badly

stan's GDP, 60% of exports and employs 45% of the national labour force, is particularly vulnerable to climate change.

In the landmark December 2015 Paris Agreement, 195 countries agreed to curtail climate change by keeping global warming to "well below 2°C and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels". All told, 141 countries (including Pakistan and China), jointly responsible for over 82% of global greenhouse gas emissions, have ratified the agreement. China - world's second biggest economy and largest coal consumer, which also has the world's highest coal-fired power plant capacity - is considered a crucial player in the success of the Paris Agreement. Domestically, China has realised that its over-dependence on coal causes severe air pollution and other environmental impacts. The most recent data shows reductions in coal use for the third year in a row. Yet China also invested \$25 billion in coal projects worldwide between 2007 and 2015, according to a recent report by the Natural Resources Defense Council. The report criticises China and other G20 countries for such investments, which are in conflict with their climate commitments under the Paris Agreement.

It shows how some of the world's leading polluters have, on one hand, pledged to control climate-changing carbon emissions within their borders, and, on the other, continued to finance fossil fuel projects elsewhere. That's precisely what happened with Pakistan. After most international financial institutions turned away from coal, China established itself as Pakistan's partner in developing the new coal power plants. Under the 2015 China Pakistan Economic Corridor (CPEC) initiative, the Chinese government and banks have planned to finance companies to invest US\$27.6 billion in energy and infrastructure projects in Pakistan over the next six years, of which Pakistan is contributing US\$18.1 billion. According to Pakistan's Ministry of Planning, Development and Reform, coal-fired plants with a combined capacity of 7,560 mW will be established as CPEC-energy priority projects. In the guise of bringing energy, this investment will harm the air, water, public health and environment of Pakistan. The costs and lifespans of such coal projects can stretch over decades, trapping developing nations in a system of carbon-intensive energy use.

Rapid utilisation of coal - the "dirty" energy-generation option - has given many Chinese cities, including Shanghai and Beijing, the world's worst air quality. Pakistan's proposed Port Qasim Power Project, a 1320-mW coal plant in Sindh province, will be located near Karachi, a metropolis of 25 million. This could cause disastrous damage to air quality and environment. No country can be expected to compromise on development, and development requires energy. But, as the cases of Jordan, Peru and Mexico demonstrate, it doesn't require dirty energy. Instead of using coal, Pakistan could drive development with renewables, in particular solar energy.

Much of Pakistan's territory is arid or semi-arid, an ideal setting for harnessing solar energy with more than the necessary number of sunny days per year. In addition to providing clean energy, solar solutions can produce energy in the same places it is consumed, making it useful in remote areas that may lack transmission infrastructure. Recent research suggests that the deployment and maintenance of renewable energy projects are also likely to create better quality jobs than coal. The costs of renewables are declining rapidly worldwide. Solar and wind now cost the same or less than new fossil fuel in more than 30 developing and developed countries. India's energy minister noted last year that solar tariffs had become cheaper than coal-based electricity, and India is pushing ahead with its renewables plan. China, too, has realised the economic potential of leading in renewable sources. By the end of 2016, its solar energy capacity hit 7,742 mW, double that of 2015, and this year it claimed the title of world's biggest solar power producer.

The investment bank Lazard reckons that, given proper infrastructures, prices will continue to decline in the near future. Yet under the CPEC, there is only one sizeable solar project in Pakistan, the Quaid-e-Azam Solar Park project, with a relatively skimpy total capacity of 1,000 MW. So why is China, a leader in renewable energy technologies, investing in coal-based projects abroad? It may be a way to provide overseas business opportunities for Chinese coal-plant equipment manufacturers, engineering and construction companies as a recent Bloomberg article pointed out.

Pakistan's domestic interests are otherwise. Instead of seeking foreign investment to fulfil its energy needs with fossil fuels, it can ride the renewables wave, developing its workforce and technical and institutional capacity to harness solar energy. Climate conditions suggest the country could produce enough power to both cover domestic needs and to export, along with associated equipment and technology. What Pakistan needs now are forward-looking policies to foster renewable development, innovative business models, and strong leadership in obtaining financial and technical partnerships, both local and international. The World Bank's new solar maps of Pakistan can support these clean-energy efforts. Transparency in costs and production also need to be ensured. ■



Clean energy is possible with coal

By Syed Akhtar Ali

Coal power has acquired a bad image, perhaps less due to its pollution dimension and more due to the CO₂ emission which produce greenhouse gases, causing climate change, in which Pakistan has been projected to be one of 10 worst victims. Despite criticism of coal, hundreds of coal power plants keep operating in the world and more than 100,000 megawatts are being produced in India alone.

At present, Pakistan is planning to produce about 5,000MW in coastal areas and 5,000MW in Thar and may be 1,000 to 2,000MW in Punjab. In the medium to long term, the country may be doubling this number.

Whatever are the criteria, Pakistan's contribution to greenhouse gases and climate change will be insignificant both in absolute or per capita terms. However, it has to be careful about pollution which will damage no one but its people more directly and immediately. Abundant technologies are available, which, if applied, can produce clean electricity even with coal as many nations have started doing it, including China. Health and environmental consequences of large-scale coal power production should not be ignored. Four main emissions namely particulate matter, Sox, NO_x and Mercury are produced in coal burning. Bronchitis, eye diseases, lung problems, heart attacks and other diseases are the consequences. Smog and haze are the atmospheric consequences. NO_x and Sox are washed down due to rain, causing acid rains which affect agricultural productivity. Mercury pollutes water bodies and finds its way into human beings through food chain.

Pakistan has signed Minimata Convention which is aimed at controlling Mercury pollution as it spreads far beyond national boundaries. Particulate matter can be controlled by passing exhaust gases through Electrostatic Precipitator (ESP) which catches carbon and dust particles by static electricity phenomenon. ESP equipment has to be highly efficient with efficiency rating of 95-99%. These devices have to be maintained rigorously, otherwise, these lose efficiency, resulting in dust emissions. Sulphur and its compounds are absorbed by passing flue (chimney) gases through calcium and useful gypsum

produced as a result of the chemical reaction. Gypsum has uses in building and agriculture sectors. In technical terms, this is called Flue Gas Desulphurisation (FGD). NO_x is controlled either by installing special burners that produce less NO_x. This is a

cheaper and less effective method, more effective but expensive methods are using ammonia-absorbing flue gases in NH₃, converting NO_x into NH₄NO₃ or through catalytic converters, as are installed in cars to absorb NO_x. Mercury is often absorbed in FGDs, although there are specialised processes for it. Particulate controls are being installed in all parts of the

world, rich and poor. However, FGD has been less common and NO_x treatment even lesser common and Mercury control the least practiced.

Even in almost 50% of coal control, hiding reasons as in now, no coal

the US, as recently as 2000, power plants did not have Sox behind almost the same Pakistan these days. However, power plant can be installed without FGD in any developed country. Existing plants either

have to be closed down or retrofitted with these devices. Mercury control does not generally require specialised equipment and pollution control equipment employed for particulate matter (ESP), Sox (FGD) and NO_x (SCR) capture Mercury as well.

There appears to be confusion over installation of the pollution control equipment in the coal power plants that are being installed in Pakistan. In applications for generation licences, all the technologies are mentioned to be installed. However, in Environment Impact Assessments (EIAs), the pollution equipment has been watered down. It appears that only ESPs would be installed for particulate control. NOCs issued are also equivocal and general. For example, Sindh Environmental Protection Agency (Sepa) mentions the requirements in general terms. Punjab

Environmental Protection Agency (PEPA) has issued an NOC mentioning ESP and Mercury control (even mentioning Minimata Convention membership of Pakistan) conspicuously avoiding Sox (FGD) and NO_x (SCR) control equipment specifically.

However, one wonders, how Mercury would be



controlled without these devices. Nepra accepts NOCs of EPAs without giving much thought about it and issues tariff without discussing or providing for environmental costs.

Nepra even does not examine the contents of generation licence while issuing approvals. Some interaction ought to be there between the two sets of agencies on such issues. In Punjab cities like Sahiwal and congested and polluted cities like Karachi, SOx and NOx controls may be a must. How can one install large coal power plants (1,300MW) in these locations without such controls? It is quite amazing that the EIA community (consultants and EPAs) manages to provide recommendations and conclusions convenient to the client. If the client does not like to install environmental control equipment like FGD and NOx controls, they prove with their complicated models that it is not required. JICA and the Asian Development Bank (ADB) have got EIAs done for their coal

power plants in Jamshoro which require FGD and accordingly FGDs are being installed there. Responsible institutions like World Bank, ADB, IFC, etc therefore, mandate installation of environmental control equipment and do not approve of hiding behind loopholes. These protections can, however, cost money both in terms of higher capital expenditure (Capex) and operational expenditure (Opex). But such cost is much lesser than the cost of bad health and worse environment, besides there are treaty obligations. FGD used to be quite expensive when the market was smaller. FGD prices seem to have come down. Alstom is installing FGD in India for 25 million euros for 500-600MW coal power plants. If we add \$50-100 million in the 1,300MW coal power plant, it may not be a bad deal. After all, Nepra has approved a jetty capex of \$300 million recently.

A separate add-on component may have to be considered for SOx and NOx

removal equipment, if and where it is installed. May be in Thar area, these may not be required. We can learn from the bad experience of India. Environmental performance of the power plants, especially, of the coal power plants is very pitiable in India. Reportedly, more than 100,000 people die there due to particulate matter released by the coal power plants. Chinese have all wherewithal to provide add-on environmental equipment. The traditional image of China insensitive to pollution should go away. Today in China, more stringent standards are being adopted than in the US and many deviant coal plants are being closed.

Concluding, the relevant agencies should get together under the leadership of the Ministry of Water and Power to remove the policy vacuum without waiting for public protest due to environmental deterioration. ■

(The writer is a former member energy of the Planning Commission).

World's First Commercial Plant that Captures Carbon Dioxide

With global warming on the rise, many scientists have started to think about how to make good use of greenhouse gases, especially carbon dioxide (CO₂), that is present in the air we breathe. It seems that now, they might just have made a significant breakthrough in this regard. The world's first commercial plant, which sucks carbon dioxide from the air and can store it, is now online. The facility is based in Hinwil, Switzerland and its launch has ignited a debate about whether it is prudent or not to remove greenhouse gases from the atmosphere.

About its Developers: More than a decade ago, entrepreneur Richard Branson launched the Virgin Earth Challenge and offered \$25 million to whoever built a viable air capture design. One company, Climeworks, was the finalist in that competition along with companies like Carbon Engineering, which is backed by Bill Gates. It was Climeworks' design that ended up powering the first commercial CO₂ capture plant. The company claims that the facility they designed is scalable, since it is based on a modular design concept. The company is the first to capture the gas from the air and sell it to a buyer. Its founders hope that the plant's design and its commercial potential can boost its adoption.

How it Works: The plant can remove 900 tons of CO₂ from the atmosphere each year. It does this by capturing the air, passing it through its proprietary filters, which



are then heated to 100 degrees Celsius to release the gas. During this moment, the CO₂ gas is captured inside the plant via fans. This gas is then stored for later use. For now, the Hinwil station is selling CO₂ to a nearby greenhouse. Carbon dioxide helps plants grow. It can potentially increase harvests by up to 20 percent. It can also be used to grow vegetables like lettuce, cucumbers and tomatoes.

CO₂ can also be sold off to soft drink companies, who can use it for their fizzy beverages. Energy companies can also make use of CO₂ to produce carbon neutral hydrocarbon fuels and materials. The ability to convert CO₂ to methanol fuel actually is very beneficial over fossil fuels.

Global Impact: While 900 tons is just a small fraction of what firms and climate

activists hope to trap at large fossil fuel plants, Climeworks wants its venture to help reduce global CO₂ emissions by 1 percent by 2025. In sheer numbers, that means 10 gigatons of CO₂ needs to be removed from the air. Climeworks says that 250,000 carbon capture plants need to be set up for this goal to be achieved. Christoph Gebald, co-founder and managing director of Climeworks, says "Highly scalable negative emission technologies are crucial if we are to stay below the 2-degree target [for global temperature rise] of the international community."

Critics' Argument: Many critics say that air capture technology for fossil fuel plants needs to be perfected. By improving carbon capture at source, CO₂ can be prevented from entering the atmosphere the first place. MIT's senior research engineer Howard Herzog calls carbon plants a "side-show". He estimates that the cost can be as much as \$1,000 per ton of CO₂ - about ten times the cost of carbon removal at fossil fuel plants. He did not name Climeworks, however. Climeworks hasn't released any cost summaries yet. However, the company has stated that it was being financed by Swiss Federal Office of Energy and European Union. It is said that such plants cost about 3-5 million Euros to set up but also that the price is expected to go down with time. ■

AEDB plans to monitor CSR projects by wind companies'

A CSR Foundation to be established to sponsor public oriented events
Amjad Ali Awan, CEO, AEDB

Alternative Energy Development Board (AEDB) has planned to establish a foundation to effectively monitor and expand the scope of various public welfare projects being run by the companies utilizing renewable sources of energy for power production. The idea to establish the foundation has been conceived by us to combine the efforts and effects of a number of welfare initiatives of sponsors of mainly wind energy projects to uplift socio-economic status of people living in surroundings of the sites of such projects, said Chief Executive Officer of AEDB Amjad Ali Awan. Among other issues, Mr. Awan discussed about participation of Pakistan in proceedings and sessions of concerned global bodies such as International Renewable Energy Agency and World Wind Energy Association so that Pakistan should be globally counted among the nations fully exploiting the scope and potential of renewable energy sources abundantly available in the country. The chief of AEDB stated this as Energy Update recently interviewed him. Here are important excerpts of his interview.



EU Editorial Team

EU: What is the latest scenario of utilization of renewable energy resources in Pakistan?

Amjad Ali Awan: We have been working in the sector of renewable energy for last 12 to 13 years but our share could not go beyond 200 Megawatts to 250 MWs. Now we are talking about supplying 1000 MWs to national grid. Till 2018 we will achieve 2700 to 3000 MWs. Our power sector is naturally fragmented. With such a big jump, we have to take along with us the power sector regulator (NEPRA), CPPA (Central Power Purchasing Agency), and NTDC (National Transmission and Dispatch Company). So ambiguities do come in such a process. But the quantum of energy through which we are passing through also helps us in proving that now the govt at least is serious enough to explore the options of renewable energy.

EU: Will Pakistan be able to get funding from the outside for its renewable energy projects?

Awan: Indeed you are getting clean and green power from projects of renewable energy but at the same time you are keeping yourself in line with a global slogan, which calls for exploitation of alternative energy sources. In this manner we are furthering the cause of doing image building of our country. Our image will be enhanced as much as we keep ourselves in step with the global targets and global sustainable goals.

EU: What is the contribution of renewable energy towards present day's energy mix of the country?

Awan: We are following the goal set by us and also by the government that is to produce electricity up to five per cent of the total energy mix of the country. We are planning to achieve 10 per cent of the national energy mix by the years 2025-30. Now calculate 10 per cent of total electricity produced by the country that is like 22,000 MWs; 30,000 MWs or 35,000 MWs. Now given the tariff available to you for consuming electricity and quantum of energy being produced, the per unit cost of electricity doesn't make any big difference on the basket tariff for power consumers.

So even if per unit cost of renewable electricity is two Cents higher, it will create only negligible impact on the basket tariff. While against this negligible impact on tariff, we are getting unprecedented benefits. It is because the renewable energy is produced through one of the indigenous sources of power available in the country while it also saves us from supply-disruption risk and import dependence risk.

There would be massive benefits if we produce 590 MWs of electricity based on renewable sources on 33-34 per cent capacity factor while replacing it with same quantum of electricity produced through any of the conventional sources of power available in the country like coal.

EU: Tell us about activities being done by companies doing renewable energy projects to fulfil corporate social responsibility by them?

Awan: We have taken up the issues relating to CSR so as to seriously pursue the matter. We held one or two meetings exclusively to review the welfare projects being done by our sponsors of wind projects mainly in the transport, education, and health sectors. We urged sponsors of renewable energy projects to report back to us progress on their CSR-related projects for underprivileged communities. In response to our call, the sponsors of wind energy projects have started reporting to us scope of their CSR projects giving details about capital involved and number of beneficiaries.

We have also done some calculations on basis of these reports, which give us the idea that hundreds of local people living in surroundings of the wind energy projects are employed by sponsors of such wind farm projects. Moreover, we have come to know that all the CSR-related projects of wind companies are being done through the agencies concerned of provincial Local Government Department.

Now we have decided to establish a foundation to combine the effects and efforts being done regarding such CSR-related activities by sponsors of wind energy projects. The foundation is also needed keeping in view near mushrooming of such welfare projects by renewable energy companies. ■

With climate change urban areas in Pakistan remain under threat

Climate problems and solutions are in the cities," said businessman and author Michael Bloomberg during a panel discussion at the "Sustainable Energy For All" forum held in New York in April. He emphasised the importance of city-based initiatives to respond to the risks of climate change. The dense agglomeration of people, buildings and firms in cities brings enormous opportunities, but it has never been without challenges. According to a UN Habitat's report, cities contribute harmful greenhouse gas emissions in the planet. Climate change is poised to expose urban areas to new kinds of challenges and opportunities in both developed and developing countries. Meanwhile, London Mayor Sadiq Khan has remarked, "Climate change is one of the biggest, if not the biggest, risks to London. I want to put our city at the leading edge of the fight against this risk." The cities in coastal areas are obviously the first ones in line to bear the consequences of climate change. However, every city will confront tough choices in the areas of transportation, energy, clean drinking water, health care and decent jobs.g.b.

In Pakistan, for example, rising temperatures and higher humidity levels, coupled with rapid urbanisation and dilapidated service delivery, have enhanced the risks of climate change in the cities. There is no single recipe for all cities, so every city will have to devise its own path to address these challenges. Some of the important areas for action include urban density, transportation, energy efficiency, housing and local governance. Urban density is often wrongly presented as a risk factor in the dialogue on climate and environment, even though it is the strongest tool to combat climate change. If a higher number of people occupy compact space, it is better than sprawls destroying green lands. Urban density also helps to economise service delivery. For example, in Pakistan, sprawling cities are encroaching fertile agriculture lands and scarce forestation.

Transportation is the strongest tool for changing the course in cities as it contributes 13% of global greenhouse gas emissions. The cost and emission of greenhouse gases during commuting restricts social mobility and healthy living. When it comes to transportation policies, investment is generally geared towards widening roads and other physical infrastructure. The situation of walkways is deplorable in both Pakistan and other developing economies. It is appreciable that Pakistan has recently started development of bus and rail transit systems in mega cities, though there are reservations about the design and oper-

ational governance of these projects. Technology is going to reshape transportation with electric cars and sharing economies. Cities will have to plan for such adjustments in coming decades. Industrial activity is responsible for about 20% of global greenhouse gas emissions. Moving forward, financial markets and products will have to focus on energy-efficient technologies.

Governments, industry and utility companies will have to develop partnerships to improve efficiency in industrial activity. The implementation of University of Delaware's Sustainable Energy Utility model - innovative financing through partnership for energy efficiency and renewable energy - has brought immense benefits in various states in the US. Commercial and residential buildings in cities emit 8% of global greenhouse gas emissions. Most of it happens in the developed world. For example, in the US, commercial and residential buildings contribute 39% of carbon dioxide emissions per year, mostly through the use of 70% of electricity. Going forward, there are energy efficiency solutions for buildings that need to be incorporated. Green buildings require fundamental shifts in the usage of construction material, building designs and energy usage. Furthermore, housing in Pakistani cities and other developing countries is a major challenge. The regulations for high-rise buildings promote slums and restrict social mobility for the poor. An enormous rise in the young population in Pakistan and many other developing economies calls for reshaping the housing infrastructure. There is a need to promote shared livings to reduce the cost of housing. Finally, the key to resolving many of the above challenges will be the capability and effectiveness of local governments in cities. In Pakistan, the cities are governed in a colonial fashion. The city governments lack governance and intellectual capabilities to respond to emerging challenges.

The United Nations' Sustainable Development Goal (SDG) 11 envisages sustainable cities and communities by ensuring affordable housing, upgrading of slums, reduction in environmental impact and provision of public services. This goal cannot be achieved without appropriate institutional reforms in the local governance systems in the cities and subsequent focus on partnerships between all tiers of government and society at large. City governments would need to exploit both public and private investment and to reshape financial management to undertake many initiatives. As I mentioned at the start that globally, city governments are preparing to adapt and respond to climate change. But such efforts are missing in Pakistan. ■



In order to end power crisis

Sindh Assembly passes resolution for early start of captive plants

Sindh Assembly in a rare show of unity and unanimity of views, unanimously adopted a resolution to recommend to the government a feasible and practicable mechanism to end persisting electricity crisis in the entire province. The treasury and opposition benches of Sindh Assembly showing consensus of views unanimously passed the resolution moved by Opposition lawmaker of Pakistan Tehreek-e-Insaf in the house Khuram Sherr Zaman. The resolution called for early start of new captive power plants (NCP) established in the province in private sector so that electricity produced by them could be used for overcoming persisting and widened power shortfall in the province. The NCPs have been sitting idle in the power sector of province mainly due to unfavourable tariff being offered to them by National Electric Power Regulatory Authority (Nepra) for selling electricity to national grid. The extraordinary aspect of the resolution, passed by Sindh Assembly, was that it had been moved by an Opposition lawmaker of PTI and backed both by the ruling Pakistan Peoples Party and main Opposition political party in the house Muttahida Quami Movement Pakistan. Once the resolution was tabled in the house, different lawmakers both on treasury and opposition benches spoke on it in the house. Speaking on floor of the provincial assembly on the occasion, Sindh Chief Minister Syed Murad Ali Shah said that his provincial government had no dues payable to HESCO (Hyderabad Electric Supply Company) and SEPCO (Sukkur Electric Power Company) of May.

He said the province had been subjected to power load shedding of maximum duration despite payment of Rs 27 billion power dues.

The Sindh CM said that he had with him certificates for payment of all outstanding power dues to HESCO and SPECO as the same would be presented in the upcoming meeting of Sindh Assembly. He said that federal government had been committing grave excesses against Sindh as electric supply to



all water supply schemes of the province were being disconnected and despite that erroneous power bills were being issued to such projects. He said that people of Sindh would not be left at the mercy of Wapda in the midst of summer season and during upcoming Ramadan as best of efforts would be made to provide electricity to residents of the province so to lessen the duration of power load shedding by six to seven hours. The Sindh CM said that a false impression was created that Sindh had to pay dues to HESCO and SEPCO. He said that Sindh had been issued a bill of Rs 77 billion amount as the dues of electricity payable by it. "We reconciled the bill, got reduced its amount by Rs 50 billion and paid Rs 27 billion of whose certificates I do have, which would be presented in the next meeting of Sindh Assembly," he said. He said that Sindh province had been subjected to extended hours of power load shedding in the midst of Summer season while the holy month of Ramzan was also approaching. He said in the past different investors had come to fore to set up their power plants but it turned out to be a non-feasible proposition for them to privately generate electricity after reduction of power purchase tariff by Nepra. The Sindh CM said the four province did have reservations over change of electricity tariff by Nepra. He disclosed in the house that whatever electricity would be produced by Sindh on its own would be supplied to Dadu, Shikarpur, and other districts of the province instead of supplying it to national grid. In this way, electricity requirements of different districts of the province would be met.

He said that Sindh would adopt its mechanism to distribute electricity on its own so that electricity load shedding in the affected areas would be reduced by six to seven hours. He said that electricity generated by private sector in the province could be purchased at the rate of around Rs 11 per unit as Sindh cabinet could accord approval to such a plan after conducting a study. He said that electricity so purchased would be consumed only in the province as it would not be supplied to the national grid. The Sindh CM said that he would give a detailed statement in this regard during coming session of Sindh Assembly while



he would also take the house into confidence regarding his recent visit of China. Meanwhile, the Opposition lawmakers of Pakistan Muslim League (Functional) in their speeches in the house asked the provincial govt about the details of miscellaneous charges it was going to pay under its plan to purchase electricity from private sector.

Nusrat Seher Abbasi of PML(F) said that while the provincial govt demanded electric supply from Wapda, it on the same time should also pay electricity dues on a regular basis. Lawmaker of ruling Pakistan Peoples Party Ghulam Qadir Chandio said that Sindh CM should adopt a firm stance on electricity issue as much like the stance he had recently taken on gas supply issue to the province. Faisal Sabzwari of MQM said that electricity should be provided to all the citizens but its cost should not be higher.

The resolution of PTI's lawmaker Khuram Sher Zaman stated: " The people of Sindh are suffering from unprecedented loading shedding which in some areas has been seen to exceed 20 hours everyday. Unusually hot weather has further aggravated the situation and with the holy month of Ramadan starting soon, this menace of load shedding will only add immeasurably to the hardships of the people.

The Government of Sindh needs to take steps to alleviate the woes of the people of the province. New Captive Power Plants (NCPP) were established on the basis on policy for New Captive Power Plants announced by the then Pakistan Electric Power Company Limited (PEPCO) wholly owned by Ministry of Water & Power, Government of Pakistan. NCPPs having installed capacity of more than 100

MW have been sitting idle due to NEPRA's unfortunate unilateral decision to reduce the tariff announced in the policy for NCPP. Moreover, there are several power plants which have gas allocation under the NCPP Policy, but have not been able to start due to downward unilateral revision of tariff.

In view of the above and in order to reduce the massive daily load shedding, Government of Sindh must pay attention to the public outcry against the closure of these power plants and take immediate steps to enable the NCPPs who are willing to start the power plants forthwith.

This Assembly resolves and recommends to the Government of Sindh to consider providing relief to the general public who are facing excessive load shedding by bridging the tariff differential of the NCPPs. The Government of Sindh may also provide tariff differential support to NCPPs that hold valid gas allocation and are willing to install new power plants before the summer of 2018 in order to reduce the looming menace of load shedding further, and provide much relief to the people of Sindh".

Later talking to Energy Update, the MPA of PTI said that he had moved the resolution on the request of private sector, which had invested to establish captive power plants on its own. He said the sole purpose of the resolution moved by him was to urge Sindh government to utilize whatever energy resources the province had to overcome menacing problem of power shortfall faced by residents of Sindh. He said that these captive power plants were spread across different parts of the province whose utilization would be beneficial for overcoming electricity needs of Sindh. ■

Are you Stressed out then Read this:



A psychologist walked around a room while teaching stress management to an audience. As she raised a glass of water, everyone expected they'd be asked the "half empty or half full" question. Instead, with a smile on her face, she inquired: "How heavy is this glass of water?"

Answers called out ranged from 8 oz. to 20 oz.

She replied, "The absolute weight doesn't matter. It depends on how long I hold it. If I hold it for a minute, it's not a problem. If I hold it for an hour, I'll have an ache in my arm. If I hold it for a day, my arm will feel numb and paralyzed. In each case, the weight of the glass doesn't change, but the longer I hold it, the heavier it becomes." She continued, "The stresses and worries in life are like that glass of water. Think about them for a while and nothing happens. Think about them a bit longer and they begin to hurt. And if you think about them all day long, you will feel paralyzed - incapable of doing anything."

It's important to remember to let go of your stresses. As early in the evening as you can, put all your burdens down. Don't carry them through the evening and into the night. Remember to put the glass down!

NTDC completes 500 KV Dadu-Guddu transmission line

The National Transmission and Despatch Company Ltd (NTDC) engineers and contractors have energized another 500 kV Dadu-Guddu transmission line (circuit-II) after rehabilitation work of seven (7) damaged towers. On Monday May 21, 2017, sixteen (16) towers were collapsed due to force majeure (high intensity cyclone) in Sindh area. Earlier, 500 kV Jamshoro-Dadu transmission line was energized on 27 May after completing the rehabilitation work of two (2) towers, whereas, the third Transmission Line of 500 kV Dadu-Shikarpur will be completed / ready for power supply within next 3-4 days.

Under the supervision of GM (Asset Management), NTDC engineers and 6 teams of contractors were deployed to complete rehabilitation work on war footings. While setting aside the extreme weather conditions of over 50 degree centigrade and difficult terrain of semi mountains and slushy area of Khinjar lake in district Dadu, the teams completed the repair work of foundations, erection of towers, replacement of hardware including insulators, spacers, repair/replacement of conductors as well as stringing process of transmission line in minimum possible time. The energization of transmission line will re-establish the broken link between Northern and Southern systems, thus increasing reliability and smooth transmission of power throughout the country.

The spokesman also updated about the progress of 500 kV Dadu-Shikarpur (third damaged) transmission line and said that out of 7 damaged towers, rehabilitation work of 4 towers have been completed whereas the transmission line will be ready for power supply in the next 3-4 days. Managing Director NTDC Dr. Fiaz A. Chaudhry appreciated the profound efforts of contractors and NTDC engineers and asked them to stay committed for early completion of remaining work so that the maximum relief to the consumers is provided during the holy month of Ramzan. ■

Control over energy sector

When all of us are weak and poor, we need more cooperation

Sindh Chief Minister Murad Ali Shah has warned Hesco, Sepco and Wapda to either pack up or stop the disconnection operation. The Sindh government could handle its electricity sector itself, he said.

It is not for the first time that a chief minister of a province has expressed the desire for autonomy in the electricity and energy sector as a whole. Similar statements have been issued by K-P on issues related to tariff, hydel royalty, autonomy, etc.

Excessive centralisation and preponderant role of Punjab led to the passage of 18th Constitution Amendment.

There are people who are not satisfied with implementation of the amendment and would like to expand its scope. There are others who have doubts whether the amendment has been successful in delivering the provinces what was expected from it. It is true that there are capacity issues in the provinces. It is said that problems of democracy can be solved with more democracy. In the same way, the proponents of autonomy and decentralisation argue that failures cannot be made an alibi to wind up or dilute the process of decentralisation.

Albert Einstein says: "Life is like riding a bicycle; in order to keep the balance, one must keep moving." So let us see how can we move in this issue without falling down on either side.

Govt control

We are a federation like the US, Canada, Australia and Germany with a difference that the US has a presidential system while all others including India and Pakistan are parliamentary systems.

In developed countries, the confusion and controversy over federalism and self-control are much less limited due to the role of the market. Electricity generation, for example, is out of government control - federal or provincial.

Transmission and inter-state trade is normally under the federal control. Provinces can have provincial transmission under their control as well. Distribution is almost everywhere under provincial or even local government control.

However, federal or provincial control in market economies does not mean ownership and management also. Companies normally own and operate the facilities but the regulation is with government only.

The problem becomes much more complicated in countries like ours as well as India, where most of the electricity sector is owned and operated by governments. When it is the government, there is this controversy of federal or provincial.

Cooperative federalism

In Pakistan, we have a cooperative federalism. We do not leave the provinces on their own, but share the burden of each



By Irfan Shaikh

other. For example, there is one price of petrol or electricity from Karachi to Chitral. In other commodities, such as fertiliser and wheat, perhaps, there is a somewhat similar system. This has a lot of merit and has served us well, although the WTO might disagree.

Pooling has its problems as well as being seen in the electricity sector which is beset with the problems of losses such as theft and receivables. In Punjab (except for Mepeco whose losses are 20%), the

losses are generally around 10%, while in all other provinces, the losses are in the bracket of 25-35%. In a way, Punjab subsidises the other provinces. However, things are more complicated than this. Hydroelectric power of K-P is cheaper and also gas-based electricity of Sindh and Balochistan.

K-P nationalists argue that hydroelectric power costing Rs3 (earlier Rs1) is taken from them, although not exactly as Tarela and others are all federal investments, and resold at Rs10. However, if you ask them, as to what would they do in winters, when there is no hydel electricity, they would have no answer.

Power is a capital-intensive sector. A lot of external political issues influence this sector. It is highly unlikely that provinces alone would have the wherewithal including finance, management and other resources to go alone in this sector. Look at Thar, despite Sindh's successful struggle to gain full control, the coal and power project took so much time. Federal guarantees had to be given despite a 49% private equity and a higher tariff.

All other Thar projects would come under CPEC, otherwise, there would be no other possibility.

Also the federal government would have to restrain Punjab from installing imported coal power plants. If not, where would the Thar electricity go. Where is the market and who would invest in Thar.

So, there is merit in cooperative federalism of sharing strengths and weaknesses and opportunities and threats. Especially, when all of us are weak and poor, we need more cooperation.

These losses cannot be reduced by active cooperation of the provincial governments. In smaller provinces, and to some extent in the large one as well, it is often difficult for the governments to take action against the powerful, both rich and poor. Thus, a wiser approach would be to let the distribution companies continue with their campaigns and indulge in lip service to support the locals. I hope Murad Ali Shah is doing the same.

However, in the long run, all provincial governments may consider alternative models, where there is larger provincial role in the electricity sector and do a cost-benefit analysis. ■

The writer has until recently been member energy of the Planning Commission



Out here there are no ordinary moves.

The world's largest EPC and energy companies count on Agility to manage complex cargo movements that need careful planning, staging, sequencing and coordination. Whether it's in the highlands of Papua New Guinea or in the US Gulf Coast, we build durable supply chains to support and sustain our customers' high profile project construction schedules and valuable energy production targets. Discover how we can keep you connected with the same logistics efficiency.

Logistics to connect your world

Head Office:

**2nd Floor, Progressive Center, Block 6, P.E.C.H.S.,
Main Shahrah-e-Faisal, Karachi – 75400, Pakistan.**

**Email: pakistan@agility.com. UAN: +92.21.111.436.436
www.agility.com/energy**



It is important that the Federal Govt. continues to encourage the private investor enabling them to invest in our energy sector - Saiyed Asif Mahmood

Interview with Saiyed Asif Mahmood CEO, Tehnomen Kinetics (Pvt) Ltd

By M. Naeem Qureshi &
Engr. Nadeem Ashraf

In an exclusive interview to the Energy Update, Saiyed Asif Mahmood, CEO Technomen Kinetics (Pvt) Ltd and Chairman, Sindh Nooriabad Power Company stated that, "It is important that the Federal Government continues to encourage the private investor enabling them to invest in our energy sector". He further said that "It is more important that the concerned ministry and other departments facilitate the investor by expediting the existing bureaucratic procedure involved in processing power plant approvals".

He also highlighted that the government needs to remove ambiguities regarding the tariff for solar power plants, as NEPRA is not awarding uniform tariff to various solar power plants. There is a need for the government to announce a clear policy in this regard.

Energy Update had an exclusive discussion with Mr Mahmood, wherein he described the methodology adopted for setting up of the Nooriabad Power Plant. He informed that the Government of Sindh (GoS), has taken an unorthodox step by instituting a model for development of energy projects in a Public Private Partnership (PPP) Mode. In this model, the Public Sector and the Private Sector come in a partnership, in such a manner that the day-to-day control remains with the private Sector while Public Sector provides overall patronage and facilitates approvals, etc. Under this arrangement, the Private Sector is responsible for the design, development, setting up, commissioning and operation and maintenance of the project.

He highlighted that Nooriabad Power Project is the first power project, which has been set up in the PPP Mode.

When asked as to how was the Private Sector entity selected, Mr Mahmood explained that GoS followed the rules of Sindh Public Procurement Regulatory Authority (SPPRA) and conducted a competitive bidding process, which was approved by PPP Policy Board, which is headed by the Chief Minister.

He went on to elaborate that lowest levelised tariff for 25 years was set as the criteria for selection of the bidder.

Technomen Kinetics (Private) Ltd (TKL)'s bid was the lowest and TKL was therefore awarded the Contract.

On a query about shareholding of the Public and the Private Sector partners, Mr Mahmood informed that TKL subscribed 51 % shareholding while GoS holds a 49 % share.

Describing the management of the project, he informed that the project is managed by a Board of Directors which has representation from both the partners i.e. TKL and GoS.

Energy Update: It is understood that the project comprises two power plants and is managed by two companies; why is it so?

S.A.M. : Your understanding is correct. Nooriabad Power Project comprises 2 x 50 MW Power Plants being set up by two separate companies i.e. Sindh Nooriabad Power Company (Pvt) Ltd and Sindh Nooriabad Power Company Phase II (Pvt) Ltd. This was so done because 18th Amendment permitted the provinces to set up power plants up to 50 MW each without seeking any approvals from the Federal Government.

Energy Update: What about the gas allocation and what is the status of GSA?

S.A.M. : Gas allocation of a total of 20 MMCFD was approved for the two plants by ECC. Subsequently, Gas Supply Agreement has been signed with SSGC for a period of 25 years (the tenure of the project).

Energy Update: Where are you getting the gas from and what is the status of the pipeline?

S.A.M. : SSGC has decided to supply us gas from their Jhimpir network, however we had to lay a 20 km dedicated gas pipeline for this purpose.

Energy Update: How was the location decided and how in you get the land?

S.A.M. : GoS decided to locate the project at Nooriabad, primarily for providing power to the industrial estate at Nooriabad using NTDC Grid. Accordingly, GoS allocated 50 acres of land for the project. This land was later on leased to the Project Company for the duration of the project.



We have been awarded a tariff by NEPRA, which is much lower than the one on which we had been awarded this contract. We feel that the said tariff will make the project financially unviable, and therefore we have filed a Review Petition, which is being processed at NEPRA. We are hoping to get a better tariff.

Energy Update: Who is your Power Purchaser and what is the status of the Power Purchase Agreement (PPA)?

S.A.M. : It was envisaged that the power will be sold to HESCO and will be supplied to the industry at Nooriabad to increase industrial activity in that area. For this purpose, we negotiated with HESCO and initialled a PPA. However, later on HESCO withdrew from the understanding unilaterally and the project came under serious jeopardy. You will understand that no power project can survive without a power purchaser. Fortunately, GoS came to our help and approved selling of power to K Electric. We have negotiated a PPA with KE which has been initialled.

Energy Update: Have you got a tariff awarded by NEPRA?

S.A.M. : Even though we, as a private investor, were awarded this contract on the basis of lowest levelised tariff (for 25 years), we were required by law to file a Tariff Petition with NEPRA. We have been awarded a tariff by NEPRA, which is much lower than the one on which we had been awarded this contract. We feel that the said tariff will make the project financially unviable, and therefore we have filed a Review Petition, which is being processed at NEPRA. We are hoping to get a better tariff.

Energy Update: Are you using NTDC Grid for supplying power to KE?

S.A.M. : When we approached NTDC for giving us the interconnection to their grid, we were given an unrealistic time-line. Here again, GoS came to our help and took a strategic decision for constructing a dedicated Transmission Line for evacuating power Nooriabad and connecting it to KE Grid Station at KDA Scheme 33. This is a 95 plus km transmission line which is complete and is presently in the testing phase.

Energy Update: These were the project details. Now let's discuss the actual power plant. Which main and auxiliary machinery have you selected and what were the reasons for selecting that particular machinery?

S.A.M. : Very good and a very pertinent question. Selection of the Main and Auxiliary Machinery was a tedious process, especially because it was a combined cycle plant and we needed higher efficiencies, reliability and local support. International market was explored and Rolls Royce Gas Turbines were selected for their efficiency, reliability and performance. Initial negotiations were held, but at a later stage Rolls Royce informed us that they would not be able to support the plant from within Pakistan. The security situation in those days was not as good as it is today. After their refusal, we approached other manufacturers with the aim of awarding the project on turnkey basis i.e. Main Engines, all Auxiliary Machinery along with the Heat Recovery System. We also insisted that the OEM would be responsible for Commissioning Tests required by NEPR.

Number of manufacturers were evaluated, but there were not many meeting our requirements for Gas Engine technology and ability to conduct Commissioning Tests. After a lengthy process Wartsila was selected because they had reliable, efficient and high performance Gas Engines. Additionally, they had had a fairly large population of their engines in Pakistan Power Sector, and maintained a full-fledged support set up in Pakistan. Furthermore, they were prepared to do the project on turnkey basis and conduct the Commissioning Tests required by NEPR.



Wartsila proposed their main engines, auxiliary machinery, Heat Recovery System consisting of HRSG Boilers and Steam Turbines. Each power plant consists of five 20V34SG Gas Engines, five Alborg Boilers and One Shin Nippon Steam Turbine. Switchyard equipment has been supplied by CHINT, while ABB has supplied Protection and Data Acquisition Systems.

NEPR has awarded a Generation License for Gross Installed Capacity of 52.10 MW Gross ISO. Each plant will generate little more than 52 MW of power, and out of a total of 104 MW of electricity, some power will be consumed by the auxiliary load and the plants will be able to supply 100 MW to the power purchaser.

Energy Update: Can you also kindly brief our readers on the financing of this project.

S.A.M. : Sure. Financing of the Project has been done on a debt to equity ratio of 80:20. Following banks / institutions have provided the debt for the project:

- National Bank of Pakistan
- Sindh Bank Limited
- GoS Employees Pension Fund

GoS has come in a big way to support this project and has also provided some additional securities.

Energy Update: Do you see a future expansion in your project?

S.A.M.: Certainly, an expansion plan was announced on the day of the

inauguration and we shall soon be working on it to set another plant in the same PPP Mode. It is too early to give any more details.

Energy Update: Finally, do you have any concluding remarks?

S.A.M. : I must say that development of the two power plants has been a very complex process and there were a number of external factors, which caused hurdles and obstacles. However, the Project Team managed to overcome all these hurdles with the full support of the GoS, especially the Energy Department and PPP Unit of the Finance Department.

The guidance and the patronage provided by the Chief Minister, who at the time of inception of this project was the Energy and Finance Minister, has been the biggest and the most valuable contribution in the successful completion of Nooriabad Power Projects.■



100 MWs Nooriabad Power Plant - A

The timing seems quite perfect for launching of first ever power generation project of Sindh government at Nooriabad. Chairman of Pakistan Peoples Party Bilawal Bhutto Zardari and Sindh Chief Minister Syed Murad Ali Shah jointly inaugurated the Nooriabad power plant on 31 May, 2017. The power plant having 100 Megawatts power generation capacity was launched at a time when people of Sindh were made to suffer prolonged and frequent spells of power load shedding and outages on a daily basis. People in Karachi too were facing much worsened power supply situation as weather in the city got a harsh turn with start of Ramzan.

The electricity is being generated by the new power plant at Nooriabad using natural gas. The Sui Southern Gas Company (SSGC) had been supplying 20 MMCFD gas for Nooriabad power plant.

Earlier on 13 April, speaking in Sindh Assembly the Sindh CM expressed serious resentment and concern over undue delay in provision of promised quota of gas supply for Nooriabad power plant.

The CM also resented that Hyderabad Electric Supply Company (Hesco) had refused to purchase electricity from Nooriabad power plant despite that the Sindh gov't had conceived the plant keeping in view electricity requirements of licensed area of Hesco.

He said that later the agreement was signed to supply 100 MWs electricity to K-Electric for which a special transmission lines had been laid.

He also threatened to stop supply of natural gas from Sindh to rest of the country if the SSGC delayed any further provision of 20 MMCFD volume of gas to the

EU Report

power plant as per contractual obligations of the gas utility.

The CM in his speech in the assembly also talked about the delaying and diversionary tactics used by federal authorities concerned to sabotage the Nooriabad power plant of Sindh gov't.



Later when on 05 June when Sindh government's annual budget for next financial year was being unveiled, Sindh CM before formal commencement of his budget speech complained in the house about highly worsened power supply situation in Sindh.

He said that lives of people of his province had highly become miserable due to load shedding up to 20 hours a day in several towns.

He said on the occasion that people of Sindh were made to suffer prolonged power load shedding despite that the province accounted for 70 per cent energy production in the country.

The CM said that his government earlier in the year had paid Rs 27 billion as

all its outstanding dues to Hesco and Sepco (Sukkur Electric Power Company) and had obtained no-demand certificate from the two power distribution companies.

He said that performance of privatized K-Electric and two public sector distribution companies in the province had been far from satisfactory that had made lives of the people miserable in the current summer season.

During his budget speech, the CM recalled achievements of his gov't in energy sector during the passing financial year 2016-17 the major achievements in energy sector that included setting up of 100 MW Sindh Nooriabad Power Company established through Public Private Partnership.

He informed the house that the Nooriabad plant was fully functional and contributing to mitigate power shortages of Karachi. He informed the house that Sindh Transmission & Dispatch Company (STDC) had been established being the first ever transmission line established by any provincial government. The 132 KV Double Circuit from Nooriabad to Karachi had been successfully laid for Rs 1.95 billion to supply 100 MW to K-Electric. Some 477 MW of Wind Power had also been added to the national grid. Total installed capacity of wind power projects in the province now stands at 785 MW. It will be enhanced to 1085 MW in next financial year.

A day later on 06 June while addressing the post-budget press conference, Sindh CM warned that it would be difficult for his government to control people if they took to streets against power crisis as otherwise concerned provincial authorities would stand alongside the protesting people to do agitation against power shortage in the province. Earlier addressing the launching cer-

A milestone achieved by Sindh govt

emony of Nooriabad power plant on 31 May, 2017 at site of the project, Chairman PPP Bilawal Bhutto Zardari had said that PPP never played politics on national development but "it is Mian Sahab (the prime minister) who scrapped 25000 MW power projects signed and approved by late prime minister Benazir Bhutto just for his political short-sightedness."

The PPP's chairman said late prime minister Benazir Bhutto had signed 25000 MW power project during her tenure but sorry to say he (PM Nawaz Sharif) scrapped all the project and plunged the country into darkness," he said and added the he (PM) would be ousted by the JIT (Joint Investigation Team) and if he escaped it then people would surely oust him.

PPP chief congratulated Sindh CM for installing 100 MW power plant despite serious hindrances created by federal government:

Bilawal Bhutto said that conspiracies were hatched when Sindh government created power, distribution & dispatch companies so to fail these new power sector ventures. "But with the grace of God both the companies, power and Transmission & Dispatch have been evolved to become successful companies which had installed a power plant and also laid a transmission line".

Sindh CM addressing on the occasion congratulated people of Sindh and said that the Sindh had launched its first major power project along with its transmission line. "This is a big success and I would say it is the success of people of Sindh".

Murad Ali Shah said that actually this



power plant had been conceived by the then president Asif Ali Zardari and it was planned to be installed at one of the abandoned gas fields in the province. "But, the federal government not only refused to hand over the abandoned gas fields to us but at one stage was reluctant to provide gas for this project".

When this project was near completion, the Hesco refused to purchase power absurdly saying that it had surplus power for the area of its operation. "This was something to be ashamed of for Hesco," he said.

The chief minister warned Hesco, Sepco to perform efficiently, otherwise pack up. "We would install our power plants, we have developed Transmission & Dispatch Company and we would establish our distribution system," he announced.

He said the Sindh Government had taken several initiatives to eliminate load shedding in Sindh in particular and Paki-

stan in general.

He added, Besides major investment in the development of Thar Coalfield Block II, the Sindh government had provided major support to develop 2x50 MW Gas Fired Power Plant at Nooriabad, on Public-Private-Partnership (PPP) basis.

He went on to saying that the private sector partner being Technomen Kinetics (Pvt.) Limited is a well known EPC (engineering, procurement, and construction) contractor for sizeable industrial projects.

The CM said that 95 Km special purpose transmission line had also been funded by Sindh government through the STDC at a cost of Rs. 02 Billion.

He added that the initiative of power plant was aimed at eliminating load shedding in Karachi for improving the industries, employment and wellbeing of the citizens of the Karachi.

Murad Ali Shah said the gas was allocated for 2x50 MW Nooriabad power project through a decision by the Economic Coordination Committee (ECC) of the Federal Cabinet. ■





TERASAKI

Japan

Innovators in Protection Technology

Low-Voltage Circuit Breakers

TemBreak

TemPowerACB

TemBreak

COMPACT SERIES

TECS



JUBILEE CORPORATION

Switchgear • Automation • Instrumentation • Controls

Karachi - Lahore - Islamabad - Faisalabad

First Floor, Fakhri Trade Centre
Shahrah-e-Liaquat, Karachi-74200.

UAN : 111 000 520

Tel: 021 3260 2200-7

Web ; www.jubileecorporation.com

9th Annual PowerGen Conference 2017

Record 17,720 MWs power generation in May 2017

Experts call for upgrading overloaded power distribution system and increased reliance on renewable energy



Speakers & Organizers with Chief Guest Minister for State Abid Sher Ali at 9th Annual PowerGen Conference

With the country is all set to generate surplus electricity in a coming few years, the major challenge now is to revamp and upgrade overloaded distribution system so that end domestic consumers in the country could have access to reliable and efficient power supply.

This was of the crux of the views expressed by concerned energy sector experts and officials who spoke at the 9th Annual Power Generation Conference-2017 organized by Energy Update.

The speakers at the annual power generation moot were of the view that country in the mid-90s too had almost achieved the target of generating surplus electricity as planners had been thinking to import power to India but the opportunity was missed at that time owing to poor planning.

They were of the view that the country should increase its reliance on hydro, solar, wind, and indigenous coal resources for power generation so that energy production in the coming years could be done more on sustainable basis with much less generation cost.

The speakers said that establishing RLNG (Re-

gasified Liquefied Natural Gas) based power plants was one such right move towards efficient electricity generation that would ultimately be helpful in lowering power tariff for consumers.

Minister of State for Water and Power Abid Sher Ali who was chief guest on the occasion said the country had crossed





Abid Sher Ali, Minister State, President of Azad Jammu and Kashmir Sardar Masood Khan, Ch Sher Ali Khan, Provincial Minister Mines & Mineral, Govt of Punjab, Muhammad Naeem Qureshi, Shah Jehan Mirza, H.E. Jean-François Cautain, Sarim Sheikh, H.E. Mr. Ole Thonke, Zafar Subani, Syed Yusuf Raza, Dr. Fiaz Ahmad Chaudhry, Mr. Shahab Qader, Muhammad Qaseem, Rehmatullah Hasni, Amjad Ali Awan, Muhammad Amjad, Assar Naeem Qureshi, Syed Imran Shah, N.A. Zuberi, Akber Ayub Khan, Waqar Ahmad Khan, Azhar Panni, Muhammad Atif Khan and Zafar Sobani speaking at the PowerGen Conference.

the landmark of record 17,720 Megawatts electricity generation on 17 May, 2017 at 3 pm.

He said that power generation in the country would be increased to 20,000 MWs in the ongoing summer season with RLNG-based power plants coming online.

He said that power loadshedding was being observed only in such areas where payment of electricity had been unsatisfactory while best of the efforts would be made to spare citizens of power cuts during Sehri, Iftar, and Taraveeh timings during upcoming Ramazan-ul-Mubarak.

systems in the country had been decreased by 1.8 per cent while recovery of electricity bills from consumers had been increased by 2.8 per cent.



He said that best utilization of hydro, thermal, wind, solar, and nuclear power resources were being ensured so that electricity shortage in the country could be plugged by next year.

The state minister said the present govt was also upgrading the existing power transmission systems and also laying new lines for transmitting electricity for reliable power supply to end consumers.

Jean-François Cautain, the European Union Ambassador to Pakistan, said that the EU had been keenly observing the policies being adopted by Pakistani govt for overcoming power shortfall in short and long terms as once the European nations had to cope with similar energy

crisis that was overcome through innovative means.

He said the EU had been extending maximum support to Pakistan to generate electricity through most efficient, renewable, and inexpensive methods that would also be helpful for the upkeep of environment. For the same cause, the private companies among EU countries would forge cooperation with energy sector of Pakistan.

Mr. Cautain said that EU had extended support for establishing Hydropower Training Institute at Mangla.

Ole Thonke, the Danish Ambassador in Pakistan, said the Denmark had



The state minister said the present government had been able to add 5,567 MWs to national grid since 2013 under its drive to overcome power shortfall in the country.

He said that line losses related to electricity transmission and distribution



developed an energy strategy to be 100 per cent independent from fossil fuels by 2050, which had already yielded great results, as at present more than 50 per cent of energy in Denmark comes from renewable sources out of which over 40 per cent is generated by wind power.



President of AJK Sardar Masood Khan and Ruqiya Naeem cutting the cake of 11th Anniversary of Monthly Energy Update

Mr. Thonke said the Denmark's GDP had grown over 44 per cent since 1990, whereas energy consumption had declined by 8 per cent, resulting into 36 per cent decline in Carbon Dioxide emissions.

Speaking of Pakistan's energy challenges, the Danish Ambassador said that Pakistan had abundance of renewable energy sources, as wind alone can generate over 50,000MW, which if capitalized, would make Pakistan an energy independent country, resolve balance of payment issues and would also reduce emissions of hazardous gasses.

Sher Ali Khan, Punjab Minister for Mines and Minerals, said that Punjab Govt had been actively working to build new power projects to generate electricity using solar energy, coal, and wind power as 1320 MWs electricity by the province would be added to the national grid.

He said that Punjab had identified its first wind corridor in Rojhan area

having power generation potential of 1,000 MWs.

Shah Jahan Mirza, managing-director of Private Power Infrastructure Board, said the country would achieve installed power generation capacity of up to 23,000 MWs in a span of few years that is double than the capacity, which had been achieved in last 70 years. He said that 47 per cent of the power generation capacity being built in the country came from private sector.

He said that private sector had started doing small hydropower projects as input of the sector would be increased to 19,000 MWs with 7,000 MWs being generated on hydro; 8,000 MWs on coal, and 3,6000 on RLNG. Dr. Fiaz Ahmed Chaudhry, MD of National Transmission and Despatch Company, said that lack of trained manpower and qualified engineers, and lengthy procurement procedures had been the main issues concerning the building of new transmission lines and upgrading the existing networks of NTDC.

In his concluding remarks, President of Azad, Jammu, and Kashmir Sardar Masood Khan, said the Azad Kashmir at present had been contributing 1,100 MWs electricity to national grid as AJK had the potential to generate 18,000 MWs electricity mainly through massive hydropower resource.

He said that several small and medium hydroelectricity projects were being completed in Azad Kashmir while one major project of Neelum-Jhelum hydro project of 968 MWs installed capacity would be completed by February 2018.

He said that AJK had massive potential to contribute towards the cause of Pakistan to generate electricity through efficient, reliable, and renewable means.



Ruqiya Naeem presenting shield to the President of AJK Sardar Masood

The AJK president said that very soon every district of Azad Kashmir would have its own small dam.

He said that AJK had been looking forward to resolve issues of water usage charges for electricity generation to make them at par with that of Khyber Pakhtunkhwa and levy of General Sales Tax by Wapda as federal govt would hopefully extend support to AJK govt and would resolve the problem. ■

OUR VALUED SPONSORS

Frontier Works Organization Pakistan

PNSC

STAR HYDRO

SECMC

STDC
South Transmission & Despatch Company (Pvt) Limited

NBP

Pakistan Atomic Energy Commission

Fakhtunkhwa Energy Development Organization

adaptive

HI-TEK
ASME CERTIFIED

ABB

AEPL
Best Technology Partner

IGG

T

engropowergen

JANAZ CORPORATION



2nd Int`l Wind Energy Summit

Theme: From Energy Sufficiency to Energy Security

November 7, 2017 at Marriott Hotel Karachi

CALL FOR PAPERS

Second International Summit on Wind Energy is scheduled on November 7, 2017 at Marriott Hotel, Karachi. This landmark Summit is being organized by Pakistan's premier Magazine Energy Update with the support & collaboration Sindh Energy Dept (Govt of Sindh), Private Power and Infrastructure Board (PPIB), World Wind Energy Association (WWEA), Alternative Energy Development Board (AEDB), Asian Development Bank (ADB), USAID, KFW, Danish Embassy, US Embassy, UK Embassy, Pak-German Chamber of Commerce & Industry and Sindh Board of Investment (Govt of Sindh).

Please make a note in your diary and inform your colleagues who would like to present their papers at this momentous Summit on Wind & Solar Energy or just want to attend the Summit to learn about the latest happenings in the country's booming Renewable Energy sector.

The Summit Programme features Four (04) sessions on the following topics, therefore papers are called in relation to these topics:

- Government priorities & policies towards growth of RE Sector
- Market developments, current status & look ahead
- Resource Assessment & Forecasting
- Power Plant Technology
- Integrating Wind & Solar Power plants into the electricity market; hybrid options
- O&M Solutions
- Long Term Financing of RE projects

Please submit your abstracts latest by August 3, 2017. All abstracts will undergo a peer review by our Advisory Panel.

Successful abstract authors will be notified by August 10, 2017 to submit their complete paper / presentation latest by September 15, 2017.

Please visit following page regularly for updates in order to stay informed about future developments.

<http://www.energyupdate.com.pk/>

Contact Details:

For submission of Abstracts,
Papers/Presentations
energyupdate@gmail.com

For Summit registration
energyupdate@gmail.com or
call 021-35674570, 35651797

For becoming an Exhibitor or Sponsor, please contact energyupdate@gmail.com or call 0300-2068048 or 0300-2127355

If you know of anyone likely to be interested in attending the Summit or just want to be the first of your colleagues and friends to be informed, please follow us on [facebook.com/energyupdate](https://www.facebook.com/energyupdate)

GE eyeing on \$1.3 trillion investment in digitisation of power companies by 2025

Sarim Shaikh, President & CEO GE Pakistan

By Naeem Qureshi

Energy is a cornerstone of modern civilization and I am privileged to have been associated with the energy industry for over 20 years and that too at a time when major forces are shaping how we produce and consume energy. My admission to the energy industry may have been by chance when I joined Shell in their graduate program. However, since then it has become a fundamental pursuit that drives me every day to get up and make a difference. During nearly two decades with Shell, I discovered and was exposed to various business segments and had the opportunity to go deep in the energy value chain. I was particularly focused on the midstream and downstream sectors and an MBA at the London Business School, where I focused on energy and project development, helped me to concentrate on the sector further. In 2012 I joined GE, which gave me a larger canvas to work on, especially with Pakistan facing economic & social constraints due to an acute energy crisis. The 12-hour grueling load shedding, petrol and gas shortages brought home to most of us the value of functioning energy systems. GE's portfolio has allowed me to play a larger role in the energy sector, from source to end user, to drive greater efficiency, access, reliability and sustainability. I have been honoured to contribute and be a part of landmark developments such as the 3.6 gigawatts (GW) regasified liquefied natural gas (RLNG) projects delivering some of the world's most efficient combined cycle gas power plants to Pakistan, the first power plant that will make use of Pakistani Thar-coal, as well as alternative energy projects such as wind farms in Jhimpir, and the revitalization of national hydro assets such as the Mangla Refurbishment Project, to name a few.

EU: What is the role of GE Pakistan to offer highly efficient products and solutions for power generation in Pakistan?

Sarim Shaikh: GE has supported the development of Pakistan's energy sector for over half a century, working across the energy mix, including gas, coal, wind, hydro and other sources. Today, I am proud to say that GE-built technologies can generate up to 25 percent of the country's electricity from a range of fuel sources.

We have developed the world's most efficient heavy duty H-class gas turbine, which allows very high net plant efficiency when coupled with efficient steam turbine technology. In fact, GE's HA technology recently helped set a record for powering the world's most efficient combined-cycle power plant in Bouchain, France based on an achieved efficiency rate of up to 62.22 percent. This technology was selected for the upcoming 3.6 GW RLNG-fired power plants in Pakistan.

GE is providing two 330 megawatts (MW)



boilers for the Thar Block II Power Plant. The boilers will allow the utilization of high moisture supplies of local Thar lignite, the first time a power project in the country will be fueled by this domestic resource. We are also supplying two units each of supercritical steam turbines, boilers and generators to Northwest Electric Power Design Institute Co. Ltd. (NWEPTDI) and Tianjin Electric Power Construction Company (TEPC) for the China Power Hub Generation Company (Pvt.) Limited (CPHGC) 1,320 megawatts (MW) Power Plant in District Hub, Balochistan.

Moreover, we have developed the world's most efficient coal-fired power plant, which allows very high net plant efficiency. In fact, GE's ultra-supercritical (USC) technology recently helped set a record for powering the world's most efficient coal-fired power plant, RDK8 in Germany, based on an achieved efficiency rate of up to 47.5 percent. We are now moving further in developing the next generation of technologies to push net plant efficiency towards 50 percent. This USC technology coupled with GE's modern flue gas cleaning systems, can address various emissions sources, such as CO₂, NO_x, SO_x and particulate matter from any coal-fired power plant to meet and exceed the world's strictest regulations. The 2,400 MW Haysan clean coal power project in the UAE is also using GE's USC technology to generate power at very competitive costs. The project will also meet flue gas emission limits more stringently than emission limits in the Industrial Emissions Directive (IED) of the European Union and in the International Finance Corporation (IFC) Guidelines.

Just recently, GE also announced its new global Powering Efficiency Center of Excellence (COE), which brings together cross-business experts in its energy businesses to apply a total plant hardware and software solution approach to boost the efficiency of the world's new and existing coal-fired power plants and significantly reduce their emissions. The COE aligns with GE's recent study that found carbon dioxide (CO₂) emissions from the world's steam fleet can be reduced by 11 percent when existing hardware and software solutions are fully applied.

Furthermore, GE is a global leader in advanced renewable energy technologies and actively involved in wind and hydro power projects in Pakistan. For example, we are providing over 250 wind turbines for various projects in the Jhimpir-Gharo wind corridor to deliver over 450 MW.

We also signed a contract for the refurbishment and upgradation of 6 power

generating units installed at Mangla Hydel Power Station, as part of the Mangla Refurbishment Project to increase their power output by 35 percent from existing water resources. GE is also a leading global supplier that understands the metallurgy and can provide efficient and reliable technologies that suit the tough operating environments with high silt content and high altitudes found in Pakistan's hydro projects.

Finally, GE's Digital Power Plant solutions allow power plant operators to gather sensor data from industrial machines and processes, analyze it and turn it into actionable intelligence. This intelligence can be used to help monitor equipment health, reduce downtime and improve reliability. GE's digital industrial solutions have been adopted by several different customers in Pakistan, including Hubco, Pakgen Power Ltd., and others.

EU: What is GE's expansion plan in terms of regions and investments?

SS: The geography I look after (Pakistan, Iran & Afghanistan) continues to be a core growth region for GE. Pakistan's average electricity consumption at about 450 kilowatt-hours per capita is well below not only the world average but also that of comparable economies in the region. Furthermore, a large part of the existing power generation infrastructure can be made more efficient, reliable and environmentally friendly. GE is committed to working with the Government and our customers in addressing these issues, by providing advanced record-setting technologies, upgrades, digital-industrial solutions and services to help the country meet its energy needs.

EU: Are there any considerations of GE to ink agreements with companies setting up power generating plants in Pakistan under the CPEC project?

SS: GE has a strong business and manufacturing presence in China and well-established relationships with many Chinese companies. This allows us to be an active part of CPEC projects, especially where end users are looking for efficient, reliable and environmentally friendly solutions. GE has inked several agreements working both within and outside CPEC in Pakistan supplying technology to Chinese EPCs from its own wholly-controlled factories in Shandong, Tianjin, Beijing, Wuhan and other places in China. Those factories are recognized as Chinese content by the Chinese Export finance agency Sinosure.

For example, GE is supplying North-

west Electric Power Design Institute Co. Ltd. (NWEPTDI) and Tianjin Electric Power Construction Company (TEPC) with two units each of supercritical steam turbines, boilers and generators for the China Power Hub Generation Company (Pvt.) Limited (CPHGC) 1,320 megawatts (MW) Power Plant in District Hub, Balochistan, Pakistan. The project is one of the infrastructure ventures supported under the CPEC. Outside of CPEC, GE also entered an agreement to provide two high-efficiency 9HA.01 gas turbines and associated equipment to China's Harbin Electric International Company Limited (HEI) for the Bhikki Combined Cycle Power Plant in September 2015. HEI is providing engineering, procurement and construction services for the facility.

EU: What are the issues that GE confronts in countries like Pakistan?

SS: At present, Pakistan's developmental needs span across a wide range of fields. The Government's Vision 2025 aims to place the country in the top 25 economies of the world and includes goals to secure energy, food and water supplies, modernize transportation infrastructure, strengthen healthcare outcomes and build the skills and capabilities of our people.

This requires both local and foreign investment, as well as entrepreneurship to deliver growth. Rule of law, a well-functioning justice system, transparency in decision-making processes, adherence to public procurement rules and the robustness of key infrastructure are some of the factors that GE, as well as any other business, considers when expanding operations in a country. Pakistan has steadily been improving on all these fronts, however, both the World Economic Forum (WEF) and World Bank rankings show that it is important to recognize we still have a way to go.

We are committed to helping Pakistan achieve Vision 2025 and are glad to see that the Government is taking concrete steps to establish an environment conducive to doing business and investing in the country.

EU: What contribution does GE make to the overall power supply in the country?

SS: GE has supported the development of Pakistan's energy sector for over 50 years, working across the energy mix, including gas, coal, wind, hydro and other sources. Today, I am proud to say that GE-built technologies can generate up to 25 percent of the country's electricity from a range of fuel sources. ■

Over 20,000 schools in Punjab to be solarised

BHUs (basic health units) would be solarised in 2nd phase



**Muhammad Amjad , CEO,
Quaid-e-Azam Solar Power Ltd**

We are one of the most environmentally and socially responsible companies of Punjab Government. We are the trend setters as now Govt of Punjab has assigned us to solarise 20,000 schools across the province. It will be a gigantic task but we are going to launch this campaign very soon. We will also be solarising the Basic Health Units (BHUs) at the tehsil level. Our priority will be such areas, which could never be connected to grid so to supply them electricity using solar power," says Muhammad Amjad, Chief Executive Officer of Quaid-e-Azam Solar Power Ltd.

Recently the Energy Update had the privilege of interviewing Mr. Amjad to know the details and progress so far achieved in building Quaid-e-Azam PV (Photovoltaic) Solar Park in Cholistan, Bahawalpur. The under-construction 1000 MW park is the first large utility-scale project power generation project in the country using solar power. He continues to say that.....

By Naeem Qureshi

Energy Update: Tell us about your own professional background and experience in the energy sector?

Muhammad Amjad: I have worked in energy sector of Pakistan for over 15 years. I have a master's degree in Engineering. Prior to starting this solar park project, I worked in Canada, USA, and in Middle East for doing renewable energy projects there. I was the vice-president of a big company in Canada managing most of the wind and solar power projects being built there. I had to build renewable energy infrastructure in Canada.

During the second government of Benazir Bhutto, I was part of the process of privatization of power sector through the policy of launching IPPs (independent power producers). At that time I helped the Govt of Pakistan in managing the Hubco Power project that was one of the biggest IPP that came online in Pakistan in 1997. I was managing that project from the Wapda's side. I have a background both in conventional power and clean power generation so I can give you a balanced perspective of Pakistan's energy sector as how it should be managed and in what manner it is being managed at present.

EU: Please inform us about the current status of Quaid-e-Azam solar park project?

Amjad: The Quaid-e-Azam solar park project achieved COD (commercial operation date) on 15 July, 2015 as now it has completed over 19 months of its life. In one year, the data shows that we have produced five per cent more power than the target the NEPRA (National Electric Power Regulatory Authority) has given to us. We are one of the profitable and well-managed companies of the govt. We have

very transparent mechanisms here. We are one of the most environmentally and socially responsible company in Punjab.

The project was conceived to be built having 1,000 Megawatts power generation capacity in order to attract investment in renewable energy sector. The power park project firstly installed its own 100 MWs plant and that project attracted huge investment portfolio from across the globe like from Middle East, China, USA, and other countries that want to install their own solar power plants at our project's site. M/S Zonergy has completed construction of its 300 MWs power plant. M/S Zorlu will be completing another 100 MWs power plant. This is the current status of solar park as 400 MWs of clean energy is being injected into national grid.

EU: According to media reports cost of this project is very high. Please do comment on this issue?

Amjad: Actually whenever renewable energy industry is introducing any new technology in the country such things happen either due to some sort of mis-communication or due to very weak or false understanding of renewable energy sector particularly solar power sector being utilized in Pakistan.

We are a very skeptic nation as we start criticizing even when good things happen around us. I'm just very surprised to see severe lack of knowledge among people about the process of solar energy production.

Our project started in 2014. In span of just nine months we completed the first large and utility-scale solar power project of the country. It was completed with a cost of 131.5 million Dollars. We built the entire infrastructure of the project. At that time, the cost of doing such a project in India was almost 20 per cent higher. We did hire top brains for the project from across the world including Germany. I myself was involved in the project since the time of early planning.

The other thing is that people don't know how much money is spent by the country on import of fuel. We spend 08

billion Dollars on purchasing oil just to be burnt in our power plants. The problem is that our power generation system is highly dependent upon fossil fuel-based power generation. We now produce 300 Gigawatt of electricity without a barrel of fuel. We are doing all this when we have challenges around us like climate change and similar environmental issues. So the question regarding utility of our project is meaningless as people should first do proper research on the subject. I invite all such people to come to us and visit this project.

Second thing is that the cost of solar panels has reduced in last three years. We now are now producing electricity at the cost of 6 cents per kilowatt hour. All the contracts of the project are cheaper than any form of technology including coal-based power generation.

At the time of starting of work on the project in 2013-14, tariff cost of doing such a project like elsewhere in the world was 44 cents. The NEPRA and federal government wanted us to do this project at the cost of 17 cents. In turn, Punjab Govt announced to do project at 14 cents, 03 to 04 cents cheaper than what was agreed with the authorities. We ensured compliance of all cost-related conditions of the project.

The cost of doing our project was the cheapest according of the circumstances of that time. Now prices are getting reduced so we are steering the project in the same manner. I feel pity that people without any knowledge or understanding try to jeopardize this industry where exactly our future lies.

EU: Tell us about challenges you are facing in implementing this project?

Amjad: The only challenge we are facing is the perception of people about clean energy. It is time that people should be education and informed about the risk of climate change and other environmental challenges we are facing at the moment.

We import a lot of fuel for power generation to get electricity to our cities and to our homes. There could be a lot better ways available now to do this. The biggest benefit that we can avail while exploiting solar technology is that this mode of renewable energy matches our lifestyle very much as every house could be converted into a power house while using this option.

So the major challenge is false perception and lack of knowledge among people as otherwise there is no other issues. It is the easiest and cheapest form of electricity generation as you can build its power plant in a record short period of time. There is no other technology



whose power plant could be constructed in less than a year. It could take up to 10 years to build a hydropower project while construction of a nuclear power plant could take six to seven years. Then cost of constructing a nuclear power plant is comparatively much higher.

We do need balanced mix of energy supply and for this cause this is the quickest form of setting up power plants, which should be facilitated and encouraged by all of us.

The Energy Department of Punjab Govt is working on the project as one aspect of it to solarise BHUs at tehsil level.

EU: How the project will be beneficial for the country's economy and power system?

Amjad: The biggest problem of our power sector is circular debt. The main reason for the persistence of circular debt is that our planners simply could not understand that there are options like solar energy, which could enable us to produce electricity without importing fuel. The best option is to utilize technologies like solar power involving no fuel cost. If for 12 hours of the night there is no solar power available then it is feasible to use fuel-based power plants.

If we are able to save four billion Dollars by utilizing options like solar power then it would simply translate into massive prosperity for our country.

A lot of research and media reports say that the fossil fuel reserves of the world could only last for next 50 years so we have to get ready for this day when there will be no fuel left for energy generation.

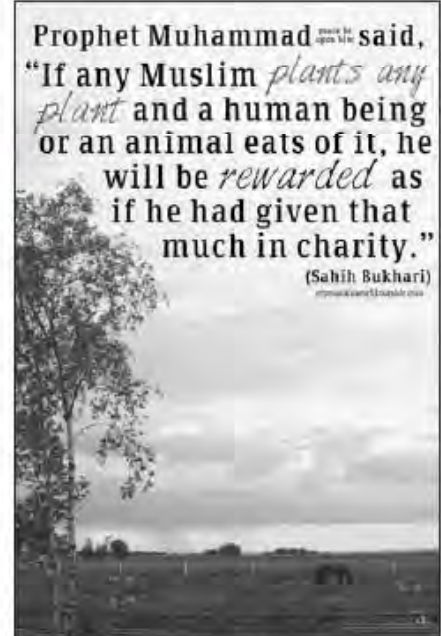
If the Germany could install solar power plants having 50,000 MWs capacity with solar radiation half of what we have here so why can't we do so when our capacity to generate electricity on basis of solar energy is almost double.

It is time that we should all be utilizing solar power to get this form of clean energy to every household and to every power

plant.

EU: What is the CSR (Corporate Social Responsibility) aspect of your project?

Amjad: The most distinguished CSR aspect of this project is that the Quid-e-Azam Solar Park is going to become an icon of national pride. We invite people associated with our educational institutions, our universities, and policy making institutions to visit our plant and get information about this technology. We have our own internship programme where we bring students as well to our power plant and get them trained for a specific period of time so that they will become part of the nation building process in such a manner. We are going to plant thousands of trees in the area around the solar park. We are giving a friendly source of energy to the park. We are in the process of creating awareness and motivating people to adopt the options of clean power generation for the best of economy and environment. This is going to be the biggest project in the history of Bahawalpur after construction of airport there. ■



Prophet Muhammad ﷺ said,
 "If any Muslim plants any
 plant and a human being
 or an animal eats of it, he
 will be rewarded as
 if he had given that
 much in charity."

(Sahih Bukhari)

**SOMETIMES IT'S
 NOT THE PEOPLE WHO
 CHANGE, IT'S THE MASK
 THAT FALLS OFF.**

Trade inquirers keen to seek power solution at POGEE 2017

Pakistan's energy shortfall to reach 10,000 MW by 2020 - experts

Pakistan should go for cheaper and green energy resources

The experts and speakers have suggested power regulators in Pakistan to go for cheaper options and green energy in order to overcome its power crisis. Addressing the 13th International Conference for Oil, Gas and Energy Industry held on the sideline of Pakistan Oil, Gas and Energy Exhibition (POGEE) 2017 here at Karachi Expo Centre, the Managing Director, Private Power and Infrastructure Board, Shahjahan Mirza said that Pakistan has a potential of producing over 100,000 MW power through clean energy due to availability of air corridors and sunlight for over 300 days a year.

He hoped that the country would overcome load-shedding early next years and many power plants are in the pipelines and would be commencing their generation pretty soon. Dr Ifukhar Ahmed of Sindh Department of alternative energy said that his government aims at becoming the Energy Hub of Pakistan and self-sufficient in power generation and have export surplus by years 2020. He said that Sindh province has a potential of generating 55,000 MW from wind energy, 10,000 MW through solar power, 130 MW through hydel (run of river), 1,000 MW from bagasse and 500 MW from solid-waste. Regarding Coal Power Generation, the Director Projects on Coal Power, Ali Nawaz said that Pakistan is facing about 7,000 mega watt shortfall and it is increasing by 7 to 8 per cent per annum and will reach to over 10,000 MW by 2020. He said that power generation through coal has reached to over 40 per cent while it is only 0.2 per cent in Pakistan. Managing Director, Pakistan Private Infrastructure Board, Shahjahan Mirza, Dy Executive Director, OGRA, Sajjad Hus-sain, Managing Director Siemens, Helmut



von Struve, SGS Pakistan's Hashim Khalid and others also spoke on the occasion.

The foreign exhibitors while expressing their pleasure over the visitors' response to the Pakistan's premier energy show - Pakistan Oil, Gas and Energy Exhibition (POGEE) 2017, as they remained busy in getting trade inquiries since the last two days. Chinese exhibitors who have offered prompt and cheaper power solutions are more content with the outcome of the mega event. Shen



Hua of MHPS Dong Fang Ltd, China, said that he is dealing with the visitors in a real professional environment and received may trade inquiries. Morius Bica of Kal-hour, Romania said that everything is good here and he was busy in getting trade inquiries from local industrialists. He said that Pakistan can acquire many power solutions in order to overcome its power crisis in real short time. He said that his company is ready to provide various solutions in alternative energy that would be cheaper and need comparatively short

time to start generation. Wang Kai of Huan-yu Electric, has commented over the ongoing power crisis in Pakistan that there are many short term solutions are available in the market and government and private sector organizations can resolve their issues individually or collectively. He advised that Pakistan people should go for cheap and green energy like solar power or wind energy as its sources are available in abundance locally. Anil Berky of Durul-san, Turkey said that trade inquirers response is satisfactory and many industrialists and individuals who got fed up with power outages are keen to adopt easy and cheaper option here. ■

Taxiwala: Saheb Break fail ho gayi hai, Gaadi rukti nahi, kya karu? Passenger: PEHLE TU METER BAND KAR!!



Difference between talent and God's gift: A man can give lecture for 2 hours on any subject. This is talent. A woman can give lecture for 2 hrs without any subject. This is god's gift.

TV Reporter zakhmi se: Jab Bomb gira to kya vo zor se gira? Zakhmi ghusse me: Nahi Saale, vo rengta hua mere paas aya aur sharma k bola..... dhummm!!

Of all the people on roadways around the world, pedestrians are the most vulnerable. More than 270,000 pedestrians lose their lives on roads every year, making up 22% of the total road death toll. In some low and middle-income countries like Pakistan, this percentage spikes up to two-thirds. Additionally, millions of pedestrians sustain injuries in road accidents, with some becoming disabled for life and suffering from psychological problems.

Walking is a common mode of transport in Pakistan, but is increasingly dangerous due to the associated risk of road accidents. High rates of motorisation, increased frequency of vehicle use, neglect of pedestrian needs in road design, and weak enforcement of traffic laws all contribute to heightening pedestrians' vulnerability in Pakistan, where one-fifth of all road fatalities are believed to be pedestrians.

Here we take a look at the weaknesses in our road design and how road safety can be improved in Pakistan.

Missing infrastructure

Pedestrian safety and walking environment are closely associated. Our roads lack pedestrian safety infrastructure, which is why walking on or crossing roads is a high-risk activity. The risk of motor vehicle-pedestrian collisions is increasing in proportion to motorisation and general public's attitude to occupy road front for business and other activities. Pedestrians mostly fall victim to these accidents while crossing the road. It is a failure of our road designing and planning authorities in providing basic facilities to pedestrians such as sidewalks, road crossings, and safe access ways at junctions.

Safety awareness

Inaction is deep-rooted in the society of Pakistan. People have accepted pedestrian collisions as inevitable, but all kinds of vehicular collisions are predictable, hence preventable. A majority of citizens seldom own their personal safety and are seen blaming other road users or bad luck for road accidents. Rarely does a road user in Pakistan admit to a mistake and hold themselves responsible for a road accident. Existing road crossing facilities are sparsely used due to several unpardonable reasons. Underpasses remain choked with water due to inadequate drainage, while overhead bridges pose a security risk. But the main hurdle is people's mindset and ignorant attitude which always stimulate them to take short cuts.

Red flags in the system

A number of contributing factors are making our roads unsafe for pedestrian movement. Inadequate visibility of pedestrians makes them highly vulnerable. A high frequency of pedestrian collisions is typically seen at dawn, dusk, and during the first hour of darkness. Visibility of pedestrians is affected by the absence or derelict condition of streetlights, while vehicles and two wheelers' often have faulty lights, and pedestrians wear no reflective accessories. Other factors adding to pedestrians' sufferings include inadequate enforcement of traffic laws, unsafe driving practices, driver and pedestrian distraction, use of mobile phones, drivers fatigue, pedestrian-vehicle conflicts at pedestrian crossings, delayed responses of elderly people, incapability of children to estimate vehicle speed, and lack of supervision of children who are too young

to make safe judgments.

The attitudes of drivers and pedestrians towards road safety is the same - both believe the other will take evasive measures.

With this attitude, drivers fail to respect the right of way of pedestrians and vice-versa. Vehicles with faulty brakes, lights, horns, or cracked windscreen increase the collision risk with pedestrians manifold. Mix traffic, encroached footpaths, distracted walking, less-controlled crossings and low-risk awareness place pedestrians at greater risk and lead to mayhem on our roads.



Roads
in Pakistan
remain
dangerous for
pedestrians

By Ashfaq
Ahmad Klair

Vehicle-focused planning

In Pakistan, roads are designed generally to cater to the needs of motorised traffic, neglecting the needs of pedestrians. A recent study showed that Pakistan has one of the lowest rates of footpath prevalence among low and middle-income countries. Around 84 per cent of roads lack footpaths. Road designs without facilities such as sidewalks and signalised crossings create risk for pedestrians. Arterial roads, junctions and fast-speed lanes are being operated without adequate attention to pedestrian facilities resulting in increased pedestrian casualties when walking alongside or crossing the road.

Possible solutions

The crashes between pedestrians, cyclists and vehicular traffic can be reduced by introducing a transport system with exclusive lanes and pedestrian-friendly raised crossings and markings on the road. Installation of automatic electronic signals to control all traffic movements at intersections including pedestrian traffic is a well-proved intervention. Provision of continuous wide footpaths on both sides of the road could be a short-term solution. Marking of pedestrian-holding areas at the roadside, at each junction, where pedestrians can wait before crossing the road can also be helpful. A wide zebra strip - ideally five metres - at pedestrian crossings, preceded by a stop line, provides a safe zone for pedestrians to cross in front of stationary vehicular traffic, and the installation of "rumble strips" can also reduce the speed of vehicles. Detailed analysis of pedestrian collisions needs to be carried out to find out specific causes of accidents in specific areas. Also, rigorous hard-hitting social marketing campaigns are needed to educate pedestrians about the safe use of roads.

Social and health aspect

Road safety up till now has not been dealt as social and health issue, rather it is taken as an isolated transport sector problem. The prevailing pathetic condition of pedestrian safety demands a social emergency regarding road safety where it should become the voice of the town and be discussed at all levels. We have to sensitise not only pedestrians but all of society towards this menace which engulfs the hopes of numerous parents before they come to fruition. It is a shared responsibility and all the policies and interventions could only be effective if all the stakeholders own it and play their respective role in curbing pedestrian casualties. As a nation, we can move ahead swift when we learn to give respect and safety to our pedestrians. ■

Ashfaq Ahmad Klair is a road safety expert and a senior patrol officer with National Highways and Motorways Police

Make a political statement: Nokia 3310 Putin-Trump edition goes on sale

Encased in gold and titanium, back of the phone has a 3D picture of Putin and Trump. The return of the Nokia 3310, a few months ago, left many wondering if there was anything explicitly unique about the much-loved phone. But let's not be disheartened because we've got news for you! A Russian-Italian phone customising company has launched a new Nokia 3310 Edition, which is named as the Putin-Trump edition. This new edition is being released ahead of the upcoming meeting of the two superpower's leaders at the G20 summit and is available in a number of countries, including Pakistan. Encased in gold and titanium and priced at \$2,500, the phone has a 3D picture of Putin and Trump placed at the back, with both leaders looking in the same direction.



Pakistani female mountaineer set to make history

Pakistan's Uzma Yousaf is set to make history when on Sunday when she will attempt to scale the 7,027 metre high Spantik peak in the Spantik-Sosbun Mountains sub-range of Karakoram in Nagar Valley of Gilgit-Baltistan as the sole female climber. Also known as



Golden Peak, the mountain has gained significant popularity amongst expedition climbers recently. "I have been in love with climbing and adventure activities since my childhood but I've not been able to go on much expeditions," the 43-year old mountaineer, who started her climbing career by scaling 6,050 metre Mingling Sar in October last year and 5,098 metre Rush Peak in February this year told media here at a local hotel. Uzma, who did not get any proper training to ascend the dangerous mountains, said this would be her solo expedition.

Sri Lanka eyes elephant menace at cricket stadium

Sri Lanka is to deploy game wardens to stop wild elephants straying onto the pitch when the country hosts Zimbabwe for a series of one-day internationals at the Hambantota stadium. Experts will be on hand for all three ODI games at the



35,000-capacity stadium, which is next to an elephant sanctuary, a wildlife official told AFP on Monday. The stadium was built in 2009 under former President Mahinda Rajapakse, who was from Hambantota, but has hosted only a handful of matches because of its remote location and high maintenance costs. "There had been a few instances when elephants broke through the fence and invaded the pitch at night," said the official, who asked not to be named. "A jungle patch starts about 100 metres from the stadium and we are deploying 10 wardens to make sure that fans don't stray into that area and provoke the elephants," he told AFP by telephone from Hambantota.

300-year-old library in Dublin featuring a hall filled with 200,000 rare books.



Widow's tribute to his beautiful wife

A farmer created a stunning tribute to his late wife by planting 7,000 trees in the shape of a guitar. Pedro Martin Ureta's labour of love is a memorial to Graciela Yraizoz, who loved the guitar and asked him to design the instrument on their farmland in Laboulaye, Argentina. But, tragically she died in 1977 while carrying their fifth child before it could come to fruition. So, after her death, Mr Ureta and their four children planted every tree individually to create the stunning wood. The guitar stretches for two thirds of a mile and is so large that it has to be seen from the sky but Mr Ureta has never seen the full design because he is afraid of flying. He started the project in 1979, two years after Graciela died. She suffered a ruptured cerebral aneurysm during her fifth pregnancy and died aged just 25.



Wastewater should be recognized as a valuable resource: UN

In a world where the demand for water continues to grow and the resource is finite, a new United Nations report argues that wastewater, discarded into the environment every day, once treated, can help meet the needs for freshwater as well as for raw materials for energy and agriculture. Needless to mention, treating wastewater and removing pollutants can also remarkably reduce the impact on the environment as well as on health. "Improved wastewater management is as much about reducing pollution at the source, as removing contaminants from wastewater flows, reusing reclaimed water and recovering useful by-products [as it is about increasing] social acceptance of the use of wastewater," Irina Bokova said, the Director-General of the UN Educational, Scientific and Cultural Organization.

The report, launched today in Durban, South Africa, on the occasion of World Water Day also highlights that improved management of wastewater is essential in achieving the Sustainable Development. "It's all about carefully managing and recycling the water that runs through our homes, factories, farms and cities," Guy Ryder maintained, the Director-General of the UN International Labour Organization and the Chair of UN-Water, urging for reducing and safely reusing more wastewater. "Everyone can do their bit to achieve the Sustainable Development Goal target to halve the proportion of untreated wastewater and increase safe water reuse by 2030." Sustainable Development Goal 6 (SDG6) has specific targets on halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally (target 6.3) as well as supporting countries in wastewater treatment, recycling and reuse technologies (target 6.a)

The report also revealed that low-income countries are particularly impacted by the release of waste water into the environment without being either treated or collected, where, on average, only 8 per cent of domestic and industrial wastewater is treated, compared to 70 per cent in high-income countries.



As a result, in many regions of the world, water contaminated by bacteria, nitrates, phosphates and solvents is discharged into rivers and lakes ending up in the oceans, with negative consequences for the environment and public health.

For instance, in Latin America, Asia and Africa, pollution from pathogens from human and animal excreta affects almost one third of rivers, endangering the lives of millions of people. Furthermore, growing awareness on the presence of hormones, antibiotics, steroids and endocrine disruptors in wastewater poses a new set of complexities as their impact on the environment and health have yet to be fully understood. These set of challenges underscore the need for urgent action on collection, treatment and safe use of wastewater. In addition to providing a safe alternative source for freshwater, wastewater is also a potential source of raw materials, noted the report.

Owing to developments in treatment techniques, certain nutrients, like phosphorus and nitrates, can now be recovered from sewage and sludge and turned into fertilizer. It is estimated that nearly 22 per cent of the global demand for phosphorus (a depleting mineral resource) can be met by treating human urine and excrement. Use of treated wastewater has long been practised by astronauts, such as those on the International Space Station who have been reusing the same recycled water for over 16 years. Similarly, organic substances contained in wastewater can be used to produce biogas, which could power wastewater treatment facilities as well as contribute to energy needs of local communities. In addition, use of treated wastewater is growing for agricultural irrigation. At least 50 countries around the globe are now using treated wastewater for this purpose, accounting for an estimated 10 per cent of all irrigated land.

Lastly, the report also mentioned that treated wastewater can augment drinking water supplies, although this is still a marginal practice. Cities such as Singapore, San Diego (United States), and Windhoek (Namibia) have been treating wastewater to supplement drinking water reserves. A great example is use of treated wastewater, long practised by astronauts, such as those on the International Space Station who have been reusing the same recycled water for over 16 years. ■

Saving Water One Drop at a Time.

11th Anniversary Celebrations

Energy Update

Monthly Energy Update Magazine
www.energyupdate.com.pk

IET, PPAF provides environment-friendly 56KW solar power to four villages

By Nawaz Khuhro

Indus Earth Trust (IET) teamed up with Pakistan Poverty Alleviation Fund (PPAF) and provided environment-friendly 56KW solar power to four villages of Gharo taluka in Thatta district.

"PPAF, a semi-government organization, in association with IET has done a great social work by providing solar power to four villages, including Ishaq Jokhio Goth and Bachu Kolhi Goth, round the clock that will help villagers, including women and children, to pass easy and happy life. "Men and women now will be able to do their work in the night while children can also be able to read and write," said Federal Climate Change Secretary, Abu Ahmad Akif while talking to media after inspecting PPAF and IET's solar power grid installed in Ishaq Jokhio Goth in Gharo taluka. Environment expert Afia Salam, NFEH chief Mohammad Naeem Qureshi, UNDP official Masood Lohar, dignitaries and villagers were also present on the occasion.

The federal secretary expressed satisfaction over the installation of solar power grids in four villages and said that PPAF and IET had also provided other projects like Keekra project to the villager through which they were earning their livelihood. He said that the federal government and climate change ministry was fully committed to support PPAF for such environment friendly projects. He said that the Sindh government should also feel its responsibility to provide solar power and drinking water to the villages of Thatta.

Speaking on the occasion, IET CEO Shahid Sayeed Khan said that IET and PPAF had provided solar power grids to four villages of Thatta district which will light their houses, courtyards, and toilets. He said that PPAF joined hands with IET and rid the people of darkness by providing them solar power supply through mini-grids. He said solar power is clean power resource for these villagers.

"We with the support of PPAF had also provided solar power to 120 villages some time back and are also determined to solarise 100 more villages in the recent future. "IET is committed to alleviate poverty in Thatta region by providing liveli-



hood projects to the people so that they could pass their life with happiness."

National Forum for Environment and Health (NFEH) Mohammad Naeem Qureshi lauded the IET's social work in Thatta and said that it would make the area people's life easy and support their livelihood. He said that NFEH had also provided 1500 fruit and other precious trees to IET recently, which had been planted in different villages of Thatta. He said that fruit trees will support livelihood of the villagers while other trees will keep the environment clean and green. "We will also provide more trees to IET in the future to keep the environment of the villages healthy," Qureshi maintained.

He said that the solar power is the best and wonderful invention in the world history which will bring socio-economic revolution in the world. "Pakistan government has failed to provide power to villagers; therefore, solar system is easy and healthy source of light for villagers which PPAF and IET are ensuring in taluka Gharo with honesty and social enthusiasm.

Qureshi said solar energy is a clean energy source that provides numerous benefits to everyday life. "These benefits include helping to grow the food we eat, influencing our weather patterns and allowing us to generate clean and renewable electricity with the help of solar panels. Domestic solar panels have also become easy source for power supply to villagers and it is great facility for the poor people."

He urged the federal and Sindh government to come forward with positive approach and solarise villages across Sindh, particularly in Thatta.

He said: "The inhabitants of Thatta

through PPAF-IET have achieved a great dream of light in the nights as they feel comfortable to do their works in the night like caring cattle, cutting grass and enabling their children to read and write. They have also become able to charge their mobile phones and other low power consuming devices through solar energy. The womenfolk also do embroidery work in the nights and earn handsome money. The men also do carpeting work that adds to the household income. Streets in the village shine in the night, helping men to move freely," Qureshi concluded.

Villagers said that PPAF-IET solar power is sustainable for energy consumption for rural areas, as it is renewable till sun exists. It does not need oil or another thing to run. It is one time investment and gives long-time production.

"Solar power can be used to light bulbs, run motors and fans. It could also be used to heat water. They are reliable to operate without any hindrance; however, some maintenance is required for its batteries. Solar panel energy rise when panel directly face the sun. Solar power can also help to reduce global warming. It is expected that the world's oil reserves will finish in the future, while solar energy is infinite and can be achieved for long time," the villagers said.

They criticized Sindh government for not providing drinking water and power to the people of Thatta despite they have entered the 21st century. "Many villages in Thatta district are passing life, like stone-age era, due to Sindh government's lethargy as the villagers have been compelled to drink contaminated water and live without electricity facility, which are mandatory in this modern era. ■

Centre wants 20% increase, while Sindh opposes

NEPRA reserves judgment on tariff cut for Thar coal projects

EU Report



NEPRA is in a fix as what to do on government's instruction to increase tariff by 20 per cent of Thar coal power projects while Sindh government and private power companies have opposed a cut in tariff for Thar coal-based power projects, arguing that it would halt investment in the area. During a public hearing conducted by the National Electric Power Regulatory Authority (Nepra) reserved the judgment on a case regarding reduction in tariff of coal-based power projects. The Sindh government and power companies' representatives opposed the cut and said that investment in Thar would stop if such a rule was passed. Sindh demanded that the existing tariff should be maintained for at least two years in order to boost investment in Thar. The representative of Sindh Engro Coal Mining Company (SECMC) said that the cost of power projects would come down significantly if mining capacity reaches international levels at Thar.

SECMC CEO said that they would save \$157 million following increase in coal mining at Thar. He said that seven companies were working to install power plants in Thar block-2 and additional four companies have expressed interest to set up power plants. In order to keep this investment momentum, he requested to maintain the existing tariff. However, the Ministry of Water and Power insists Nepra cut the upfront tariff up to 20% for new Thar coal-

based power projects due to falling costs and interest rates. In a letter to the regulator, the Ministry of Water and Power said that Nepra had determined a high tariff due to multiple reasons. The power ministry further said that after bringing investors to Thar-based power generation projects especially following the China-Pakistan Economic Corridor (CPEC) investments, it is necessary to review the tariff assumptions.

The Ministry of Water and Power has requested, in a letter to the National Electric Power Regulatory Authority (Nepra), up to 20% reduction in upfront tariff for new Thar coal-based power projects, citing falling project costs and interest rates on loans. In its letter, the ministry reminded Nepra that it had determined highly incentivized tariff for Thar coal power plants because of varying reasons. The tariff was kept higher at that time as investors were not too many, interest was lacking due to security concerns and uncertainties dogged infrastructure linkages with the gigantic coal field in Thar deserts including the building of roads and transmission lines as well as water supply. Thalnova Power Thar awarded power generation licence. Another reason was high interest rates on bank borrowing in the country. The power ministry argued in the letter that as investors were now injecting capital into Thar coal power projects, especially in the wake of China-Pakistan Economic

Corridor (CPEC) programme, "it is necessary to review the tariff assumptions".

The cost of machinery for three coal-fired power projects under CPEC has gone down compared to the estimates made while setting the upfront power tariff. "It (cost) is actually at least 10-15% lower than previous estimates," the ministry said. It pointed out that a 10-year loan repayment period for investors had put enhanced pressure on the initial 10-year tariff and suggested that the repayment time frame may be extended to 13 or 15 years in the new tariff determination. The ministry also called for revising the rate of return for investors. Cost of borrowing has gone down as the State Bank of Pakistan's policy interest rate has dropped from 9.5% in 2014 to 5.75% at present.

"This requires matching rationalisation in the Internal Rate of Return (IRR), especially when investment uncertainties over Thar coal power plants have reduced considerably," the ministry said. It stressed that the coal-power tariff should be capped appropriately at rates commensurate with the economies of scale at 20 million tons per year. Although the best option for any competitive tariff is reverse bidding, its applicability to Thar coal power projects is limited. It is because only three sites are available with three sponsors who are licensees of coalmines or their nominees. The most critical limitation in Thar is water availability. The previous tariff has been based on the water cooling system, which will limit the mine-mouth capacity to 3,000-5,000 megawatts of electricity.

It will be detrimental to the development of this strategically important source, if water conservation is not kept in view. The ministry, therefore, suggested that the new tariff should provide incentives for project sponsors to bring the air cooling system along with them, which saves around 80% of the water requirement. The new tariff system should accommodate only those projects that were based on super-critical or better technology and there should be no tariff for plants of lower specifications, it said. These initiatives will bring down the levelised tariff by 15-20%. ■

Wife: Tum Saari Duniya
Mein Dhoondo To Bhi Mujh
Jesi Doosri Nahi
Milegi.....?????

Husband: Tum Kya Samajhti Ho? Main
Doosri Bhi Tum Jaisi Hi Dhoondoonga..! Hadd Ho Gayi..



Dadex to provide clean safe water to the people of Pakistan



"Following our vision of 'Innovation', we are launching the next generation of antimicrobial water pipes in Pakistan. These pipes have been manufactured by using world's latest D2P revolutionary technology, used for the very first time in the plastic pipe industry of Pakistan in collaboration with Business Dynamics. The purpose is to provide clean and safe water to the people of Pakistan". These thoughts were expressed by Mr. Qazi Sajid Ali, CEO & Director Dadex at the launching ceremony of Dadex Antimicrobial Water Pipes.

Mr. Qazi further elaborated that Dadex continues to be the pioneer in the industry by offering superior products. The new Dadex d2p range of pipes is particularly suitable for water treatment plants, schools, hospitals, food processing factories, pharmaceutical industry and water supply systems. "Dadex being the market leader and trend setter in piping industry of Pakistan is committed to water conservation as well as the supply of safe water for the health & well-being of people", he added.

Mr. Danish Dada CEO International Division Dadex, said that for the last 57 years Dadex has been developing innovative technology for the benefit of its customers and the people of Pakistan. Their strength lies in pre-empting the expectations of the people and product demands. The new Microbial contamination build up in water distribution pipes pose a direct risk to Pakistani public health because of water borne diseases. This new product will certainly help in improving the health standards of general public. ■

Zevar-e-Taleem Program Raises Monthly Stipend to Encourage Girls to Study

Punjab Government's new program, called "Zevar-e-Taleem", wants to tackle the lack of girls in secondary schools. The total worth of scholarships to be distributed under this program is Rs. 6 billion.

This was announced by Chief Minister Punjab, Shehbaz Sharif at the Aiwan-e-Iqbal Lahore.

He said: I advise the girl students who will get the scholarship to move forward with energy and vigor, and break the status quo to change the destiny of the country. End the culture of plunder and threat; and you all should work as a movement and redesign the country as per guidelines and aspiration of Quaid-e-Azam and Allama Iqbal. The Punjab government is going to provide a monthly stipend of Rs.1,000 to girls that maintain more than 80% attendance throughout their study year. The step has been taken to encourage girl



students to come to school so that they don't leave their studies midway. Formerly, the incentive amount for regular girl students was limited to just Rs.200.

The stipulated amount can be extracted from any ATM or a registered franchise. It is thought that an estimated 460,000 girls are going to benefit from this program. ■

Philip Morris lends helping hand to acid burn survivors

A countrywide project to help dozens of acid burn victims rebuild their lives through medical



and psychological treatments as well as professional trainings, concluded with a grand prize distribution ceremony held at a local hotel. The ceremony aimed at honouring, encouraging and expressing support for acid burn victims who completed vocational training and self-reliant business education plan. The project was initiated by Depilex Smileagain Foundation which was extensively supported by Philip Morris Pakistan Limited (PMPKL). This larger than life initiative has gone a long way in enabling the burnt survivors to join the mainstream socioeconomic fabric of the society.

Under this project, some 50 burn victims got medical treatment and four psycho-social workshops were held in Punjab, Sindh and Khyber Pakhtunkhwa. As many as 12 victims in each workshop got beautician training, out of which eight survivors got reasonable employments and are running their businesses in the form of beauty saloons. On the occasion Masarrat Misbah, President DSF, outlined the objectives and activities of the organisation. Sekar Menon, Director Regional Corporate Affairs, PMPKL appreciated the successful completion of the project. He met with the beneficiaries and express his views on joining hands with Depilex Smileagain Foundation for the betterment of the acid and kerosene oil burn victims.

Irfan Khoosat and Sajjad Mir the columnist emphasized the importance of vocational training for women empowerment. It is pertinent to mention here that since 2003, DSF is supporting acid and kerosene oil burnt victims through medical treatment, psychosocial support and vocational training for their rehabilitation in society. Some 766 acid and kerosene oil burnt victims are registered with DSF. They are treated without discrimination of cast, creed or religion. Many girls have been treated or are at different stages of the medical procedures. In many cases, a victim has to undergo multiple surgeries depending upon the severity of the burns. ■

PPL announces discovery at ZafirX-1, Gambat South Block

Pakistan Petroleum Limited the operator of Gambat South Block with 65 percent working interest (WI) along with its joint venture partners Government Holdings Private Limited and Asia Resources Oil Limited with 25 percent and 10 percent WI, respectively, has announced a gas discovery at its exploration well Zafir X-1 located in District Sanghar, Sindh.



on March 14, 2017 and reached the final depth of 3,928 meters on April 12, 2017. Based on wireline logs, potential hydrocarbon bearing zones were identified which are under testing. Initial testing in Massive Sand of Lower Goru Formation flowed 29.2 MMscfd gas and 310 bbls/day of condensate at 48/64 inches choke, thus confirming the presence of commercial quantities of hydrocarbons at Zafir X-1.

The well is being flowed at different choke sizes to measure gas flow rates, and the actual flow potential of the well will be determined after completion of the test. ■

IAEA's endorsement for K-2, K-3

IN a landmark development on Wednesday global nuclear watchdog IAEA (International Atomic Energy Agency) approved Pakistan's request for application of safeguards for Nuclear Power Plants K-2 and K-3 being constructed near Karachi. These two units are pressurised water reactors of 1100 MW each and are being acquired from People's Republic of China.



Pakistan is pursuing civil nuclear programme with the objective of bridging the widening gap between demand and supply of energy. It has a plan to produce 8800 MW of nuclear power by 2030 as part of its energy security strategy. Though Pakistan is under no obligation to place its nuclear power plants under IAEA safeguards but still it has voluntarily been subjecting all of its plants to IAEA inspection and reviews. Pakistan approached IAEA for application of safeguards for K-2 and K-3 nuclear power plants strengthening its credentials as a responsible nuclear power that is sensitive to global objectives of non-proliferation. Earlier, at Pakistan's instance, the IAEA completed the key Generic Reactor Safety Review (GRSR) of ACP-1000 nuclear reactors, which Pakistan is installing in Karachi to deal with a dilapidating energy crisis. Such evaluations provide an opportunity to improve safety case based on international standards and experience. This approach and policy of Pakistan not only exposes hollowness of propaganda by vested interests about country's position on the issue of nuclear non-proliferation but also fallacies of claims that K-2 and K-3 could pose any safety risk to Karachi. It has rightly been emphasised time and again that with over five decades of safe, secure and safeguarded civil nuclear programme, Pakistan has always focused on developing a strong safety and regulatory infrastructure and for this purpose it has sought assistance and help from the United States and the IAEA. As PAEC attaches highest priority to safety and security of the nuclear installations and plants, we hope local elements playing in the hands of some foreign powers and lobbies would stop their negative activities and subscribe to the mainstream viewpoint that Pakistan should pursue multi-directional approach to meet its energy requirements. ■

Pakistan is pursuing civil nuclear programme with the objective of bridging the widening gap between demand and supply of energy. It has a plan to produce 8800 MW of nuclear power by 2030 as part of its energy security strategy. Though Pakistan is under no obligation to place its nuclear power plants under IAEA safeguards but still it has voluntarily been subjecting all of its plants to IAEA inspection and reviews. Pakistan approached IAEA for application of safeguards for K-2 and K-3 nuclear power plants strengthening its credentials as a responsible nuclear power that is sensitive to global objectives of non-proliferation. Earlier, at Pakistan's instance, the IAEA completed the key Generic Reactor Safety Review (GRSR) of ACP-1000 nuclear reactors, which Pakistan is installing in Karachi to deal with a dilapidating energy crisis. Such evaluations provide an opportunity to improve safety case based on international standards and experience. This approach and policy of Pakistan not only exposes hollowness of propaganda by vested interests about country's position on the issue of nuclear non-proliferation but also fallacies of claims that K-2 and K-3 could pose any safety risk to Karachi. It has rightly been emphasised time and again that with over five decades of safe, secure and safeguarded civil nuclear programme, Pakistan has always focused on developing a strong safety and regulatory infrastructure and for this purpose it has sought assistance and help from the United States and the IAEA. As PAEC attaches highest priority to safety and security of the nuclear installations and plants, we hope local elements playing in the hands of some foreign powers and lobbies would stop their negative activities and subscribe to the mainstream viewpoint that Pakistan should pursue multi-directional approach to meet its energy requirements. ■

Focus on youth essential for economic growth



Pakistan's youth cohort makes up over 60 per cent of the population, providing Pakistan an opportunity to leverage their strategic position to enhance the country's economic growth; this was the main focus of the speakers at the university town hall on "Pakistan's Youth Bulge: Breaking the Growth Ceiling" held by Jinnah Institute at the Pakistan Institute of Development Economics in Islamabad.

Starting the dialogue, Qazi Azmat Isa of Pakistan Poverty Alleviation Fund indicated that Pakistan has not invested in citizens, and has failed to provide them with basic services such as education and health. He added that the main predicament facing the nation's growth is the exclusion of women and minorities from actively partaking in the state's economy. Dr. Asad Zaman, Vice Chancellor of PIDE discussed the large potential of the youth cohort, asserting that each individual must work independently for social gain, in order to collectively make a difference in Pakistan's growth.

Haroon Sharif highlighted the presence of an economic and demographic trap in Pakistan, however he noted that demography alone does not lead to economic growth. Using regional countries as comparison, Sharif asserted the importance of policies and reform to maximize growth potential. For example, establishing an incentives structure for the human development of youth, and focusing on job creating sectors will assist in breaking the economic growth ceiling.

The policy dialogue was followed by an interactive Q and A session moderated by Syed Hassan Akbar, Director Jinnah Institute. The audience questioned the space and opportunity available to youth in policy-making areas. Students felt that decisions for upcoming generations are being made without any input from citizens under the age of 30. The audience also asked the panel why the 'youth bulge' is frequently associated with unrest, and how democratic processes can be amended to be more inclusive.

The session concluded by specifying that the youth policy in Pakistan is not implemented to its full potential. On the whole, Pakistan's economy is lagging almost 20 years behind regional counterparts. Improving access to finance and promoting networks to enable innovation are examples of policy areas which can catalyze youth transition to leadership positions, allowing greater access to economy, and ultimately breaking through the growth ceiling. ■

NEPRA to take action against KE for prolonged outages

The National Electric Power Regulatory Authority (Nepra) has decided to initiate legal proceedings against K-Electric over frequent breakdowns and extended load-shedding in May 2017. According to the media, Nepra said in a statement, the prolonged load-shedding also continued in Karachi in the month of Ramazan. The regulator took notice of the events and sent letters to K-Electric for comments.



Major power breakdown hits Karachi again

Nepra took the decision after its team visited different areas of K-Electric, conducted a survey of consumers and inspected the record and log books of 132-kwh grid stations. It noted that consumers were experiencing prolonged unscheduled electricity outages for more than 16 hours a day in a number of areas. It also observed that a weak and fragile distribution system was one of the reasons of unscheduled load-shedding and consumers were suffering due to voltage fluctuations. On its part, K-Electric told Nepra that the company's generation resources, which included its own power plants, outside generation sources (independent power plants) and import from the National Transmission and Despatch Company, were barely adequate to meet the demand of consumers. Its projects included six units at the Bin Qasim-1 plant, which due to their age were more prone to fault and tripping. It said gas availability and pressure had affected the overall generation, particularly the KGTPS and

SGTPS (Korangi and Site gas turbine power stations) had been forced to operate at lower than available capacities due to low gas pressure.

K-Electric, however, said power generation was expected to improve by 2018 as the company had planned to add a new plant of 450 megawatts based on re-gasified liquefied natural gas (RLNG). In the statement, Nepra also pointed out that the Sindh High Court had directed the regulator on May 29, 2017 to ensure

that K-Electric complied with the court instructions. In compliance with the court order and considering complaints of the general public and media reports, Nepra reviewed the implementation of its directives communicated on March 25, 2016. In the directives, Nepra had told K-Electric to provide electricity for all consumers without any discrimination, who meet the eligibility criteria and are neither defaulters nor involved in electricity theft.

Criminal cases should be lodged against K-E, demands PSP

It also told K-Electric to provide accurate and timely information to the regulator and increase the generation capacity as well as improve the transmission and distribution system in accordance with the company's investment plans. K-Electric was also required to complete all indicated investment plans within the timelines and file quarterly reports to the regulator. ■

PSO inks agreement with Pakistan Railways

Pakistan State Oil (PSO), has signed a major Fuel Supply Agreement with Pakistan Railways under which PSO will meet Pakistan Railways' fuel and lubricant requirements in all of their entirety.

After a stringent, transparent and competitive process, PSO successfully secured the contract of supplying High Speed Diesel (HSD), Furnace Oil (FO), Lubricants and Greases business for a five-year period to Pakistan Railways.

The agreement was signed by General Manager Lubricants & Chemicals PSO, Mr. Qasim Zaheer and Chief Controller of Purchase Pakistan Railways, Syed Mir Badshah. Present at the signing ceremony were Managing Director PSO, Mr. Sheikh Imran-ul-Haque, Minister Railways, Mr. Khawaja Saad Rafique, Minister of Petroleum and Natural Resources, Mr. Shahid Khaqan Abbasi and various other senior executives from both the organizations.

Khawaja Saad Rafique, Federal Minister for Railways said, "Pakistan Railways is working for long term agreements with big national and international suppliers to make the system effective. The Fuel Supply Agreement between Pakistan Railways and PSO is not only cost effective but also help to reduce the repetition of work."



Pakistan State Oil

Expressing his views on the occasion, Mr. Shahid Khaqan Abbasi, Minister of Petroleum & Natural Resources stated that, "I am positive that the agreement will enable both the national organizations, PSO and Pakistan Railways, to enhance their role in the process of national development and contribution to the national exchequer. I look forward to witnessing these two organizations working together to ascend to greater heights."

PSO has put forth and offered these significantly superior quality fuels, lubricants and greases at the most economical of packages to Pakistan Railways for their entire range of engines and machineries at all locations nationwide. The highest quality PSO fuel would undoubtedly result in better performance of Railways engines including the latest fleet of new and efficient locomotives that it purchased recently. This will further bring savings of millions of rupees to Pakistan Railways and the national exchequer.

Sheikh Imran Ul Haque MD PSO stated "Not only will PSO be providing Pakistan Railways with unmatched quality and quantity of fuels and lubricants, but it will also be providing them a hassle-free one-window solution for their entire fuel and lubricant requirements." ■

Punjab has 597 million tons coal reserves

By Muhammad Usman Zafar



Coal is one of the major source of energy around the globe and it produces around 41% of the world's electricity. When we talk about coal in Pakistan, we have 186 billion tons of coal. That is the largest coal reserve in Pakistan, having 175 billion tons of lignite coal with less than 10% ash and around 1% sulfur. Coal reserves in Punjab were re-estimated by mines and minerals department Government of the Punjab through an Australian consultancy firm SNOWDEN in 2010-2012. The report says there are around 597 million tons of coal resource in Punjab.

Coal deposits in Punjab are mainly found in the areas of the Salt Range and Trans-Indus Range. Salt range is an East-Northeasterly trending mountain front abruptly rising from the plains of Punjab. Trans-Indus Range lies on the western side of the river Indus. Coal is present in four districts of Punjab Chakwal, Khushab, Jhelum and Mianwali. Punjab coal is from lignite to sub-bituminous rank. Considering about the quality of coal it is high sulfur and high ash coal. Ash contents varies from 25-45% and sulfur is between 2.5-8%. Ash fusion temperatures of Punjab coals are high. For utilizing the resource in 21st century, we have best options available in terms of technology selection. If we talk about pre-treatment, there are excellent technologies available in the world.

These technologies are fully developed and commercially available and are being utilized commercially in many countries. Considering about coal combustion better technologies are available like High efficiency Low emission technologies (HELE Technologies). We have critical, super critical, ultra super critical technologies available with high efficiencies around 39-42%. Technologies like Integrated gasification combine cycle (IGCC) are also available which are more efficient and much more environmental friendly. The only issue with them are cost, till date they are expensive but in near future hopefully they will be affordable. Environmentalists are not yet satisfied by the clean coal technologies but the fact is emission control systems like flue gas desulfurization systems (FGDs), for particulate matter electrostatic precipitator (EPs), and other technologies are available and now it's an integral part of a power plant. Low NOx burners, air and fuel staging to control SOx and NOx are also utilized by many power plants.

In my opinion power generation is, and never was an issue. The only issue is sustainable supply of indigenous coal. Current coal production of Punjab is around 0.935 million tons (2015-2016) which is not enough. The issue lies in mining of our resources. Currently mining characterized by small scale operations with low productivity. Minimal mechanization with little or no detailed exploration is done. Mining is being done on hit and trial method. There is a shortage of technical staff - geologists,

mining engineers and skilled labor in the field. Due to which we are left with low productivity.

There are some technical challenges in mining of Punjab coal as well and those are we have thin and irregular seam in Punjab, Water zones impeding access to coal, Structural variations in geological formations. In my opinion academia should step forward to solve above challenges. In mining there are some other issues as well which can be solved by proper management and policy making like migratory labor, Lack of sustainable demand of coal, Lack of infrastructure and lack of technology development in mining sector. Conclusion and way forward should be Semi Mechanical Mining to increase Production, Coal Processing to clean high sulfur and ash reduction, coal blending with imports, selection of best technology for cleaning and power generation. In my opinion best business model will be "Integrated Coal Processing and Power Plant at Mine Mouth". Last but not least, research institutes should work to develop some commercial technologies which can be utilized in mining and power sector of Pakistan. ■

Pakistan signs Sustainable Energy Sector Reform Program with ADB

The Finance Minister, Senator Mohammad Ishaq Dar, witnessed the signing of loan agreement between Government of Pakistan and Asian Development Bank (ADB) for the financing of the Sustainable Energy Sector Reform Program (Subprogram III) amounting to \$300 million at the Ministry of Finance on Friday. Mr. Tariq Pasha, Secretary, Economic Affairs Division (EAD), signed the Loan Agreement with Ms. Xiaohong Yang, Country Director, ADB. The principal objectives of the said program are to improve the reliability, sustainability and affordability of the government's energy sector in order to support economic growth. The reform program will help in improving the financial viability of the power sector by better managing tariff and subsidies, improving sector performance and opening the market to private participation. This will result in better transparency and accountability of institutions in the power sector. Speaking on the occasion, the Finance Minister congratulated ADB, EAD and Finance Division on successful negotiations leading to the signing of loan agreement. He expressed appreciation for ADB's continued support and partnership with Pakistan, including in the energy sector. The Finance Minister reiterated the government's determination to resolve the issue of energy in Pakistan. He said that additional electricity will be added to the national grid by early 2018 through completion of ongoing projects, which will significantly reduce load-shedding. ■

Ultimate Logical Statements

Chhoti si Fish ne Apni Maa se Poocha : Hum Paani mein kyon rehte hai, zameen pe kyon nahi rehte?
Mummy Fish sweetly replied: Hum Fish hai isliye Paani mein rehte hain, Zameen par to sab "selfish" rehte hain!!!



Nishat Group to introduce electric, hybrid cars

Nishat Group, which has recently entered into an agreement with Hyundai Motor Company to set up a car assembly plant in Pakistan, is planning to introduce electric and hybrid passenger cars.

"The (South) Korean carmaker wants to first start the assembly of small cars that could compete with the existing (Japanese) assemblers already operating in this market," Nishat Group's chairman Mian Mansha told.

"We are discussing with them... trying to convince them to also bring electric and hybrid cars. I see (that) the future is in electric cars," he said. "We could import these cars in the beginning and later also start assembling them locally."

Mr Mansha is investing \$120m in the project that will be set up in an industrial zone near Faisalabad. "We already have acquired land for the plant," he said in reply to a question.

Nishat Group will have 42 per cent stake in the new company with Millat Tractors holding 18pc and a Japanese firm 10pc. The remaining shareholding will be offloaded on the country's stock market.

Lured by incentives offered under the 2016 Auto Industry Development Policy (AIDP) to attract new, non-Japanese carmakers to the Pakistani market, Nishat Group is the country's third major business group to have shown intentions of setting up a car assembly plant in collaboration with a foreign carmaker.

Lucky Cement, a company owned by one of Pakistan's largest business conglomerates Younus Group, has partnered with Kia, yet another Korean car brand, to assemble cars as well as commercial vehicles in Karachi. Besides, French carmaker Renault plans to invest \$100m in the Ghandhara Nissan plant to bring its brand into Pakistan.

"We are working on the project. It will take some time to finalise all the details," Mohammad Ali Tabbā, the chief executive officer of Younus Group told this reporter a couple of weeks

ago. With non-Japanese car brands coming to Pakistan, the existing Japanese brands are said to be bracing for competition and investing in new variants and models as well as improve the quality and passenger safety features of their vehicles in line with global standards.

Analysts say the increasing car sales that grew to more than 275,000 units, including the used and new imported cars, sport utility vehicles, etc, coupled with the attractive incentives for new players announced in the new auto policy last year is encouraging new brands to explore their luck in the Pakistani market. Pakistan's market is expected to grow to half a million units by 2025.

"Hyundai and Kia have been to Pakistan before they had to wrap up business in the late 2000s after global recession hit the world and Pakistan, triggering economic slowdown," a financial analyst said.

"The positive thing about their comeback plans is that they are partnering with reputable local business groups with deep pockets. This shows their resolve to stay in this market for a long time." ■



London LPG-powered cab in final testing stages

Autogas Ltd, the Warwickshire-based converter of vehicles, is reportedly in the final round of assessments with Transport for London for LPG taxis. According to a story on Fleet-News.co.uk, Autogas' LPG powered taxi has now started its final 10,000 mile technology assessment on the streets of London which will recreate the same conditions and typical drive cycles it will eventually encounter when in use.

Paul Oxford, business development manager at Autogas, told the website: "London, like many other cities and towns across the UK, has a major air quality problem, largely as a result of NOx emissions and particulate matter from diesel vehicles. Giving taxi drivers an immediate and viable opportunity to switch to a fuel source that is much cleaner than die-



sel will not only help improve local air quality, but it will also extend the usable life of their cab for another five years and save them around £200 a month in fuel costs, so it really is a win-win situation for everyone."

Under the scheme, older taxis will have their diesel engine replaced with a General Motors' two-litre petrol engine with full LPG conversion.

"If successful, London will follow the lead of Birmingham who has already introduced more than 60 LPG powered taxis onto its streets in a bid to clean up air quality," added Oxford. ■

What is the difference between "I like you" and "I love you"?

When you like a flower, you just pluck it. But when you LOVE a flower, you water it daily. One who understands this, understands LIFE...

— Unknown

Type YES if you agree.

www.energyupdate.com.pk

Astola Island has been declared as Pakistan's first ever Marine Protected Area

The Astola Island has been designated as Pakistan's first-ever Marine Protected Area. The notification in this regard has been issued by the Government of Balochistan on June 15, 2017.

While hailing it a historic milestone, IUCN Country Representative, Mr. Mahmood Akhtar Cheema said that this could not be achieved without the concerted efforts led by the Secretary, Ministry of Climate Change, the Inspector General Forest and other senior officials under the policy guidance provided by the Federal Minister of Climate Change, Mr. Zahid Hamid, who had put tireless efforts towards building stakeholders consensus and completing volumes of very complex formalities to make this happen. This designation may not have been possible without the support of Government of Balochistan, especially the Chief Secretary, Additional Chief Secretary, and the Secretary Forest & Wildlife Department and his team including the Additional Secretary Forest & Wildlife Department and the office of the Chief Conservator of Forests.

He further said that it is a great achievement being a first major policy step towards protection and conservation of the marine life and under the leadership of the honorable Minister for Climate Change, we will soon be able to move get other potential sites designated as marine protected areas in the days to come

The Astola Island is located approximately 25 km off the coast of Balochistan province, and is Pakistan's largest offshore island spanning 6.7 km². The island is ecologically important as



its beaches provide nesting ground for the endangered green turtle and hawksbill turtle, while also supporting a large variety of migratory birds. The Astola saw-scaled viper is endemic to the island. While treeless, due to the absence of a fresh water source, the island's vegetation consists of scrubs and large bushes. The island's marine ecology supports a variety of corals, creating a breeding ground for a vast range of marine species.

The target 11 of Aichi Biodiversity Targets agreed by all parties to the CBD in 2010 specifies that each party has to declare at least 10% of its coastal and marine areas as Marine Protected Area, especially the areas of biodiversity significance and ecosystem services. Further, Sustainable Development Goals (SDGs) agreed by UN General Assembly in September 2015 call for conservation and sustainable use of the oceans, seas and marine resources for sustainable development (SDG 14).

He appreciated the catalytic role played by IUCN Pakistan, and its team, especially the Mangroves for the Future (MFF) programme, for their continuous efforts towards this declaration.

He explained that in 2015, the National Coordinating Body (NCB) of Mangroves for the Future Pakistan headed by the Ministry of Climate Change, Government of Pakistan constituted a Working Group for identification of potential sites for MPA designation in Pakistan. Subsequently, a motion (# 055) submitted by a PNC member (Indus Earth) from Pakistan was adopted at the IUCN World Conservation Congress 2016 calling for declaration of Astola Island as MPA in Pakistan.

He also highly appreciated the role of the IUCN-MFF, the Ministry of Climate Change, the Government of Balochistan, Ministry of Defence, Pakistan Navy and other stakeholders have been working together towards having a marine protected area declared in the country. ■

Pakistan-owned wind power project starts production

The first Pakistan-owned early-harvest wind power project constructed under the China-Pakistan Economic Corridor (CPEC) framework has started commercial operation after passing required assessment. The 49.5MW facility developed by Sachal Energy Development (Private) Limited over 680 acres of land in the Jhimpir Wind Corridor in Sindh province was wholly financed by the Industrial and Commercial Bank of China. The success of the project sets a good example for the construction of CPEC and the "Belt and Road" initiative, according to Global Times. Sachal Energy is a wholly owned subsidiary of Arif Habib Corporation Limited, one of the largest private sector conglomerates in Pakistan. It has received formal notification from the Central Power Purchasing Agency (Guarantee) Limited. The company is committed to supplying electricity to the national grid through the National Transmission and Dispatch Company for 20 years under an energy purchase agreement.

The project comprises 33 wind turbine generators manufactured by Goldwind of China whereas HydroChina is the engineering, procurement and construction (EPC) as well as operation and maintenance (O&M) contractor of the project. It is the first project that has received Sinosure-backed financing and has been 100% financed by the Industrial and Commercial Bank of China. Pakistan and China have signed \$57-billion worth of energy and infrastructure projects under the CPEC framework. The bulk of the investment is going to the energy projects, including renewable and clean energy to bridge the energy shortfall. ■



**Luxury and Lies have huge maintenance costs.
But..
Truth and Simplicity are self maintained without any cost.**

ORGANIZER



EVENT MANAGER



8th

IEEEP FAIR 2017

PAKISTAN'S PREMIER Electrical & Electronics Industrial Exhibition

ALSO SHOWCASING
TELECOM, COMPUTER, BIOMEDICAL AND ALLIED TECHNOLOGIES

August 1 - 3, 2017
Karachi Expo Centre, Pakistan

www.ieeepfair.com

CREATING SYNERGIES



Platinum Sponsor



Baham Associates (Pvt) Ltd.



TRUSTED NOT TO COMPROMISE

Gold Sponsor



Autonics
Sensors & Controllers



We build a better future
HYUNDAI
HEAVY INDUSTRIES CO.,LTD.



Silver Sponsor



Bronze Sponsor

Tel: (+92-21) 34821159-60 Fax: (+92-21) 34821179 Cell: (+92-322) 9292 916

Email: info@ieeepfair.com



HEALTH SAFETY & SECURITY

EXPO

PAKISTAN

FIRST INTERNATIONAL

HEALTH SAFETY
& SECURITY EXPO

2017

INTERNATIONAL EXHIBITION & CONFERENCE

26th & 27th July 2017

Karachi Expo Center

FOR STALL BOOKING & CONFERENCE REGISTRATION

+92 21 34386655 - 34389911



+92 3212617833



info@therealtimes.com.pk

Supported By



Event Organizer

theRealTimes
Exhibition Company

Media Partner

TRIBUNE



The SUNDAY
CLASSIFIEDS

Energy
UPDATE

www.safetyandsecurity.expo.org.pk



Global House of Herbal Products

Pakistan's leading manufacturer and supplier of herbal supplements and natural herbal healthcare products.



hamdard.com.pk

FG-BLUE COMMUNICATIONS



A new era in the national shipping



**Pakistan National
Shipping Corporation**
The National Flag Carrier
Committed to Professional
and Quality Services.

P.N.S.C Building, Moulvi Tamizuddin Khan Road, P.O. Box No. 5350, Karachi, Pakistan.
Fax: 99203974, 35636658, Email: communication@pns.com.pk Website: www.pns.com.pk