

MONTHLY

ENERGY UPDATE

ISSN 2309-6578

Circular Debt becoming monstrous

SPECIAL REPORT
**2nd Int'l Wind Energy
Summit 2017**

Criminal coal

K-Electric's fleecing the consumers

Pakistan looks towards wind energy

Exclusive Interviews



Khalid Subhani
CEO, ThalNova



Alvaro Bilbao
CEO, Siemens Gamesa



Farman Lodhi
CEO, Hawa Energy

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January 18, 2018 at Serena Hotel, Islamabad

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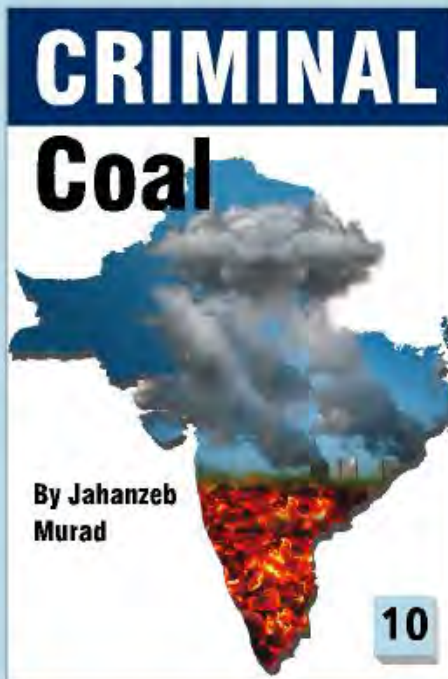


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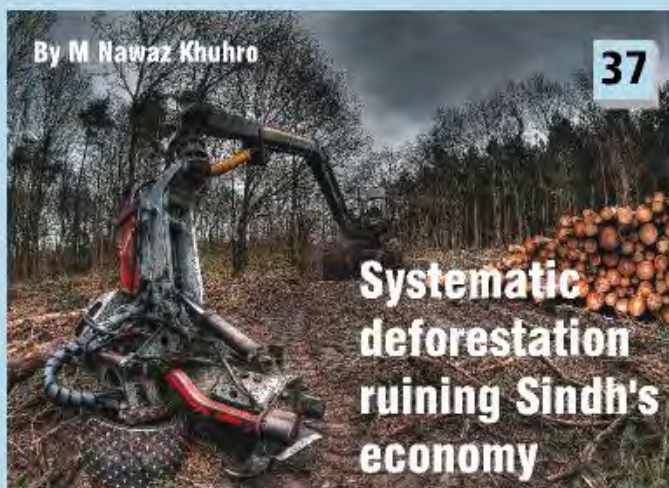
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From the editor's desk...

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Circular Debt, haunting again

The news of circular debt rising again to the higher levels creates confusion about the performance of the sector and uncertainty about sustainability of the improvement achieved so far.

Circular debt was officially defined by the Economic Coordination Committee (ECC) of the Cabinet in 2014, in the following words:

"The circular debt is the amount of cash shortfall within the Central Power Purchasing Agency (CPPA), which it cannot pay to power supply companies. The overdue amount is a result of: (a) the difference between the actual cost and the tariff determined by National Electric Power Regulatory Authority (Nepra) which is the distribution company's loss over and collections under that allowed by Nepra, (b) the delayed or non-payment of subsidies by government, and (c) delayed determination and notification of tariffs. It is the government's policy to reduce, limit to a certain amount which would be reduced over time, and eliminate the causes of the circular Debt." (National Power Tariff and Subsidy Policy guidelines 2014).

In simple words, the issue of circular debt is related to cash flows in the power sector, which are affected by the performance of the distribution companies (Discos) in terms of their collections and line losses as well as the decisions relating to tariff determination by the regulator (Nepra) and subsidy budgeting.

The cash flows, needed to run the power generation units, are to be collected from the consumers who can only be charged up to the extent of tariff determined by Nepra. The regulatory body determines 11 different tariffs for consumers of 11 Discos, depending on the conditions in each one of them.

The government changes the determined tariff in two ways: It asks all the Discos to charge the lowest of these 11 tariffs, as uniform national tariff, the difference to be paid by the government as subsidy. For instance, if the average tariff for all state-owned Discos is Rs12 a unit and the minimum determined tariff for a Disco is Rs10 a unit, the federal government would pick up the difference of Rs2 a unit as tariff differential subsidy (TDS).

Secondly, in pursuance of its socio-economic objectives, the federal government (and in case of agricultural consumers, some provincial governments as well) further reduce this uniform tariff for certain categories of consumers (agricultural, industrial, Fata, Balochistan, AJK) and undertake to pay the difference as subsidies to the distribution companies (Discos).

The former Secretary, Ministry of Water, Younus Dagha had suggested various measures to overcome the burgeoning circular debt to the government that all the three elements of power sector cash flows have to make their contributions for the smooth sailing of the sector. The performance by the power companies must sustain the improvements achieved in 2015 and 2016 and further consolidate it; tariff setting by the regulator must be based on ground realities, not on idealistic assumptions; and subsidy budgeting should be according to the quantum of benefits passed on to various consumers by Discos under government policies. Unless this happens, the circular debt cannot be wished away. The federal government instead of taking these measures have transferred the then secretary and the circular debt has once again piled up to a record level. Government continues to borrow the money to pay the debt and the consumers will have to pay the brunt of interest on this loan.

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Circular Debt becoming monstrous

PML-N govt has miserably failed to resolve the issue

By Sajid Aziz

The menace of Circular Debt is once again hovering to an alarming level as they have reached to over Rs700 billion, this time it has become the history's largest ever negating all the tall claims of good governance by the PML-N government. As a matter of fact, this is the bad-governance to the highest level and negligence at the worst by the power corridors in Islamabad.

Despite tall claims of good governance by Pakistan Muslim League-Nawaz (PML-N) government, the menace of circular debt has accumulated to a monstrous Rs730 billion, which is largest ever by any government had.

The level of circular debt has been hitting a record level largely due to accumulation of arrears in the power sector; however, the incumbent regime instead of admitting failure to control the circular debt used to claim that the government has been successful to control the threat of circular debt that may be visible from the fact that all plants (power) are operating and no one is closed due to nonpayment or non-availability of fuel, this is an eye-wash.

Though it is fact that industries are not facing load shedding, the generation capacity is increasing and duration of power

outages has also been witnessing drastic cut by virtue of continuous increase in electricity demand. However, the menace of circular debt has gone beyond to the level the much criticised PPP government had during its tenure 2008 to 2013. And, it is also feared that the PML-N government might leave larger circular debt burden for the next government than the former PPP government has done in the past.

Circular debt has stood above Rs729.9 billion till October 2017, as it had reached at Rs 411 billion on June 30, 2013, Rs 512.9 billion on June 30, 2014, while it was at Rs 633.2 billion on June 30, 2015, and Rs 684.1 billion on June 30, 2016.

Similarly, the detailed breakup compiled by the government, the amount which was outstanding under the head of circular debt to the federal government by power plant during said period, it has gone beyond Rs379 billion. As on June 30, 2017, it was at Rs379 bn, Rs321 bn on June 30, 2016, Rs313.1bn on June 30, 2015, while it stood at Rs265.5 bn on June 30, 2014, and Rs

207.1 bn on June 30, 2013, said documents.

According to details of the document, the amount paid to power plants till June 30, 2017, total payment to the gas-run

Gencos (Mari (Genco-II), PPL (Genco-I), SNGPL (Genco I-II-III), SSGCL (Genco-I-II-III)) was Rs 74,292 million against a billing of 83,094, as outstanding amount of Rs 8,802 mn was left pending. Similarly, only Rs 74,292 mn was paid to oil-run power plants of Gencos-i-ii-iii (PSO) against a billing of 179,216 and left pending the outstanding amount of Rs 82,172 mn. Likewise, Rs 296,786 mn was paid to HUBCO, KAPCO, AES (Pakgen), SEPCOL, Japan, Liberty, Uch, Rouch, Fauji, Habibullah Altern, Cavis Energy against total billing of 463,674 and left an outstanding amount of Rs 168,089 mn pending.

In the same way, Rs 236,947 mn payment was made to AGL Powers, HUBCO Norowal, Atlas Power, Nishat Power, Nishat Churian Power, Liberty Power Tech, Chiniot Power, Saif Power, Sapphire Electric Power, Halmore Power, Engro Power, Foundation Power, Uch-ii, Laraib Power, FFC Energy, Zorlu Energy, JDW Sugar Mills Unit-II, JDW Sugar Mills Unit-III, Three Gorges First, Foundation Energy, Foundation Energy, RYK Mills, Quaid-e-Azam Solar on June 30, 2017, against the billing of 297,312 and left pending outstanding amount of Rs 60,366 mn. Furthermore, Chashma (Nuclear) Plant 1, 2 & 3 received Rs 28,047 mn against total billing of 38,070

and in this way left outstanding arrears of Rs 10,023 mn. Besides, payments to other sources of electricity like hydel (WAPDA), Iran etc were Rs 186,174 mn against a billing of 236,750 and left Rs 49,576 mn outstanding amount pending. In this way, the government has paid Rs 918,288 mn against the total billing of 1,297,315 and left the outstanding amount of Rs 379,027 mn pending on June 30, 2017.

Last but not least, the receivable position of Pakistan State Oil (PSO) is not presenting a rosy picture as the receivables currently stand above Rs 290 bn due to pending arrears of power sector, PIA, LNG etc. The power sector receivables of PSO are above Rs 260 bn, while Rs 15.6 bn is of PIA and Rs 6.8 bn is of liquefied natural gas (LNG) supply.

Officials of Energy Ministry earlier conveyed to the former Prime Minister that though the issue of low power production has been resolved to some extent, however, circular debt issue cannot be solved or parked without rationalising the electricity tariff. And, rationalisation of tariff should be done by Energy Ministry instead of NEPRA.

Sharing details of tariff rationalisation plan, official sources at Energy Ministry on condition not to be named said that the government will now table amendments in NEPRA as before the parliament for necessary approval. And, after getting the legislator's nod, the proposed amendment will become part of the NEPRA Act.

As a result of such amendments in NEPRA Act, the Energy Ministry will rationalise the tariff at first stage and later it will determine the new tariff. They said the power consumers will pay Rs3.50 per unit in the name of tariff rationalisation. The tariff rationalisation is to be done in a bid to reduce the burgeoning power sector circular debt which currently stands at Rs729 bn and to run the power generation plants at full capacity during the period of next general election 2018 in the country.

It is pertinent to mention here that when the PML-N government took charge of affairs in 2013, it made a lot of noise over the alarming levels of circular debt that had been accumulated in the power sector, which itself was not incorrect since the preceding PPP government had left the incoming government with a Rs480 bn mess to deal with.

And, after assuming the powers, PML-N wiped clean almost Rs500 bn of circular debt in one (unaudited) payment back in June 2013, and claimed that it had planned to eliminate the circular debt within days and it would do everything to bring the economy back on track and not allow the debts pile up.

The ruling PML-N government might face severe criticism from political parties and public as well during the next general elections as the present regime has miserably failed to resolve this ticklish issue. ■

15 wind power projects have become operational

Government of Pakistan is taking serious measures to harness the available Renewable Energy (RE) potential of the country to diversify its energy mix and ensure energy security and sustainable development in the country. In this regard, Alternative Energy Development Board



(AEDB) is the focal agency mandated with the promotion and development of Alternative & Renewable Energy Technologies in the country. AEDB has been pursuing the development of Alternative and Renewable Energy (ARE) based power projects through private investors under RE Policy 2006. The board is also pursuing the development of bagasse based co-generation projects through the sugar mills under the Framework for Power Co-generation (Bagasse/Biomass) 2013.

On-grid project status: At present, a total of 15 wind power projects of 788.5 MW cumulative capacity are operational and providing electricity to the grid. Whereas, another 9 wind power projects of 445 MW have achieved Financial Close and are under construction. Similarly, 4 solar projects (100MW each) of 400 MW cumulative capacity are operational and 2 solar projects of 30 MW cumulative capacity are under construction.

In addition, 5 sugar mill-based bagasse co-generation projects of 160.1MW capacity are operational and 30 bagasse co-generation projects of 1193.3MW cumulative capacity are under development. With this, the total installed capacity of RE-based power generation projects would reach up to 2626MW by December, 2018. Further, new wind power projects of approx. 1200MW capacity and solar power projects of at least 1400MW capacity each are being planned to be developed through competitive bidding by 2019-2020. Presently more than 3.0 billion dollar investment is engaged with wind energy sector of Pakistan.

Resource mapping: AEDB in cooperation with the World Bank in implementing a renewable energy resource mapping activity covering the entire Pakistan. The project is funded by World Bank's Energy Sector Management Assistance Programme (ESMAP) and focuses on the assessment of wind, solar and biomass resources, including ground-based data collection, GIS analysis, and geospatial planning. Presently Nine (9) solar data stations and twelve (12) wind masts are installed at different locations across all the provinces of Pakistan, which are supplying data continuously on daily basis.

Based upon the ground-based data received through solar data stations, the latest version of solar maps are developed first time in Pakistan. These solar maps give an overall idea of power generation potential in the country based upon solar energy resources. Regarding wind energy resources in the country, the wind data is being collected through installed wind masts and the wind maps are expected to be released by next year. ■

Not Easy to be a Teacher!!!!



TEACHER: John is climbing a tree to pick some mangoes. (Begin the sentence with Mangoes)
Student: Mangoes, John is coming to pick you.

TEACHER: What do you call mosquitoes in your language?
Student: We don't call them, they come on their own.

TEACHER: Name the nation people hate most?
Student: Exami-nation.

TEACHER: One day our country will be corruption free. What tense is that??
Student: Future impossible tense.

Criminal coal

By Jahanzeb Murad

Pakistan was having many threats from its neighbouring country, India and now another serious threat is the carbon emission that is badly hurting the skies of Punjab. One could imagine that the entire EU, including the UK, has contributed around nine percent to global carbon emissions while India alone is responsible for seven percent during previous years. Apart from water politics, Pakistan may also have to pay an environmental price for not having responsible neighbours. The thick layer of smog that blankets Punjab's skies these

Pakistan having serious threat from India's massive carbon emission

days is an example of this environmental cost. Although the smog in New Delhi is equally appalling and can be attributed to the coal consumption within and around the city, the coal-based industries and power plants across the border in Indian Punjab and Rajasthan are the key sources of the pollution that have triggered the smog in Pakistan. Pakistani planners are equally absurd in their approach to learning lessons and adopting strategies. A discourse about the importance of pollution prevention is often considered to be a foreign agenda.

Lahore has recently been ranked in the fourth position among the 10 worst cities for smog. Pakistan already ranks in the seventh position among the ten countries that are vulnerable to climate change. Besides other climate change vulnerabilities, air pollution has detrimental health effects on the country's population. It is estimated that more people have died across the world due to air pollution in recent years than through AIDS, malaria, diabetes or tuberculosis.

Globally, at least 35 percent of the overall emissions come from the energy sector, particularly from the coal-fired power plants. Global coal consumption has been reduced by around two percent during the last year. China, which uses half of the coal consumed globally, has reduced its coal consumption by over one-and-a-half percent. In the UK, coal demands have fallen by 52.5 percent.

Unfortunately, Pakistan's coal market is destined to increase manifold and mostly from the imported sources. The federal and provincial governments are aggressively working on new power projects. Over 19,000 megawatts will be added into the power grid by 2024 through private

sector investments via PPIB. Of this, over 14,000 MW will be generated from majority-imported thermal resources, with over 9,000 MW from coal.

Only around 4,000 MW will be generated from the indigenous hydropower potential. Around 70 percent of Chinese investment through CPEC has been allocated to the energy sector. Of this, a majority of the investment has been in the coal market. Apart from the large economic burden on consumers, the environmental situation may worsen and become irreversible as a consequence.

Technological advancements have significantly improved the situation in the Western world by reducing emissions and the world is phasing-out old technologies. But there is an incremental cost for adopting such solutions for poor countries. Adopting these new technologies will make coal even more expensive and economically less viable. Coal-lobbying energy ex-

costs about seven cents. Coal tariff is further subjected to global oil prices and the current tariff is in this honeymoon period due to global oil price recessions. It is expected to further increase as the global market recovers. The use of super-critical and other advanced technologies will further increase the cost. There has also been some progress on indigenous coal. But most of the plants that are under construction are based on imported coal.

Furthermore, the average life of a typical hydropower plant is 80 years. The current cost of hydropower is seven cents for 30 years of levelised tariff. However, the fundamental concept that our so-called energy experts hide from decision-makers and the public is that the real benefit of hydropower comes after 30 years when the tariff drastically reduces to nearly one cent for the next 50 years. Mangla and Tarbela are examples. There is no comparison of coal with any other technologies. The world is now shifting towards wind, solar and other renewable sources of energy.

Wind and solar energy costs up to five cents but are neglected technologies in Pakistan for reasons unknown.

Pakistan is home to natural and clean renewable resources. Gilgit-Baltistan alone is home to clean energy and approximately more than 40,000 MW of hydel potential has already been identified by various studies. The major projects which have been identified show that the construction of just three run-of-the-river projects on River Indus can significantly address the power needs of Pakistan while improving the energy mix status of the country.

The environmental effects are beyond political boundaries. It takes a regional and global approach to prevent these repercussions.

The severity of energy demands that envisage quick fixes, such as opting for non-indigenous and non-renewable resources, have to be reduced substantially. But a similar situation can reemerge after a few years if the focus on the sector is withdrawn. No coal or 'only indigenous coal' policy needs to be adopted and promoted immediately if we are committed to ensuring affordable energy for poor consumers in the future.

Our neighbouring countries have an aggressive policy towards tapping the hydropower potential of our shared basins. Therefore, Pakistan also needs to match up to these policies with similar efficiency. Although hydropower development takes more time than other sources, it naturally matches the pace of the increasing energy demands in general. The groups and institutions working for poor consumers should play their role in raising awareness and building a national narrative that is based on sustainability. ■

experts in Pakistan regularly refer to the consumption of coal worldwide to justify its relevance in influencing short-term solutions. However, they don't mention the decreasing trends in consumptions and other implications.

The recent energy crisis, fuelled by the poor performances of governments for two decades and a deficient vision towards sustainability, has left us with no option but to opt for immediate short-term solutions. Research and planning in the country has become almost non-existent on this matter. An optimal energy mix is also critical to the economic development of the country.

After the construction of the Tarbela and Mangla dams in the late 1960s, the thermal hydel (renewable) ratio was 73. Now, the case has been reversed and the ratio is now over 70 percent. Other renewable resources collectively amount to around 30 percent. Opting for short-term solutions also favours political parties who are in power. It presents the cosmetic progress within their five-year tenure so that the same can be used for the next elections.

The power tariff of coal currently stands at nine cents and uses relatively old technologies while indigenous hydropower

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CSR as a Driver for Skill Development

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K-Electric's fleecing the consumers

Digital Smart Meters run 582 times faster'

By Sajid Aziz

K-Electric is continuing to fleecing the poor consumers by every other way, whether it is tricking or harassing and minting money to the tune of billions of rupees every year. The utility company had previously introduced and installed new meters by replacing the old ones and new meters were running hundred times faster than old ones. K Electric's greed and hunger for more and more profits is yet to be over as it has now started replacing even faster meters. The new meters called Smart Digital Meters imported from China and elsewhere are 582 times faster than the old ones. A petitioner and consumer of K Electric who has recently filed a petition in the Sindh High Court against the installation of these Smart Digital Meters has submitted that these meters are scientifically proved that they run 582 times faster than replaced ones.

The Sindh High Court division bench headed by Chief Justice has observed that K-Electric is pocketing billions of rupees on account of defective and tricky meters. Be that as it may, let comments be called from the Head of Consumer Affairs Department, NEPPA. The bench repeatedly issued notice to NEPPA with directions to submit their reply on or before November 29, 2017 otherwise Head of Consumer Affairs Department, NEPPA shall appear in person, the court ordered. As per the International research regarding installation of new smart digital meters it has been scientifically proved that these digital smart meters run 582 times higher than the actual consumption of units. It may be mentioned here that after installing the Smart Digital Meters in the city K-Electric are busy in smart corruption by sending excess units/ bills to the consumers of their own choice, which is unjust and unfair. According to detail petitioners Uzair Shahid an I.T. Engineer and Dur Muhammad Shah, practicing Advocate in their constitutional petition No. D-7199/2017 against K-Electric, NEPPA and Director General NAB Karachi stated that K-Electric since last year i.e. 2016

have removed the old meters of almost all the household consumers in Karachi and installed new digital meters of different companies which they imported from China especially the digital meter of Zhejiang Holley International Co. Ltd. China. The K-Electric Company claims that the new digital meters are unable to re-programme, tamper and alter once it is installed, but in fact the digital meters are remotely controlled by the Respondent through GPRS SIM module which is activated in new digital meters. The new digital meters have three cable ports for programming through which the officials of the K-Electric can easily re-programme and tamper the meter reading from actual reading to any of the excess units through handhold devices like USB, remote control, mobile software, laptop or through local communications. Through these smart GPRS Digital Meters, Respondent K-Electric is continuously sending excess units/ bills to the consumers of Karachi and in this way the K-Electric is busy in smart corruption in billions of rupees which they are forcibly collecting from the consumers, as evident from millions of cases of overbilling in the city since last year. It is submitted that the user manual of digital meters itself shows that these meters can be configured by PC software and through remote GPRS communication once the SIM Card is inserted into the GPRS module which can easily be connected and handled through master station. Petitioner Uzair Shahid is residing in a three room flat where no heavy appliances like air conditioner or UPS is installed. ■



By M. Naeem Qureshi

ThalNova to operate 330 MW through Thar Coal: Khalid Subhani

Exploration of indigenous resources is need of the hour, says CEO ThalNova

"Thar's coal belongs to the people of Thar who live there as they have been living there for centuries. There is so much poverty there without any facility available to people so it is very much important for all the companies working there to keep their focus also on CSR", Khalid Siraj Subhani, CEO of ThalNova Thar (Pvt) Ltd, stated this as Energy Update (EU) had the privilege of interviewing him on all important power plant projects he has been heading, which would generate electricity on the basis of indigenously available Thar coal. He continues to say that.

Energy Update: Kindly tell our readers about ThalNova project?

Khalid Siraj Subhani (KSS): ThalNova is a CPEC power project, which will be based on indigenous coal that would be extracted from Thar. Two power projects are already being done there under Phase-1 of the Thar coal. First two are Engro's power projects and afterwards there are two projects, which have become matured to the maximum extent. One out of it is of Hubco's project and the other one is ThalNova's power plant. It will be a 330 Megawatts power plant and work on it was started some 10 to 11 months back. All the work on it was done under the government's energy scheme devised under the ambit of CPEC. We have done much progress in this regard. So much work has been done on the engineering's side. The EPC (engineering, procurement, construction) contract has been signed. Initial implementation agreement has been done. The power purchase agreement has also been signed. Right now work is being done on financial close. We are hopeful that financial close will be achieved by January or mid February.

EU: What is the significance of this project?

KSS: You know very well about energy situation. So much power shortfall has been persisting in the country along with the issue of energy mix. Earlier all power projects were used to be run either on natural gas or imported coal. Later on, the government did a very good job to balance out the energy mix. Then all coal-based initiatives were started. The main advantage of this project is that it is based on Thar Coal. The development of Thar means development of mine of Thar also. We will be a significant player in this cause. Moreover, there will be no foreign exchange involved in doing this project as it will consume our local and indigenously available coal. It will be a great advantage as nothing would be imported for the project. It will create a very positive impact on economy of the country. It will help in development of Thar. So much skill



Exclusive Interview

development of people is taking place in that area. A process of development has been started there. A positive activity has started there owing to all these projects. All these benefits related to development, health, and education will go for the benefit of people there. It will create an overall positive impact for the country, the province, people of Sindh, and also for people of Thar. So many projects are being done there with the shared motto that their benefit should also be directly extended to people of Thar. It should not be done merely to extract coal from there, generate electricity, and give it to the national grid. No, all these projects should also take into account well-being and development of people living there. This is an important aspect, which is also part of our project as well.

EU: What are your plans to do community development work in Thar?

KSS: There is a Thar Foundation established there. The idea behind the Thar Foundation is to make such an organization where all companies could come and do their contributions. We are also one of the partners in this organization as we have to play our due part in activities of the Foundation. The work has already started as construction of schools has been started while clinics have also started functioning. An agreement has been signed with the TCF to build schools there. All this is being done there despite that none of the energy projects has been made operational there as they are not generating any income as yet. But investment in the social sector has been started. Our own vision of doing community work is fully aligned with that of the Thar Foundation as we have a detailed plan to work upon while working along the Thar Foundation.

EU: How much local people of Thar will be inducted in your project?

KSS: All this will depend on how much skill development takes place in Thar. During construction period, high-skilled labour will be required for the project so mostly such jobs could not be given to local people. But all low-skilled jobs of the project will be given to local people. We are under the moral obligation to train local people and give them jobs. This work has already started there. After skill development of local people, all the related jobs of the project will be given to local people.

EU: Tell us about ownership composition of ThalNova project?

KSS: ThalNova is a 100 per cent Pakistani-owned company. Two business houses were involved in setting up it. It is a 100 per cent Pakistani private limited company. Once this project will become operational,

its ownership structure could be slightly changed. As the Chinese company doing its construction could be given ownership of the project to a small extent at a later stage. But by and large ownership of the project will remain with these two Pakistani business houses

EU: Will it generate cheap electricity?

KSS: The Phase-I of Thar Coal project will produce around 3.8 million tonnes per annum coal. The coal price will come down with expansion of the coal mine. In the Phase-II, capacity of the mine will be doubled. With expansion of mine, your fixed costs remain the same but base of the project gets expanded. So the mine has to be expanded for bringing down price of coal. When coal will be extracted through all these projects based in Thar then the price of indigenous coal will come down as compared to the cost of imported coal. The benefit of this entire exercise will go to the power consumers. The price of power comes down with reduction in the price of fuel.

EU: Tell us about environmental aspect of your power plant?

KSS: If you see towards developed nations like the USA and the UK, more than 50 per cent of their power generation is based on coal. All this is being done because of an obvious reason that it is effort of every country to utilize and deploy its own resources for power generation rather than to rely on imported fuel. Unfortunately, this is not being done in Pakistan. You have to have a balanced fuel mix to cater to the needs of base load power generation. Now coal will play an important role in this energy mix. No doubt there will be pollution caused due to Thar coal power project but so much stringent technology has come, which could ensure you zero emission or zero pollutant level for a coal-based power plant. It will all depend how much investment you will make in your equipment. All the Thar coal project will be done while in full compliance of the environmental standards of the World Bank, European Union, and the IFC. We take the IFC's standards as our benchmark as it is one of the biggest global financial organization and its conditions related to the environment are very much tough. The financing for the energy projects are approved on basis of standards of IFC. No one would be ready to give you money, if you didn't have sufficient focus on the issue of environment. We are also following the environmental standards of the Govt of Pakistan. All this will help us in controlling and mitigating the situation, which will be created due to emission of dust, effluents, or other elements, which would be

released by the power plant.

EU: Are you satisfied with the present growth of the country's energy sector?

KSS: In my opinion, the compliment in this regard should be given to the present government as it has done so much work in the energy sector. This is also our good luck that our friend China also comes out to support us. The investment by China in the energy sector is in the interest of both the countries. The government has done much work in the energy sector though energy shortfall is still persisting in the country. But several large power plants are under construction as power load shedding will end in a year or two when these power projects will start generating electricity to their full capacity.

Energy is one such area, which has to remain ahead of the national developmental curve. It means that your energy supply has to be more than the power demand based on pace of economic development of the country. If you want to do a business or set up an industry then you don't have to worry that there will be no power supply for you. So much work has been done in last three-and-half-years and import of LNG in the country is one such achievement. The situation of shortfall of electricity could be much grim in case there was no availability of LNG in the country.

EU: Do you think government should continue to do power projects in future as well?

KSS: Primarily the government should not do such projects. They had to do projects in the initial phase as the private sector was not coming forth to do the same. While doing such projects the govt has duly learnt its lessons. They fundamentally failed two to do one or two projects in the correct manner. Like for instance the decision to set up power plant based on imported coal in Punjab as it involves transportation of coal here from the seaport. Now the private sector has fully come forward owing to the good policies of the government. Had it been not such good policies of the government, these people perhaps would not have invested so much in the power sector.

If you are going to have surplus electricity in future as per some of the predictions, then the government will be required to go back and look at its policy. It is not necessary to offer an upfront heavy tariff for every future power project as new power projects could be based on competitive tariff. It is a good sign that the government and NEPRA have started working on this policy too. This government seems doing its work in the right direction. ■

Solar - a Best Energy Alternative

By Ismat Sabir

It was claimed that by the end of November 2017, Pakistan will be a load shedding free country. However, since most of the villages in Pakistan are outside national grid, the country would need to use the untapped solar power. For instance, although the US has abundant fossil fuel, despite has 9,000 solar companies with experts. Pakistan must also adopt the same policy so that electricity can be brought to remote villages through solar power.

In this regard, a proposal is that instead of spending a huge amount of money on imports of fuel, the country should start manufacturing solar panels. Industries in Karachi, Lahore and other cities can be assigned to manufacture required items including invertors and rackets. This will not only be cost effective, but would also provide jobs to unemployed youth of the country. Solar energy is eco-friendly. Solar panels can easily be installed on the roof and can easily be cleaned. It is hoped that the Ministry of Energy will look into this proposal which is in the best interest of the people. The Sindh government launched a tariff based auction to develop a 50 megawatt (MW) solar power project in the province.

It will be the first project to implement the decision of the National Electric Power Regulatory Authority (Neptra) on March 3, 2017 to enable tariff based auctions for solar photovoltaic (PV) power projects, replacing the previous up front tariff regime. Tariff based auctions have been successful internationally in rapidly reducing the price of solar power is a least cost generation option in many

countries.

The pilot solar auction is one component of a larger program on solar and renewable energy being developed by the Energy Department, Government of Sindh, with the support of the World Bank. The program is currently under preparation, with plans to include development of utility scale renewable energy projects, rooftop solar on public buildings and support for off grid electricity provision in rural areas. A key objective of the program is to attract private investment into solar power in Sindh, including foreign direct investment.

The Energy Department has issued a Request for Information (RFI) to solar power developers and investors as a precursor to a formal procurement process that will take place during the second quarter of 2018. The tariff based auction will follow international standards and procedures to ensure full transparency and ensure least cost bids are obtained.

The 50 MW project is for a site on government owned land north west of Hyderabad where there is excellent solar resource potential of over 2,200 kWh/m² per year. This equates to estimated annual production of around 85,000 MW of clean, domestic power from the sun per year, immune to the price volatility of fossil fuels.

The RFI will enable the Sindh government to exchange information and carry out consultations with private sector developers inter-

ested in bidding for the project. Interested developers will be invited by Government of Sindh to a consultation workshop to take place in early 2018. This will be followed by a full procurement process in accordance with Sindh Public Procurement Rules and Neptra Competitive Bidding Tariff Regulations 2017. The World Bank is to be working with the Sindh government in helping to scale up renewable energy in the province. With the country's economy on the upswing, Sousa is expecting strong demand for solar power. The government is helping, by setting a ceiling price for solar in the Dec. 18 auction that's 17 percent higher than the opening bid for wind farms, 329 or \$99.12 per MWh. In Brazil's energy auctions, regulators set a ceiling and participants bid down the rates at which they are willing to sell electricity with the lowest offers winning long term contracts to deliver energy.

Participants in the auction will vie for deals to supply energy from solar, hydroelectric, wind, biomass and thermoelectric plants that will need to go into service by January 2021. Brazil's energy research agency said that developers have registered projects with a total of 47,965 MW of installed capacity for the event.

CPFL Renovave has about 2.1 GW of wind farms, biomass plants and small hydroelectric dams operating across Brazil, and another 2.6 GW of projects under development. It has wind, solar and hydro projects registered for the event. The company is working to shore up its balance sheet, in an-



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Participants in the auction will vie for deals to supply energy from solar, hydroelectric, wind, biomass and thermoelectric plants that will need to go into service by

Renewable power projects face axe as loadshedding ends

The government would be under no obligation for any renewable project lacking firm contract by Dec. 10 as era of loadshedding ends with surplus generation capacity, said Federal Minister for Power Awaiz Ahmad Khan Leghari. Speaking at a news conference the minister castigated critics challenging continuation of power shortages in many parts of the country saying they were only spreading propaganda.

'I humbly stated a few days ago that loadshedding has ended. Today, I am 10 times louder with that statement and tomorrow would repeat 20 times louder that there is no more loadshedding,' he said, adding the government would launch within days a computer application that would help everyone anywhere on phone to check supply situation at any feeder. The minister said the government would not provide 24/7 electricity where losses were high because that would increase the cost and put additional burden on the people and increase circular debt from Rs135 billion a year to Rs280 billion. He said there was no loadshedding on about 5,800 feeders having less than 10 per cent theft out of 8,600 feeders.

He said the government wanted to take benefit of the cushion in higher generation than demand to cut down on tariffs and provide relief to the people as promised by the PML-N. 'We have now entered a new phase where we feel the need for revision in policies for the power producing companies based on two to three months of serious assessments and thought process,' he said. Leghari said the Cabinet Committee on Energy (CCoE) led by Prime Minister Shahid Khaqan Abbasi had allowed the change in policy for all renewable and alternative energy sources including wind, solar, biomass, bagasse and small hydropower projects below 50MW capacity. Under the new policy, the existing upfront tariffs and those based on cost plus profit rates offered to attract private investors would be replaced with competitive bidding based tariff. He said the government would announce a chunk of capacity in a specific year based on absorption capacity and seek bids. The government would purchase electricity from the bidder offering lowest tariff. He said the provincial governments would also be sensitised to promote renewables in proportion to their population and ensure that these generations are not concentrated in a specific area.

The minister sidestepped a question why the small hydropower investors and potential in Khyber Pakhtunkhwa and Azad Kashmir were being disadvantaged while the government was still committing mega projects on imported fuels like LNG and coal from Middle East and Australia, but said there was no legal obligation on the government on the basis of letters of interest (LoIs) and letters of support (LoSs) if small hydropower projects (SHPPs) had not signed implementation agreements. These power plants entailed around Rs12 per unit tariff, he added. ■

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Feasibility Study
Preparation of RFP Documents
Financial Modelling
Bid Evaluation
EPC Technical & Commercial Negotiations
Power Purchase (PPA),
Fuel Supply Agreements Negotiations

ENGINEERING DESIGN

Conceptual Drawings
Basic Design
Detail Design
Construction Drawing
"As Built" Drawings

PROJECT & CONSTRUCTION MANAGEMENT

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Preparing HSE Manuals applicable to the construction site
Preparing Project Documentation
Punching List
Warranty Management & project progress reporting

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Preparing Health and Safety Procedures
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The case for Pakistan to ramp up its renewable energy generation

By Suzanna Masih

It's very easy to miss, the flat, grey rectangular board hanging from a shop's awning, the lone solar panel along the entirety of the 2.5-km long Main Mehmoodabad Road - the middle-income locality's main commercial strip lined with hundreds of shops and home to an endless stream of Karachi's chaotic traffic.

It hangs inconspicuous, lightly swaying in the wind, powering Omaid Bin Tahir's small eyeglasses store, Choice Optics.

Perturbed by prolonged power outages especially during peak business hours, Tahir installed the 100 watts panel some six months ago.

Now he doesn't have to worry about having to turn customers away during the evening, the time when people start thronging the market and power outages commonly strike.

While his neighbouring shopkeepers try to help customers amid the din of noisy generators or charging-starved UPS systems, Tahir is relaxed because thanks to his solar panel he has enough power stored to run his shop's fan and several bright lights for hours.

Mehmoodabad faces up to six hours of power outages daily, while unscheduled suspensions are also relatively common, leaving locals to turn to UPS systems or generators. A handful of households have installed solar panels but so far Tahir is the only shopkeeper using one.

"It was mostly a business-oriented decision for me. I needed something to address my electricity woes," said Tahir. The shopkeeper is aware of the environmental benefits of clean energy but thinks people will shift to solar more to meet their energy needs than to help the environment - an issue that can be resolved if there is large-scale promotion of solar energy in the country.

Pakistan has huge potential for alternative energy generation, an estimated 2.9 million megawatt (MW) of solar energy and 340,000 MW of wind, according to Pakistan Alternative Energy Board as well as some 100,000 MW of hydropower. But around 70 per cent of its electricity is generated through dirty fossil fuels - primarily oil and gas.



As on June 30, 2015, only 28.67 per cent of the country's 24,823 MW installed capacity was provided by hydropower while a major chunk, 67.74 per cent, was provided by thermal power plants which burn oil, coal and gas, emitting dangerous earth-warming gases into the atmosphere. A tiny 0.43 per cent was provided by wind power.

According to a Global Change Impact Studies Center report released in September 2016, Pakistan's greenhouse gas emissions were about 374.1 million tonnes of carbon dioxide equivalent in 2012, of this 45.8 per cent alone was the energy sector's share.

Although Pakistan's greenhouse gas emissions are a minuscule less than one per cent of the total worldwide emissions at the moment, being a developing country its emissions are expected to quadruple to more than 1,600 million tonnes by 2030.

Pakistan already is among the list of top 10 countries most vulnerable to climate change. Over the last decade alone, it has faced two massive floods, water scarcity, two deadly heatwaves and a drought. Experts say that the government should be pushing the agenda on alternative energy because if it continues to remain heavily reliant on fossil fuels, the country's population will be at the receiving end of the worsening impacts of climate change in years to come.

One of the steps that the government can take is to incentivise the use of solar energy for domestic use, according to Faiz Muhammad Bhuta, a renewable energy

expert who has been in the solar power sector since 2010.

As up to 49 per cent of electricity produced in Pakistan is used in the domestic sector, the government should be providing more incentives for households to switch to solar which could in turn reduce the country's reliance on fossils and reduce its carbon footprint, said Bhuta.

With a clean energy revolution happening across the world, the cost of switching to and running on renewables has fallen dramatically. In Pakistan too the cost of solar panels has dropped significantly in the past few years but sales have not picked up.

"The biggest issue is that the government doesn't support the sector," said Bhuta. "Years ago there was high duty on solar panels, now there is none, but a 55 per cent duty has been imposed on batteries, a key component of the solar setup," he noted. "High prices remain a huge deterrent for people to look to solar."

CPEC also an emissions factor

With huge investment flowing in from China under the China-Pakistan Economic Corridor, there are plans to add more than 10,000 MW to the national grid. Work is currently underway on 17 priority projects.

But these projects are heavily tilted towards coal and thus have huge environmental implications, said Ayesha Qaisrani, a research associate at the Sustainable Development Policy Institute (SDPI). She said along with the country's current reliance on oil and LNG that we imported for

energy production, these new fossil fuel projects would heavily burden the country's environmental and economic health.

Arguing for a greater ambition in alternative energy investment, Qaisrani said: "Besides the benefits of a decline in carbon emissions, the renewable energy sector opens up new avenues of economic opportunities - business investment, creation of new jobs in addition to its health-related benefits."

There was a time when Pakistan's energy generation mix was 70 per cent hydropower and 30 per cent thermal, now it has completely reversed, said Arshad Abbasi, a leading energy expert. From 1989 onward, the trend shifted heavily towards thermal and has remained so.

"The problem is that either the [now former] PM or his brother has an idea [of building new power plants] but then there are no due deliberations and they just want it implemented," said Abbasi, who authored Pakistan Energy Vision 2025 which makes a case for increased hydropower generation.

Pakistan's continuous shift to fossils when the world is largely moving to renewables will wreak havoc not just on the environment but also citizens, said Islamabad-based environmentalist Mome Saleem.

Moreover, to dig coal fields water is pumped out of the land depleting the underground water to dangerous levels, she said. It's not hard to imagine how problematic this is for the country's future because Pakistan is already a water-stressed country.

"There is a nexus that forms between water, land and energy," she said. "This nexus is very lethal and being a vulnerable country we cannot afford to do this."

According to Saleem, Pakistan didn't have a big carbon footprint in the world, but with huge CPEC investments in projects run on dirty fuel, we seem poised to increase our greenhouse gas emissions.

"What we are doing right now is that we are buying footprint from China," she said. "They are phasing out of coal and we are buying their carbon footprint."

Climate change is a harsh reality that the entire world is facing. Adaption and mitigation are the prime concerns at the moment with developed countries leading the charge to limit global temperatures to well below two degrees Celsius above pre-industrial levels. It is equally important for developing countries like Pakistan to join the fray.

Tariq Banuri, the executive director of the Global Change Impact Studies Centre, said while it was important for Pakistan to move faster on renewables, it was equally important for it to continue focusing on development.

"There is a huge increase in renewable energy in the world as well as the shift to electric vehicles, public transport and energy efficiency, he said adding that it was in Pakistan's interest to not only be a part of this wave but to use it to its advantage in order to promote growth.

Calling for a strategy that doesn't put our growth at stake while we battle climate change, Banuri said: "We need to have now a development strategy that enables us to go fast in a world in which climate change is going to be a central issue that all countries would be addressing."

Emissions reduction and shifting focus to renewables where there is a lot of potential for generation seems like the best way forward for Pakistan. The government has realised this and has enacted a climate change act and plans to increase renewables' contribution to the national grid to five per cent by 2030. Experts laud these efforts but also urge greater involvement.

"These policies, acts and institutions are only as good as their implementation," said SDPI's Qaisrani. ■

courtesy: The Express Tribune

ABB partners with NED University to train future engineers



As part of the ongoing support towards engaging and actively participating in various projects in Pakistan, ABB has now set up a control systems laboratory at the NED University in Karachi, Pakistan. Last year, ABB Pakistan had sponsored a similar lab in UET Lahore as well. ABB has signed a MoU with the NED University for setting up a Control Systems Laboratory. NED University, being one of the leading government universities which offers electrical engineering courses was a natural pick for ABB to work with. The university also has a long history of producing graduates for the country's power sector. This laboratory, which was inaugurated last month, has the provision for the installation of a fully integrated automation technology equipment to help engineering students gain first-hand knowledge of working with complex electrical equipment.

The lab at the NED University houses ABB's symphony plus control trainers, hardware simulators, AC800M, PLC series AC500, VFD, Protection relays network communication with the control system via electrical integration protocol (61850), to help simulate and understand process automation with power automation on the same platform and energy analyzer with the requisite safety precautions. This is a gateway for students to understand how the industry will have digitally connected devices.

ABB has provided the university with trainer panels akin to the ones installed across various industrial locations of global ABB customers. These panels will provide hands on experience for the students. "We have scheduled training sessions for lab faculty and few sessions for students as well so that they know how to use the equipment. ABB has also contributed 25 laptops, tables, chairs, Central Processing Units and large screens for lectures. ABB hopes to engage the youth in our country with innovations in technology to help them understand how industries can optimize processes and power for better productivity, which is vital to industrial growth. ABB has recently brought all of its connected devices under the ABB Ability™ platform and this lab will help students understand the future of industries with devices connected over the internet," said Najeeb Ahmed, Country Managing Director.

Najeeb also mentioned: "Innovation is our lifeblood: We are constantly striving to find new ways to make our customers more competitive and minimize environmental impact." ■



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“Pakistan could resolve its power crisis through renewable energy - Bilbao”

"After several years of development, wind power in some regions can compete with traditional fossil energy in term of cost. Main reasons are technology development and cost optimization through market scale and mature industrialization. As single market, Pakistan faces some challenges such as limited market scale and local industry chain immaturity", this was stated by Siemens Gamesa Renewable Energy Onshore APAC, Alvaro Bilbao, while talking to Energy Update he continues to say that.....



Power generation plants coming up to overcome power shortage,

CEO Siemens Gamesa, Alvaro Bilbao

By Naeem Qureshi

Energy Update: Please provide us your profile in detail including your education background, professional, experience, achievement and hobbies.

Alvaro Bilbao: I was born in 1962, now married with three children, I have obtained my degree in Industrial Engineering from Bilbao University in 1986, Masters in system Engineering and Process Control in 1987, Masters in Management Business Administration at Basque Century University in 1999. Starting my professional career as Engineer in 1988 at ACENOR, Heavy Steel Industry, I have done a number of professional assignments until the position of Chief Executive Officer of Siemens GAMESA Renewable Energy Onshore APAC joined in 2017.

EU: Please tell us about current wind projects of your company in the Asia and around the world?

AB: With worldwide installed capacity of over 83 GW, Siemens Gamesa Renewable Energy is a global technological leader in the wind industry with products and technology in more than 90 countries. Its end-to-end value chain expertise encompasses onshore and offshore wind turbine design, manufacturing, installation as well as cutting-edge service solutions. We strive to provide the best technological offer for

each project, while driving down the Levelized Cost of Energy to ensure the best long-term returns.

Recently, Siemens Gamesa Renewable Energy (SGRE) has been selected by Vattenfall to supply close to 1 GW at three offshore wind power plants being developed in Danish waters.

Siemens Gamesa's Asian footprint extends to China, Pakistan, South Korea, Japan, Thailand, the Philippines, Indonesia, Vietnam, India, and Sri Lanka, having installed nearly 11 GW in these markets. In China, Siemens Gamesa has installed more than 4,600 MW; Siemens Gamesa is the main player for the emerging countries: Siemens Gamesa won the first two projects in Indonesia; in Philippines, Siemens Gamesa is responsible for more than 50% of the country's total installed capacity and in Thailand recently, Siemens Gamesa Renewable Energy leads OEM, responsible for more than 50% of the country's recently, won its largest-ever contract of 260 MW in Thailand.

EU: What do you think the time potential of Pakistan to produce

electricity on basis of renewable resources?

AB: Pakistan owned huge potential on renewable energy resource. It includes hydropower resource along the Indus river and already in use. For wind power energy, several wind farms located in Jhimpir and Gharo area are already in operation. Meanwhile more and more investors are planning to develop new wind power projects in Pakistan including some place in Panjab province. Even if electricity generation on basis of renewable resource just occupy very small percentage of gross electricity consumption; Pakistan has the potential capability to reach more than 35% alternative energy from renewable resource like happened in Spain, Denmark. North and West European countries spent dozens of year to realize this target. Siemens Gamesa is confident that new emerging countries including Pakistan can accelerate this process if there's solid plan and continuous policy support from the authorities.

EU: Please share with us the details of current wind project in Pakistan and the cost.?

AB: We already started the first wind power project in Pakistan. This is Zephyr wind project invested by CDC, Zephyr energy and Metro energy. SUMEC and Siemens Gamesa formed EPC consortium to take over whole EPC work scope. The WTG type is Siemens Gamesa G114-

Man of the Month

2.0MW VHT HD, which is one of most successful WTG product in wind power industry. In past 4 years the company has installed more than 4,000MW of this model globally. G114-2.0/2.1MW is specifically suitable for Pakistan market especially equipped with Very High Temperature (VHT) kit and anti-dust (HD) configuration. VHT model of G114-2.0/2.1MW ensure operation temperature can reach up to 50 Celsius degree and no down rating till 47 Celsius degree. According to the latest analysis made by Lahmeyer and local partner R2, G114-2.0MW has highest yield and capacity factor on most cases both in Jhimpir and Gharo. Siemens Gamesa is dedicating to continuously reduce cost of energy (CoE) through technology innovation and development. Zephyr project fully benefit from our latest technology and project management. It has the lowest cost and highest efficiency compared to past wind power projects in Pakistan.

EU: What technological innovations Pakistan should adopt to maximize its power production based on renewable sources of energy?

AB: Onshore wind power is very mature technology after dozens of years' development and utilization in more than 70 countries. Along more clear policy and solid development plan issued by Pakistan government, most of WTG manufactures are willing to provide their latest product and technology with the best efficiency and yield to Pakistan market.

EU: What are lessons for Pakistan from European model of energy now in practice?

AB: Renewable energy is one critical part of climate change and energy for European Union 2020 Strategy. All EU members committed to increase renewable energy ratio to 20% by 2020. Just 3 years before this deadline, most of EU member countries are striving to reach this target through real actions and hopefully realize it. I believe one solid plan established in state government level is the most important factor for alternative energy revolution. In other word the solid plan in government means the guideline and market forecast for all investors and developers. Secondly stable policy is also necessary condition as visible market environment especially for foreign investors and the lenders.

EU: Do you think Pakistan should forge alliance with other countries like India, Iran in the field of



renewable energy?

AB: After dozens of years development, wind power in some regions can compete with traditional fossil energy in term of cost. Main reasons are technology development and cost optimization through market scale and mature industrialization. As single market, Pakistan faces some challenges such as limited market scale and local industry chain immaturity. If allied with neighbor countries or market, it would be beneficial to forge much bigger market volume to drive competition, and also it might stimulate deep localization to optimize the cost on each segment of value chain. Finally Cost of Energy (CoE) evaluation in wind power industry would benefit the economy of whole countries and energy alternative progress.

EU: In your opinion, what is the overall current situation of energy sector of Pakistan?

AB: Pakistan would resolve electric power shortage soon especially some of supercritical coal power plants and gas power plants will connect the grid in coming few years. Inevitably Pakistan also faces to upgrade energy composition as other emerging markets to control emission and pollution. This is definitely common evolution process for society. I believe there're more and more renewable energy opportunities in this country.

EU: What important policy guidelines Pakistan should adopt to achieve self-reliance and maximize efficiency in energy sector?

AB: The first priority of the policy

guideline shall consider technology innovation in term of emission control especially for new energy plan. Secondly energy plan shall encourage renewable energy in considering of limited fossil resource in Pakistan.

EU: What should be the ideal move for a country like Pakistan for power production?

AB: All potential investors and developers are expecting clear energy plan especially renewable energy sector development from Pakistan government. ■

SIEMENS Gamesa
RENEWABLE ENERGY

With more than 35 years' experience and a worldwide installed capacity of over 82 GW, Siemens Gamesa Renewable Energy is a global technological leader in the wind industry with a presence in more than 70 countries. Its end-to-end value chain expertise encompasses onshore and offshore wind turbine design, manufacturing, installation as well as cutting-edge service solutions. We strive to provide the best technological offer for each project, while driving down the Levelized Cost of Energy to ensure the best long-term returns.



WIND ENERGY SUSTAINABLE LIVING



Fossil fuels (oil, coal and gas), though currently being dominant energy sources, are the primary cause of air pollution and respiratory illness in Pakistan.

Wind energy generation helps to reverse the years of damage done by fossil fuels. One 50MW wind farm in Pakistan can offset approximately 150,000 tons of carbon dioxide a year, thereby helping to sustain a pollution free environment for you and your children. Prevention of smog and cleaner air is your responsibility. Help us achieve a carbon free environment.

Support Wind Power. Act now!"



Corporate Leader



HAWA ENERGY

Hawa Energy to set up wind energy projects in Balochistan and remote areas

- **Farman Lodhi**
CEO, Hawa Energy Pakistan

By M. Naeem Qureshi

"We are planning to explore such areas in Pakistan to do projects of renewable energy, which conventionally don't blink on radar screens of other people. Mostly such areas are considered risky as one such best example is of Balochistan having massive potential of producing clean energy mostly through the solar resource and also using the wind power abundantly available there", says Farman Lodhi, CEO of Hawa Energy (Private) Limited, which at present is doing a 50 megawatts wind energy project mostly involving foreign investment in Jhimpir area of wind corridor of the Sindh province. The Energy Update recently interviewed Mr. Lodhi about present and future programmes of JS Energy from whose platform the Hawa Power project is being completed in Jhimpir. In the interview, he also talked about future of alternative power in Pakistan. Following are important excerpts of his interview.

Energy Update: What are your present responsibilities in the organization?

Farman Lodhi: Here I'm looking after two responsibilities as the first one is that I am heading a project namely Hawa Energy having 50 MWs capacity in Jhimpir area. This project has entered in its final stages of construction as its CoD (date of commercial operation) will take place in first week of February, 2018. So we are just two to two-and-half months away from completion of our project. This project is in very good shape. This is one of the few power projects being fully developed by the JS Group. In my viewpoint, this is first power project, which has been taken up by JS Group from the stage of full scale development as otherwise the group usually invest in power projects once they enter final stages of their completion. I am also heading the business development aspect of the organization. We have formed a new company with the name JS Energy to develop new projects in the energy sector.

EU: What are your plans regarding the JS Energy?

Mr. Lodhi: The first project whose responsibility we assumed is that of Hawa Energy. In this project, the majority of the equity is foreign investment. We are planning to complete the project



on time and within the given budget. Then we have some developing projects, which we will do within the arena of renewable energy as well as in the thermal power sector that we will do both with in and outside Pakistan. When I talk about wind and solar power, you know what the present scenario is as a sort of status quo is being maintained while uncertainty also prevails as what will happen in future. The present upfront tariff regime for renewable energy project doesn't favour the regulator much as this has to be changed into competitive bidding mode as we are ready to adopt this change. The reference tariff given by the Nepra (National Electric Power Regulatory Authority) in the wind sector is achievable given the environment of Pakistan as similar is the case of reference tariff of 06 cents for solar power created due to applications submitted by the people for tariff determination of their projects.

Today there are many groups ready to invest in energy sector of the country whenever such an opportunity is offered to them. The power industry of Pakistan has the appetite to work even in the scenario of minimal profit margin if in case tariff comes down in future. The JS Energy is fully geared up to do work in such a regime.

EU: What re the future projects of JS Energy?

Mr Lodhi: We have done our full preparation for wind power sector whether there is competitive bidding, upfront regime, or the present cost-plus tariff regime

remain enforced. We are ready to go forward. Likewise we are doing work on solar energy. While doing so we are eyeing on such areas, which conventionally don't blink on radar screens of other people. The best such area is that of Balochistan.

Balochistan is one of the best areas when we talk about the solar resource. When see the Northwest area to Quetta in the solar map, it is shown in the red colour. The solar irradiance level of entire Pakistan is 3.5 kwh/m²/day but there in Balochistan it is 5.5 to 6 and its peak even touches 8 to 8.5 kwh/m²/day. This gives you very good yield and very good return on your investment. This directly reflects on your tariff as you could even offer competitive tariff. That will benefit the government and consumers alike. Then there are the areas of Chaghi and Gwadar, which according to a public study, are known to be parts of high wind corridors. These areas could also be explored.

Yes off course there are challenges for doing work in that province as everybody knows about them. On the technical side, there is the challenge of transmission as we are interested in doing transmission work also. We are in talks with the relevant agencies including NTDC that in case they don't have any plan there then we could come in either as a private investor or do work in the public-private partnership mode. The precedence for doing such a work is already present in the form of STDC (Sindh Transmission and Despatch Company), which did its transmission line project from Nooriabad to Karachi. Other investor should also get the opportunity as this will speed up the construction of infrastructure.

EU: When you have fixed the completion date for the Hawa Power Project?

Mr. Lodhi: This project along with two other projects was conceived when the last upfront tariff was announced that we opted. That is around 10.5 to 11 cents. So we also got the first movers' advantage. Under this tariff we are allowed the total project cost of Rs110 million. This project is being done by the JS Group and its partners is a Canadian company that has an overall portfolio of investment in renewable energy in the entire world. We have majority shareholding in the project as we also enjoy its management control as well. We also have the responsibility to develop this project. We have with us a Korean partner in the project having minority

shareholding. Then there is also a Middle Eastern Fund being partner with us. Majority of the equity investment is from outside Pakistan. Basically, it is a foreign investment to the tune of more or less Rs100 million.

EU: Do you see any issue related to evacuation of electricity from the project after the CoD?

Mr. Lodhi: When we started the project, there were some issues that were lingered on later. But now all credit goes to NTDC, which very quickly moved in. The work related to transmission line is in full swing in the area of Jhimpir where our project is located. In the previous week I met the DMD of NTDC who promised me to complete the transmission line work in the area before start of our project. The construction work is in progress and hopefully it would be completed sooner to a large extent. Issues keep coming in when you do such projects especially when approvals of the project are required from so many agencies. There are issues related to coordination and regulation of the project. We have a very seasoned team with us as they have the idea how to handle these issues in best of the manner.

EU: What are your CSR related activities?

Mr. Lodhi: We are doing our project in Jhimpir area, where there have been a number of issues. We have given employments to a number of people there. We are also giving on-the-job-training. The local communities there, which have been adopted by our project, are being supplied water by us. We have installed small solar systems for villages there. Now we are working on a plan to combine efforts for five wind farms working in the area to do a CSR project of much greater value and benefit. These wind farms could combine their resources to establish a school or vocational training centre there. This will create a more lasting impact in the area. This discussion for such a plan is being done as we want to do a much bigger thing as we enter into the operational phase. ■





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2nd International Wind Energy Summit 2017



Time has come to end producing expensive means of power

Wind Energy Summit urges government to switch to clean energy

2nd International Wind Energy Summit proved to be the wonderful event to thoroughly discuss renewable energy sector of Pakistan.

The Energy Update, its partner organizations, and sponsor for the second consecutive year provided the much-needed national level platform where all the stakeholders relevant to the power sector discussed in detail present scenario, viability, and future potential of wind energy sector of Pakistan.

The Second International Wind Energy Summit-2017, like the first summit proved to be a resounding success as being the moot fully dedicated to discuss the country's past, present, and future in renewable energy sector.

The speakers and participants of the second summit have posed questions, did analysis, made recommendations and proposals with the sole aim in mind i.e. how best to utilize wind energy resources of the country along with using other means of alternative power.

The Energy Update combined its efforts with Alternative Energy Department, Sindh Government's Energy Department, World Wind Energy Association, and with similar other bodies to organize the summit.

Combining efforts of all these organizations paid off well as leading names of the government, private sectors, state's agencies in energy sector, local and foreign investors gathered on the occasion to discuss in detail wind energy sector of the country.

The speakers of the summit noted with serious concern that renewable energy sector till present day was contributing just 1.5 per cent electricity being generated in the country.

This figure should have been improved to minimum 05 per cent given that the country had started making progress to explore alternative energy sector more than a decade back. The speakers of the moot highlighted the estimate that Sindh province alone could produce up to 50,000 MWs of electricity on basis of wind energy resource available in its single wind corridor between Jhimpir and Gharo.

The highlight of the event was superb speech by Ambassador of Denmark to Pakistan Rof Michael Hay Pereira Holmboe who spoke being the keynote speaker in inaugural session of the summit. He spoke about success of his country to fully utilize wind resource available there to effectively fulfill Denmark's electricity needs.



According to him, if Denmark could achieve up to 56 per cent of its power generation through renewable resources and by the year 2035, 100 per cent of its power production would be through clean sources of energy; the same was easily achievable by Pakistan. But for such a cause Pakistan should adopt a strong political will and consistency in policies for the energy sector.

The Danish Ambassador said on the occasion that natural climatic conditions in Pakistan especially in its identified regions in Sindh and Balochistan were much favourable to produce electricity using renewable means of power than the similar conditions available to Denmark. "What I learnt that Pakistan at present is just producing 1.5 per cent of its electricity through renewable means is quite a dismal figure given the favourable conditions available in the country. That is quite low figure as Pakistan has to actively make progress to produce much more electricity using the alternative means," he said.

He said that Pakistani government had to make a choice whether to continue using expensive conventional fuels for power generation or switch to the cheaper means for energy generation through alternative means.

He said that once Pakistan resorted to clean sources of energy, the cost of power production would ultimately decrease so to lessen the burden of energy sector on the economy. While that option would also be helpful in improving environmental conditions in the country and resolving serious issues like smog currently prevailing in the province of Punjab, he said.

He said that countries in the region like India and China seemed to have adopted policies in the energy sector that would enhance their reliance on alternative means for power production as Pakistan had to pursue the same path.

He said that increasing reliability on renewable means for power generation was quite a win-win solution for economy of any country as it increased efficiency in the energy that is helpful for economic

development.

The Danish envoy said that Denmark had made a choice in the middle of decade of 1970s to go for the option for exploring renewable means instead of opting for nuclear power production or any other conventional means of energy production using hydrocarbon fuels. That choice was made when Denmark like other countries in the region had been facing an oil crisis. This choice proves very much successful for the country as now Denmark is considered as the leader in the global community maximally relying on wind energy to produce cheaper electricity, said the Danish ambassador.

He said that Denmark had been working on a plan to make its entire energy consumption completely carbon-free by the year 2050 and for such a noble cause to conserve the country's environment, it had been actively pursuing the renewable means and using the hybrid methods to maximize energy generation through wind, solar power, and water-to-energy methods.

He said that Denmark was fully willing to assist Pakistan to more effectively explore and utilize its potential for power generation through renewable means as Danish technologies and products were being used by a number of countries for the same cause.

Mr. Holomoe suggested that one such option for Pakistan could be installation of offshore wind power projects near the coast of Karachi similar to such experiments currently being done by many Northern European countries.

Zafar Sobani, a senior energy sector expert, said on the occasion that it was high time Pakistan should achieve minimum 05 per cent of its power generation on basis of alternative means of electricity that had been the target set in the renewable energy policy adopted by the govt more than a decade back. The present 1.5 per cent production of electricity through renewable means was quite low, he said.

Rashid Hussain Kazi, special secretary of Sindh Government's Energy Department, said that Ghara-Jhimpir wind corridor was



Event Report



at present producing 788 Megawatts of renewable energy while a matching volume of renewable energy production would be achieved by next year on basis of new projects being installed in the same wind corridor.

He said that Sindh had been pursuing a balanced energy policy in order to utilize both conventional and alternative sources of power production to maximally utilize true potential of the province for energy production. The Thar coal and power project is one such example proving that Sindh could provide energy solution for the entire



country, said Mr. Kazi.

Sajjad M Qureshi, senior advisor to National Electric Power Regulatory Authority (Nepra) on Tariff, said the Nepra would soon be opting for conventional competitive regime for determining tariff for upcoming wind energy projects in the country given that all the formalities were completed by the provincial governments concerned and AEDB.

He said the Nepra had been doing whatever it could do within its charter



and lawful regime to encourage maximum power production through renewable means.

Danish Iqbal, president of Pakistan Wind Energy Association, said that relevant agencies of the govt and Nepra should not make upcoming wind power projects to unduly wait to become operational on the account of tariff-related issues and other formalities hampering the process to utilize potential of the province to generate clean



electricity. Alvaro Bilbao, CEO Siemens Gamesa Renewable Energy, said geographical diversification was allowing growth in emerging and mature markets. "Asia is the fastest growing region with cumulative annual growth rate of 7.5 percent in the last 20 years, while the demand for energy is even higher," Bilbao said and predicted rising energy demand in emerging markets would be easily met by renewables. Naeem Qureshi, chairman of the organizing of summit and Managing Editor Energy Update, said that wind energy summit would become a regular feature on annual basis as in upcoming



years it would also cover and discuss other means being explored in the country for clean electricity generation.

Speaking as the chief in the concluding session, Sindh Information Minister Syed Nasir Hussain Shah said that provinces should be granted maximum autonomy in the regime of energy sector as per the spirit of 18th Constitutional Amendment for effectively resolving energy crisis of the country.

He said that provinces should also



be made independent in affairs related to determination of tariff, transmission, and distribution affairs for the power projects being developed in their respective jurisdictions. He said that 100 MWs Nooriabad power plant being first power project of Sindh government got delayed due to issues related to transmission of electricity to the grid as the relevant federal authorities didn't provide much help to provincial govt in this regard.

He that Sindh government had been providing maximum assistance and cooperation to private companies willing



to do solar and wind energy projects in the province.

He said that Sindh government had been spending a total sum of Rs 07 billion to do several projects so that true potential of provincial could be utilized to generate up to 50,000 MWs electricity through conventional and renewable means.

He said that Sindh had become the first province to form its transmission and despatch company in power sector to facilitate upcoming projects in energy





sector.

He said that there was need to devolve more authorities and powers to the provinces in energy sector as per the spirit of 18th Constitutional Amendment so to find more viable indigenous solutions to resolve power crisis in the country.

He said that Thar coal and power project being completed on expeditious basis showed complete resolve of Sindh government to do its best to bridge energy shortfall persisting in Pakistan.

RESOLUTION OF SUMMIT: The Summit in its concluding session also unanimously passed a resolution containing demands, requirements, and aspirations of wind energy companies doing renewable power projects in the country. The contents of the resolution will be sent to all relevant agencies and authorities of the State, federal and provincial governments for their due implementation.

Following are important excerpts of the resolution:

-A regime should be adopted in the region containing Pakistan where across the border energy trading especially in the field of alternative power should be

allowed while following the present European energy model.

-The hydro-based power generation should also be included in the proposed regime for across the border energy trading, said the resolution.

-The summit expressed serious remorse that just 1.5 per cent of power generated in the country accounted for the present contribution of renewable energy sector in fulfilling national power needs.

-The summit demanded that this contribution should be increased to minimum 05 per cent as what should have already been achieved as per the targets and aspiration of the country's renewable energy policy adopted more than a decade back.

-The moot noted with much satisfaction that Sindh had already achieved installed capacity of 788 Megawatts of renewable power generation while a matching more volume of wind-based power generation would be available by next year meaning that Sindh province alone would contribute over 1500 MWs of wind-based power generation to national grid.

-The moot demanded that all relevant agencies and authorities of federal and

provincial governments including the power sector regulator should facilitate maximum utilization of potential of Jhimpir-Gharo wind corridor that would prove to be the hub of renewable energy generation in the country.

-The moot called for providing maximum facilities and assistance to local and foreign power sector companies either already working or willing to launch their renewable energy projects in Jhimpir-Gharo wind corridor.

-The moot called for immediately resolving all tariff-related issues of upcoming wind energy projects in the country as National Electric Power Regulatory Authority and other relevant agencies should speed up the process to adopt new tariff regime for wind power companies so that they could start operations without undue delay.

-The moot demanded that government should expeditiously complete power transmission projects so that wind energy projects being installed in Jhimpir-Gharo wind corridor should be provided connectivity to national grid on preference.

-The summit said that concrete towers instead present metallic ones should be used for installing wind turbines in the country for maximum utilization of abundantly available wind resource in the country. More such indigenously developed technologies and resources should be utilized to maximize power generation in the country on basis of alternative energy sources.

-The summit demanded that authorities and agencies concerned in the energy sector should allow hybrid methods and technologies on preferable basis to explore alternative energy arena of the country.

-The summit demanded that possibility of offshore wind energy projects should be explored off Karachi's coast as what is currently being practiced by Northern European countries. ■

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Ahmed Najeeb
AEPL CEO



"It was a pleasure to attend the Second International Wind Energy Summit 2017.

Albario Engineering (Pvt) Limited was a proud Executive Sponsor of the event as well.

Mr. Naeem Qureshi & his team successfully brought all Renewable Energy Stakeholders including the Federal & Sindh Government, AEDB, NEPRA, CP-PA, Developers, EPC Contractors, Service Providers and leading OEMs.

Various speeches and panel discussions were held during the day covering important subjects such as: Tariff Benchmark, International Pricing & Trends and New Product Lines

Other critical issues such as Reverse Competitive Bidding, Government & Regulator Priorities on Dispatch, Transmission System Challenges were also covered and Stakeholders on both sides shared their view points.

Overall the event provided a good opportunity to interact and network between the players involved in Pakistan Wind Industry" ■

Shahab Qader
CEO Engro Powergen Qadirpur Ltd



Although Pakistan's power market is reaching a mature regulatory stage and the Base Load demand will be met in the next few years, the country is therefore moving towards yet another transition where the Government will start restricting incentives that have previously been enjoyed by the developers. However, International investors are already working in competitive markets around the world and accepting the limited incentive package being offered, making Pakistan an attractive region for investors as world markets are becoming liquid. R&D and technological advancements have also contributed towards the competitiveness of the environment. Solar & Wind projects around the world are roaring for lower Tariffs and IRRs, therefore investors who are willing to mold with the changing environment and think ahead of the game shall come on top. ■

Najeeb Ahmed
ABB



Renewable energy technologies are a crucial part of achieving a secure and sustainable energy mix, together with energy efficiency and other low carbon options.

ABB is contributing to the development and deployment of renewables through product and service innovation and through the purchase of electricity from renewable sources such as wind and solar via smarter, greener, digitized and strong grid.

In Pakistan, ABB has successfully commissioned 2x50MW FWEL wind farm project with complete electrical balance of plant scope and now we are executing Zephyr 50MW wind project. In solar, we recently completed first Solar IPP 18MW Harappa project where ABB supplied state of the art SCADA system and supplied around 5MW solar invertors on various industries and commercial building projects. ■



Farman Lodhi, CEO, Hawa Energy Pakistan

Wind Energy Summit is an excellent initiative. This platform enables all stakeholders associated with the wind industry of Pakistan to get together, share experiences, and find solutions to industry issues. Its heartening to see the summit growing every year with increasing participation. Qudos to Mr Naeem Querishi and his team for leading this effort. ■



Amer Rauf, MD OMS (Pvt.) Ltd.

To protect earth's environment and future of our coming generations we need a cleaner and more electrified world. With ever increasing technological advancement in the field of renewable energy this is now within our reach. But, this requires commitment and encouragement on world level to give way to the penetration of more and more renewable energy and full support to integrate renewable energy onto the power grid by investing in transmission infrastructure to ensure it can carry the new power load.

By mid-century, 86% of world's electricity production is expected to come from renewable sources. Pakistan has just started its journey towards clean energy but due to missing focus and inconsistent policies we are in the state of doldrums. The immediate need is to break the status quo. Government of Pakistan must come forward with a clear and long term policy for brighter future of renewable energy projects in Pakistan and give full confidence and facilitation to the power project developers. ■

Today's Reality



High Income



Less Peace of Mind



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No Best Friends



Costly Watches



No time

Siemens Gamesa Renewable Energy



With more than 35 years' experience and a worldwide installed capacity of over 82 GW, Siemens Gamesa Renewable Energy is a global technological leader in the wind industry with a presence in more than 70 countries. Its end-to-end value chain expertise encompasses onshore and offshore wind turbine design, manufacturing, installation as well as cutting-edge service solutions. Siemens strives to provide the best technological offer for each project, while driving down the Levelized Cost of Energy to ensure the best long-term returns. ■

Descon Engineering: Leading the wind power industry, 10 years of Excellence

Descon Engineering Limited being the largest engineering manufacturer and construction contractor in Pakistan from the onset is one of the pioneers in nurturing the Alternate Energy Sector in Pakistan. Currently the Company is executing three major projects in Pakistan worth mentioning: 74 MW bagasse based cogeneration power project for Etihad Power Generation limited, 31.2 MW Bagass based Cogeneration Power Project for Bahawalpur Energy Limited and 31 MW Bagass based Cogeneration Power Project for Indus Sugar limited.



Descon has been a pioneer in Wind Energy Sector, in 2009 Descon and European WTG manufacturer joined hands to provide complete EPC and O&M solutions for the 50 MW Wind Power Projects which were to supply the power generated to the National Grid. This consortium helped the wind sector by imparting valuable trainings to the different stakeholders in the wind industry, development of the initial energy purchase agreements, guidelines for testing of the wind turbine power plants as IPP's. Development of O&M teams was a key milestone which helped in the indigenization of the skills. This was a road map for the other investors to follow. In 2010 the first commercial-scale Wind IPP of Pakistan FFCEL was commissioned which put Pakistan on the World Renewable Map. In 2014 the largest land based turbines of 2.5MW with a rotor span of 100 m were installed for 50 MW FFWEI II project and commissioned this was another milestone in the nascent history of Wind Power in Pakistan. Till date Descon has executed 300 MW projects, all of them are operational. We are proud that all the 300 MW of projects have achieved COD with smooth Reliability Run Test (RRT) in the first attempt. Descon has diversified experience in providing a turnkey EPC solution and takes a 'single point' responsibility for Wind project and has established itself as the preferred contractor for leading international Power projects developers. Total 300 MW of wind projects executed on EPC basis, 133 state of the art tubular wind towers manufactured in Pakistan, experience of working in challenging terrain of Gharo for FWEL I & FWEL II wind projects, 300 MW of EPC Wind projects have achieved COD with smooth Reliability Run Test (RRT) in the first attempt, large crane and transport capability with fleet of 120 cranes available to install up to 3.5 MW Wind turbine, in house Operation & Maintenance staff managing 06 wind farms, employs over 4500 experienced professional in house Engineering & construction capability, international standards of QC & HSE. ■

ABB: Let's write the future, together



ABB is a pioneering technology leader that is writing the future of industrial digitalization. For more than four decades, it has been at the forefront, innovating digitally connected and enabled industrial equipment and systems. Every day, ABB drives efficiency, safety and productivity in utilities, industry, transport and infrastructure globally. With a heritage spanning more than 130 years, ABB operates in more than 100 countries and employs around 136,000 people. ■

Hawa Energy

The Hawa Power Project consists of the construction, ownership and operation of a wind power plant, which shall generate and sell electricity to the national grid of Pakistan at a pre-defined tariff (the "Project"). The installed capacity of the Project is approximately 50 MW. Hawa was issued a Letter of Interest from the AEDB to develop the project. After extensive studies by local and international agencies a wind corridor was identified where a number of wind farms are presently under development. The Hawa Project has been allocated land in this corridor. The Project consultants have carried out energy simulations based on the extensively available wind data for the area and their projections of the energy yield have been encouraging. ■



ACT Wind (Pvt) Limited

ACT Wind (Pvt) Limited, formerly Tapal Wind Energy (Private) Limited was formed on December 6, 2010. The project is first of the many power projects jointly owned and operated by Tapal Group, Akhtar Group and Ismail Industries. The plant comprises 20 wind turbines having a combined capacity to produce 30 MW of electricity (each having a capacity of 1.5MW). The project achieved its commercial operations date on 8th October, 2016. ■



Engro Powergen Limited (EPL)

Engro is one of the largest and most respected conglomerates of the country with strong Pakistani identity. Engro takes great pride in the fact that it has done pioneering projects that have made significant positive impact to country's economy. Be it development of first coal mine in Thar and associated power project based on indigenous coal, Pakistan's first LNG import terminal or Pakistan's first IPP running on permeate gas etc., we have always been the vanguard of development. Engro Powergen Limited (EPL) is a 100% wholly owned entity of Engro Corporation Limited. With 5 decades of successful business operations and having inherited world class management systems from Exxon Corporation USA, Engro has an enormous depth of skill and resources to successfully deliver large industrial projects. Engro currently owns and operate more than 400 MW globally, which includes both thermal and renewable energy projects and about 1500 MW projects are in the development/construction stage. ■



Sapphire Wind Power Company Ltd. (SWPCL)

Sapphire Wind Power Company Ltd. (SWPCL) was established for undertaking independent development of a wind farm in the country. The 50 MW project is being developed in the Ghara-Jhimpir wind corridor around 80 km from Karachi. SWPCL has followed a highly professional and transparent path for project development and created a number of firsts in the sector. SWPCL was Pakistan's first wind project to get registered with UNFCC for sale of CERs; it was the first wind power project to opt for the Feed In Tariff and the first wind energy project to secure funding from Overseas Private Investment Corporation, USA (OPIC). The project achieved financial close in July 2014 and achieved COD in November 2015. ■



Sindh Transmission & Dispatch Company (Pvt.) Limited

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Systematic **DEFORESTATION** ruining Sindh's economy

Destroying environment, people losing livelihood



The forest area of 145,000 acres is under forcible encroachment, whereas 64,500 acres have been illegally allotted by Sindh revenue department

By M Nawaz Khuhro

"Forestland in Sindh has been leased out to influential people, including politicians and tribal chiefs, who have converted it into agriculture land after hacking forests," Jamali said.

Jamali said, "As per the UN and the WHO standards, any country or province in the world should have at least 25 per cent of forest cover out of its total land area for better livelihood and environment, but unfortunately, Sindh is short of more than 23.10 per cent forest cover," he added.

Sindh that borders neighboring India has a total land area of 14,091 million hectares, of which 1,125 million hectares are allocated for forests.

The existing forests in Sindh are classified as riverine forests, irrigated plantations, and mangrove forests. Riverine forests are located along both the banks of Indus River in Sukkur, Ghorki, Jacobabad, Shikarpur, Khairpur Mirs, Larkana, Dadu, Naushehro Feroze, Nawabshah, Thatta and Hyderabad districts.

Irrigated forests exist in Nawabshah, Tharparkar, Sanghar districts, while mangrove forests exist in Karachi, Thatta and Badin districts.

Syed Ghulam Qadir Shah, National Coordinator Pakistan for International Union for Conservation of Nature's (IUCN) Mangroves For Future (MFF) program, said in an interview: "World Wildlife Fund (WWF) Pakistan in 2008-09 estimated an area of approximately 92,412 hectares in the Indus Delta and 1,056 hectares in Sandspit area along Karachi coast." The government has added more trees in mangroves forest after this period, he added.

The investigation finds that when compared to Sindh's total area of 14,091 million hectares, the province's riverine forests have declined to 0.05 million hectares (0.35 per cent), irrigated forests to 0.082 million hectares (0.14 per cent),

Systematic deforestation in last three decades has deprived Sindh province of a massive forest cover, which subsequently has led to widespread migration, rise in poverty, and destruction to ecology apart from costing an annual loss of millions of dollars to the national exchequer.

An investigation carried out by this reporter revealed that the forest cover in Sindh has reduced to an alarming level of less than 2 per cent, forcing an estimated one million people to migrate to other areas in the province in last 30 years.

Based on official documents, field visits, and research data, the investigative report disclosed that some 145,000 acre forestland has been encroached by the powerful tribal chieftains and land grabbers, whereas the successive provincial governments themselves have illegally allotted 64,500 acre forestland to their political favorites during this period.

"The forest area of 145,000 acres is under forcible encroachment, whereas 64,500 acres have been illegally allotted by Sindh revenue department," Chief Conservator of Forests, Sindh, Aijaz Ahmed Nizamani said in an interview.

Though, Nizamani declined to point finger at the illegal occupants of the forest land, independent experts, including Waheed Jamali, founder of Society for Environmental Actions, Re-Construction and Humanitarian response heap the blame on powerful tribal lords and parliamentarians for this unabated phenomenon - mainly aimed at obtaining more and more agriculture land.

"Ruthless harvesting is the key factor behind deforestation," Nizamani admitted asserting that the Sindh forest department is working on a reform plan to bring forests back with the help of local communities - a claim however rejected by experts and NGOs working against deforestation.

and mangrove forests to 0.2 million hectares (1.41 per cent) till October 2017. Thus, the forest cover of Sindh has reduced to 1.90 per cent from 5.11 per cent.

According to the government data, a massive deforestation in Sindh took place from 1979 to 2010. Riverine forests in Hyderabad and Nawabshah districts reduced to 0.72 per cent, 5.97 per cent in Sukkur and Shikarpur, whereas 2.93 per cent in Larkana, Dadu and Khairpur districts during this period.

A WWF research says that coastal mangrove ecosystems in Pakistan had been seriously degraded over the last 50 years as a result of freshwater diversion for agriculture and industrial purposes.

Illegal encroachments involving powerful land mafia, illegal timber trade, torching of dense forest areas to dismantle bandits' hideouts, change in Indus River course, discharge of industrial and city sewerage, illegal logging, sea erosion, and sea land reclamation appear to be key reasons behind deforestation in Sindh, according to experts.

All Karachi Tajir Irtihad Chairman Muhammad Atiq Mir said that Sindh's forest cover had declined due to land grabbing, illegal timber trade and logging of trees by local people. He said: "About 80 per cent wood for furniture and other needs is imported from foreign countries."

"Estimated one million people from riverine areas and rangelands have migrated to towns and cities of Sindh in three decades after ruthless deforestation," said Saleem Shaikh, deputy director at Climate Change Ministry in an interview. "Most of areas in these regions have turned empty and barren, while desertification in arid areas, including Kohistan and Thar regions, is also rising with each passing day due to cutting of trees and bushes," he said. According to Shaikh, environmental degradation, for which deforestation is a major contributor, costs an annual loss of approximately Rs 700 billion (\$6.64 billion) to the national kitty.

Ali Gul Khuhro, whose father migrated from Katcha area to village Dilawar Khuhro, which sits on the bank of Indus River, about 430 kilometer from Karachi - capital of Sindh, and the country's commercial capital-, asserts that about 99 per cent of the forest area of Khairpur and Larkana districts had been hacked, which had deprived local people of their livelihood. "Hardly one per cent forest in this riverine area of Sindh exists," he maintained. Some 30-35 years ago, 70 per cent of our livelihood came from forests which used

to provide us firewood, vegetables and fodder for cattle, which ultimately provided us milk, curd and cooking oil", Khuhro, in his early 60s said.

"Due to deforestation, the local people have now been compelled to purchase all these through extra labor work. He said that over 100,000 people from riverine areas of Khairpur had migrated to towns and cities of Sindh due to massive deforestation. A field visit observed that only a small forest cover, which local people estimated at only one per cent, exists in Larkana and Khairpur districts' total land area.

Deforestation has also added to the already grinding poverty in forest neighboring communities in recent decades. "About 70 per cent Sindh's land is presently dry, and if deforestation continues with this pace, there will be more rise in poverty in katcha (area between two banks of River Indus)," Waheed Jamali said. Therefore, he insisted, the Sindh government should introduce effective land acquisition policy to control deforestation.

"Due to deforestation, people have been constantly migrating to towns and cities, where they are facing problems of livelihood earning, water shortage and residence", he maintained. According to latest Sindh Forest Department data, the forests of Sindh province prior to World War II were almost fully stocked. Owing to excessive wartime pressure, the over exploitation of the forests was unavoidable. This inevitably resulted in over felling and depletion of the forest resources.

"Due to continuous deforestation, the temperature in Sindh has risen, poverty has deepened. As a result, people have been regularly migrating from katcha areas to other districts, which are already densely populated and resource-strapped", Jamali noted. Pakistan Economic Survey 2016-17 said: "Pakistan is one of the low forest cover countries with only 5 per cent of land area under forest and tree cover whereas international requirement is 25 per cent.

Massive deforestation in Sindh has also contributed to climate change in Pakistan. The temperature in the Sindh province, particularly in Karachi, has risen significantly due to perpetual deforestation in last three decades, according to environmentalists. "The temperature in Karachi during last five years has increased by 5 degrees centigrade and deforestation is one of its contributors," said National Forum for Environment & Health (NFEH) President Muhammad Naeem Qureshi in an interview.

He said that in Karachi alone, over 19,000 trees had been chopped down for construction of route for a government transport project in last one and half years, while 5,000 more trees in the city were also cut down for adversely affected countries by climate change. The katcha, hilly and urban areas are gradually losing tree cover as a result, temperature is rising. Climate Change Ministry's Deputy Director Muhammad Saleem Shaikh said: "Due to deforestation, the climate is rapidly changing and becoming hotter and dryer in Sindh." "Deforestation is a grave environmental as well as social and economic issue that destroys ecosystem, affects human health, increases poverty and temperature."

The perpetual destruction of mangroves has badly impacted the production of fish and prawn along Karachi in last two decades, according to Shaikh. Also, numbers of several rare birds and animals like houbara bustard, partridges, caracal, hog deer, jackal, forest cat, eagle, Siberia birds and many others have reduced to an alarming level due to deforestation. ■

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Guy: I am thrissur-kozhikode Express Bus driver...!!!!

God: Take this Gold robe & enter kingdom of heaven.

God to the Priest: Who Are You...????

Priest: I am a priest & spent 40yrs preaching good to people.

God: Take this cotton Robe and enter heaven.....!!!!

Priest: God, how come that foul mouthed, rash driver gets a Gold & I spent all my life preaching Good, get Cotton.....!!!!

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NFEH Dialogue suggests ways and means to reduce air pollution

A dialogue was held in Islamabad to thoroughly debate and later recommend a strategy on the national level, as how best to deal with the issue of environmental degradation in the country owing to major sources of pollution including means of public transport.

The National Forum for Environment and Health (NFEH) organized the seminar on pollution-free transport in the country at Islamabad Hotel on 04 December, 2017.

The NFEH was able to gather under one roof representatives of concerned civil society, non-governmental organizations, parliament, academia and government agencies concerned to discuss the issue of pollution caused by transport and other such brazen and unchecked sources in the country.

The speakers on the occasion discussed the methods as how best the federal and provincial agencies and watchdogs could come up with a nationwide policy to lessen the damage caused to the environment owing to menaces like smoke-emitting public buses and other motor vehicles in the large cities.

One of the consensus opinion emerged among participants of the moot was compulsory implementation of the policy all over the country for usage of Euro-II compliant fuel and engines by means of public transport. This has become necessary when the developed world has already implemented Euro-IV

compliance for engines and fuel by public transport to lessen harmful emissions by large motor vehicles.



Speakers on the occasion emphasized that though the subject of Environment had been devolved to the provinces as per the Constitution, but the federal and provincial governments and their concerned agencies should enhance co-operation and coordination with each other for tackling issues like emissions caused by polluting public transport.

Speaking as guest of honour on the occasion, Federal Secretary Climate Change Syed Abu Ahmad Akif said that there was not present a single landfill site within territorial limits of federal capital Islamabad for safe disposal of municipal waste.

"Had the pollution and garbage disposal become a national level issue for us, there should have been present at least a single landfill site in Islamabad. In my own opinion pollution is not an issue for us," said the secretary Climate Change.

The federal secretary lamented that there had not been present a single scientifically managed landfill site in entire Pakistan to adopt best and modern practices for disposal of municipal waste as it was one of the major problems for over 200 million population of the country. Lahore is going to become the first city to host such a landfill site otherwise not present anywhere in the country, he said.

He said that environment would become a national-level problem, the day political parties would do campaigning to contest the general elections on the issue of clean air.

"It is the binding social duty of the masses to impress upon the government that best governance practices should be adopted in the country to improve environment and lessen the pollution for sake of health and survival of people," said the federal secretary.

He said that people were required to create a social demand for adopting the regime of good governance that would also lead to improving the environment after combating the issue of pollution.

Responding to a question asked by one of participants of the moot, Mr Akif informed the audience that still 15 per cent diesel was being produced in the country by two refineries, which was not Euro-II compliant.

This was still happening despite that deadline given by the Ministry of Petroleum and Natural Resources in its statutory regulatory order to produce 100 per

cent Euro-II compliant diesel had expired in March, 2016.

The two refineries in question are supposed to invest 400 million US Dollars to produce Euro-II compliant diesel to meet the requirement set by the Petroleum Ministry, said the federal secretary.

"We are required to launch a movement to highlight that over 200 million people in the country will continue to suffer till the time these two refineries desist from investing the required sum of 400 million Dollars," he said.

"The only recourse suggested by the Petroleum ministry to resolve the issue is to impose a fine but in my opinion this option is useless till the time the recommended amount of the fine is less than the profit earned by the two refineries," he said.

The federal secretary said that as the issue didn't come under the purview of Climate Change Ministry, he could only write a letter to Petroleum ministry to resolve the issue without further delay.

Chairman of National Assembly's Standing Committee on Climate Change Malik Muhammad Uzair Khan, speaking as chief guest on the occasion, said that his standing committee had held a meeting the other day and recommended to the federal government to exempt all kind of taxes on electric and hybrid cars to promote sustainable environment in the country.

He suggested that government should take a decision to slap a fine on refineries, which had failed till the present day to produce Euro-II compliant diesel in the country.

He said the standing committee under his chairmanship would do its best to make sure that recent initiatives of present government to build mass transportation systems in the country should be implemented in a manner that they should cause least harm to the environment.

He said the Pakistani parliament had taken a revolutionary step in passing year 2017 by enacting the Climate Change Act in a situation when many of the developed countries had yet to come up with the desired national level strategies to combat the issues of environmental degradation.

He said his standing committee had called upon the government to establish without further delay the national level Climate Change Council under the new act as the proposed body would have the representation of all including prime minister, provincial chief ministers, federal, and provincial ministers concerned.

Ali Tauqeer Sheikh, CEO of LEAD Pakistan an NGO working on environmental issues, said that in last 20 years the means of public transportation had not been increased as compared to phenomenal increase in two-wheelers and cars plying on roads of the country.

He said that several plans had been adopted and studies conducted by various past governments to promote modern means of public transportation in the country but all such efforts didn't produce any result till the time present govt started implementing the Bus Rapid Transit System in various cities.

He said that only flyovers, underpasses, and bridges had been built across the country under the development vision of the past governments instead of giving due focus on launching sustainable and environment friendly systems of public transport.

Dr Muhammad Saleem Janjua, who recently headed the UNDP's Pakistan Sustainable Transport project, said that government should desist from importing such modern motor vehicles for which it could not provide the specified upgraded and refined forms of fuel.

He said that owing to failure of the government to produce petroleum products of desired superior quality, vehicular emissions in Pakistan had been causing massive damage to its environment as compared to other countries.

Fauzia Malik, programme coordinator at IUCN, said that government should come up with the mandatory regulations for necessary consumption of environmental friendly and efficient forms of fuels both by public and private vehicles.

She said it was high time the government should introduce modern means of public transportation that should use renewable forms of energy and clean modes of fuel for their sustainable operations.

High-speed electric trains powered by clean energy grid would be one such viable solution to replace conventional means of countrywide long-distance travel in the country mostly done these days through present railway and airline systems, she said.

In his concluding remarks, NFEH President Naem Qureshi said that government should adopt the necessary legislation and policy framework so that all public buses and other means of mass-transit should use Euro-II compliant technologies and fuel for their sustainable and environment friendly operations.

Mr. Qureshi said that National Environmental Quality Standards-1997 and

Climate Change policy should be implemented at the national level to check the issues like smoke-emitting public vehicles and polluting industrial units especially in a big city like Karachi.

Secretary General CSR Club Islamabad Brig (retired) Muhammad Aslam presented following recommendations to be implemented by the government and concerned agencies to deal with issue of pollution causing public transport: The very old stock of motor vehicles such as cars older than 30 years should be scrapped. Government may introduce incentive-oriented policies like rebate/exemption in import duty for the purchase of new vehicles once people align themselves to government policies, crude/white product pipelines to be expanded to reduce transportation through inefficient/high cost road transportation, better traffic flow on existing roads by keep well-maintained highways, bypasses and overheads to avoid congestion / pollution by vehicular traffic, linking school timings with that of office timings, or five working days in a week (from 8.00 am to 5.00pm), 10-15% reduction in HSD consumption can be achieved through training truck/bus drivers in fuel conserving, driving habits and by timely maintenance of vehicles, allow schools to import yellow school buses at reduced duties, educate the people and provide awareness about the consequences of pollution on future generation, impose heavy fines on vehicles spreading pollution on road, shifting passengers to public transportation, provide efficient public transport to shift passenger traffic from personal vehicles to public transportation, optimization of routing of buses depending upon the passenger flows from home to workplace and vice-versa, designation of special lanes for fast moving traffic, banning of non-bus non-emergency traffic, particularly truck on key bus routes between 7.00-9.00 AM and 3.00-5.00 PM (peak school/office hours), shifting the freight traffic from road to rail, necessary steps to improve the efficiency of Pakistan railways, device incentive oriented policies to encourage the use of railway for the transportation of goods, cancellation of long-haulage or inter-province truck permits except for special cases, if subsidy on HSD cannot be removed, then increase in road taxes on trucks and later making use of these funds for improvement and restructuring of railway and CNG/LNG good fuel option for public vehicles but not feasible due to shortage and expensive LNG being imported from abroad. ■

Pakistan looks to wind energy

Biggest solar energy project fails to give desired result

After Pakistan's largest solar energy project failed to produce the desired results, the government is now looking to wind as a potential clean source of energy that could bridge the country's power shortfall of around 7,000 mega watts during peak-demand in the summer months.

The Quaid-e-Azam Solar Park in the Cholistan desert was launched in March 2015, with Chinese-owned firm Zonergy Limited agreeing to invest \$1.5 billion in Pakistan's mega solar park, with a promise to complete the project, slated to produce 1,000 megawatts of energy, by June 2016. Currently, the park produces just 400 megawatts.

Pakistan's rural areas often suffer blackouts of more than 12 hours a day while urban areas can experience up to eight hours a day without power.

But the government claims the situation has now improved, as thousands of additional megawatts have been added to the national grid.

Federal Minister for Power Awais Ahmed Khan Leghari said that Pakistan's electricity demand is increasing at 8 to 10 percent each year, and can be met only through a sustainable energy mix, including wind power. Currently, 15 wind power projects with a capacity of 788.5 megawatts are operational and providing electricity to the national grid, he said, adding that nine other wind-power projects with a capacity

of 445 megawatts are under construction.

"Some new wind power projects of around 1,200 megawatts capacity are being planned, to be added by 2019-2020 through competitive bidding," Leghari added. The minister said that only two solar power projects of 30 megawatts cumulative capacity are under construction, explaining that the government is struggling to find investors for more such power projects.

Pakistan has installed all of its wind-energy projects in the Gharo-Jhampir wind corridor in Sindh province, a 180-kilometer stretch of coastal land around two hours' drive from the port city of Karachi.

According to the World Bank, roughly 44 percent of households in Pakistan are not connected to the grid and more than 80 percent of those are in rural areas. Mir Ahmad Shah, executive secretary of the Renewable and Alternative Energy Association of Pakistan, said the government's focus on wind energy alone is "flawed" as "this is not a home-based solution like solar energy."

Shah said that solar energy is the most viable power solution for off-grid as well as grid-connected areas because it does not require the government to spend large amounts of money to install transmission lines. However, he added, "Solar energy projects will not take off without private sector investment." Shah also suggested the government should introduce a uniform tariff policy.

Dr. Pervaiz Amir, a water and energy expert from Leadership for Environment and Development, told Arab News that Pakistan should focus on the diversification of its energy projects, as no single source of power could meet the country's increasing demand.

"The government needs to lure private investment in wind and hydro-power projects to diversify its electricity generation from clean energy resources," he said. He also suggested that as Pakistan gets approximately 330 sunny days out of 365 days in a year, the government should introduce net-metering to encourage rooftop solar installation at both domestic and commercial levels. ■

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Govt fails to recognize risks and threats to our environment

By Ali Tauqeer Shaikh

In recent years, Pakistan's foreign policy has become overly India-centric. It is failing to fully recognise the risks and costs of non-traditional threats to national security and has lost much of its drive, initiative and creativity. It rarely serves the needs of climate-compatible development and barely engages proactively with major global initiatives, including the negotiations on climate change.

The long-term threats posed by climate change to Pakistan range from receding glaciers that may result in permanent reduction of available water and changing monsoon patterns leading to frequent droughts and disasters. Add to this climate-induced trans-boundary floods, air pollution, migration, and public health epidemics - the list is long and growing. But we have still not fully recognised climate change as fundamentally a development issue.

We need to take a fresh look at our national security policy to a) break international isolation, b) synchronise foreign policy with domestic economic needs, c) seize global opportunities that could boost trade, technology transfer and access to global finance and investments, and d) align with major global initiatives, negotiating blocs and interest groups. COP23, or the Conference of Parties on Climate Change, that just concluded in Bonn, offered a chain of opportunities to Pakistan to pursue its broader economic and security interests in energy, food and water, a nexus that is at the heart of our climate challenge. With the conclusion of COP23, an elaborate process of background consultations and negotiations has begun. Instead of waiting for the end of the year for the next COP, this is the time to engage with active players and mitigate risks.

The Paris Agreement represents a growing global resolve to stabilise world temperature at 1.5 or 2 degrees Celsius. This is possible only by making rapid transitions to renewable sources of energy, phasing out coal, and eliminating subsidies on fossil fuels. The emissions need to peak sooner rather than later in all large economies, followed by middle- and low-income countries. Coal phase-out is needed by 2030 in OECD countries, and no later than 2050 in the rest of the world to meet the Paris

Agreement stipulations.

Considering the sharply declining prices of renewable energy, coal has no future. The Trump administration's decision to exit from the Paris Agreement shows that the transition will not be painless. Against Donald Trump's last-ditch battle to protect the US coal industry, other countries have begun to commit to time frames by when their emissions would peak or they would phase out coal. France and Germany are vying for global market of renewables. Britain and Canada, two of our important trading partners, launched the Powering Past Coal Alliance at COP23. More than 20 countries and several other sub-national actors have already joined the alliance, which aims to have 50 members by the next COP.

Pakistan's carbon emissions, presently negligible, are projected by the government to accelerate and make the country one of the world's biggest emitters in the coming decades. The share of coal is even smaller, but clearly expanding for the smog-afflicted landscape. It is a good opportunity for Pakistan to itself align with such new global alliances. In doing so, it need not commit to a particular phase-out date. Active engagement with such groups opens up technology and capital investment opportunities in the energy sector. The post-Brexit UK government is aggressively looking for opportunities to expand trade ties with Pakistan.

In some ways, the US has gifted China the opportunity for global leadership on climate change. But several forums at COP23 pointed out the need for China to clean its energy trade with developing countries. It is in the interest of both China and Pakistan to clean up and strengthen energy ties. CPEC provides an opportunity to become the world's first clean energy corridor.

The climate clock is ticking and the economic cost of climate change is going up. A recent UNDP study by LEAD showed that Pakistan is spending more than eight per cent of its national budget on climate change. Yet, its ranking as one of the most vulnerable countries has not gone down. This drift will snowball unless climate-smart or climate-compatible development is adopted as long-term national policy.

It is time for our economic, foreign and security leadership to integrate the climate challenge into our policy planning and resource allocation. An ambassador-at-large should be appointed to spearhead our efforts globally. The government might want to call a special session of parliament to sensitise lawmakers. If done now, it will inform political leaders and their party manifestos for the 2018 elections. ■

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'Karachi may face dust storms, cyclones, smog in coming years'

Entire Karachi has become a garbage bin - Unar

By Mustafa Tahir

After deadly heat waves and torrential rains which have struck almost every year recently, because of climate change, Karachi may start to face extreme dust storms like the ones in the Middle East or cyclones and hurricanes that hit the Americas, experts have warned. Speaking at an event titled 'Environmental Degradation and Climate Change with special focus on Karachi' held in the city recently, eminent environmentalist Dr Pervaiz Amir said Karachi was among the cities most likely to be affected by climate change. "In the days to come, Karachi may face extreme dust storms, devastating cyclones and hurricanes in the Arabian Sea as well as smog," he said. The talk, which had been organised by Faroozan, an environmental magazine, was attended by government representatives, officials from the environmental watchdog agency, industry representatives, civil society, academicians and environmentalists.

Dr Amir said that the plantation of millions of trees was the only viable option available to mitigate the harmful effects of climate change. Trees should be planted along the entire coastal belt of the country to protect against and reduce the damage from expected hurricanes and storms as temperatures in the Arabian Sea continue to rise.

Speaking about the Karachi, the environmental expert said that the country's largest city was becoming unliveable with each passing day and warned that toxic smog, which had made the lives of people in Pakistani and Indian Punjab miserable, was not far from Karachi as it was a man-made phenomenon and would soon start occurring in the city.

"I would urge the citizens and the authorities to stop expanding and populating this city or it would be extremely disastrous in the coming years," he said. "Instead of expanding this city, construct five to six more cities on the coastal belt of the

country and divert rural population to those new cities."

Dr Amir said Pakistan was among the world's top 10 countries most vulnerable to climate change and its effects. It is facing threats ranging from super floods caused by melting glaciers to devastating tornados to extreme heat waves and deadly droughts to paralysing landslides.

"Extreme water shortages, highly contaminated drinking water and erratic rainfall patterns are some of the other extreme events that are being witnessed in Pakistan, which would also result in more economic destabilisation and misery for the country," he said, urging the authorities to make tree planting their topmost priority.

The expert further said that the United States believes that climate change and water shortages are the biggest threat to Pakistan instead of terrorism, institutional failure and any other external threat.

Dr Amir warned that if the situation is not taken seriously right away, Pakistan could descend into anarchy and destabilisation because of extreme weather conditions, natural disasters and environmental pollution which may cause mass migration and disease outbreaks.

"The only way forward for Pakistan to meet these challenges is enhancing tree plantation. I would even recommend closing down all the schools in the country for one year and using all this workforce and students on tree plantation, which is vital for our survival," he added. Environment Secretary Baqaulah Unar said that all of Karachi has turned into a giant garbage den where litter is being dumped in every nook and cranny while safe drinking water was not available to its millions of citizens.

"Unfortunately, neither the authorities nor the citizens are ready to improve environmental conditions," he said. "Industrialists are not ready to establish effluent treatment plants and are emitting deadly waste into the environment, while vehicles are also adding to pollution." Unar urged

the civil society to raise their voice and pressurise both the legislatures, industrialists, authorities and regulators to enforce the laws and make this city liveable again. He also announced that he would distribute 100,000 plants one hundred plants to make the city green. Senator Abdul Haseeb Khan, Salim-uz-Zaman and Dr Waqar Ahmed also spoke on the occasion. ■



SOCIAL & RESPONSIBLE

Given that there are still no laws governing CSR, it is encouraging to see local companies undertaking CSR initiatives.

By Afia Salam



It is often said that Pakistanis either miss the bus, or they are late to the party. However, to their credit, when they do get to the party, they dive in at the deep end! Proof of this is that Corporate Social Responsibility (CSR) is spreading across the corporate world in Pakistan and evolving at the same time. This was

physically challenged, are trying to improve the skills and earning capacity of the general public.

Given that there are still no laws governing CSR initiatives in Pakistan, unlike in India, where it is mandatory for companies to invest two-percent of their profits into society, it is encouraging to see companies undertaking CSR initiatives, although this is sometimes due to the fact that many multinational companies are required to comply with international CSR-related company policies. Meanwhile, several 'national' brands are emulating international best practices and have a robust CSR plan with an eye on the Triple Bottom Line, the buzzword in the CSR world which addresses three aspects of business which are no longer considered to be mutually exclusive: financial, social and environmental.

Furthermore, it is clear that CSR is now evolving into 'Creating Shared Value' (CSV) which entails initiatives that are conducted keeping specific business areas in mind. For instance, it makes sense for a milk company to invest in improving the livestock sector, rather than establishing a playground in a remote area or sponsoring a literary conference. Similarly, a biscuit manufacturer can invest in better wheat farming or the poultry industry where it sources eggs from, while a textile concern can invest in communities where the cotton they use is grown.

Many companies are now moving to this model and their direct beneficiaries are not complaining as they are deriving

greater benefits from this approach. There are ancillary benefits as well, since other institutions, such as those in the health and education sectors are attracted to these 'islands of excellence' - communities which companies are investing in to enrich the lives of the people living there.

However, there is another front which all businesses must keep an eye on - climate change. The UN Climate Change Conference (COP23) slated to take place in early November in Bonn, Germany, will focus on 'New Market Mechanisms' - methods that can generate additional



revenues with the help of the private and corporate sector to combat the effects of climate change which are a global threat, especially for poorer countries like Pakistan which requires external financial help to combat the effects of climate change.

The Conference will home in on the corporates and expect them to work towards greater engagement through not only dialogue, but by walking their talk and making financial and operational investments.

Since Pakistan is among the top 10 countries that are most threatened by climate change, this is something that CSR forums and clubs in Pakistan should now focus on. They need to have a robust plan of action ready to 'climate proof' their businesses, go the extra mile in tandem with the government's plans for combating climate change, and in helping adapt to the effects that cannot be mitigated. ■

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apparent at a meeting of the CSR Club of Pakistan titled 'CSR as a driver for skill development' recently in Karachi. The Club was established by Naeem Qureshi, who also heads the National Forum for Environment and Health; its members include individuals and a wide range of organisations including manufacturing giants, service organisations, not-for-profits and start-ups.

One of the most interesting aspects that came to the fore during the meeting was that in addition to large organisations, like Sindh Engro Coal Mining Company, start-ups such as Paxi, who are attempting to provide greater employment opportunities for women and the

Oil and gas exploration in Pakistan comes to a complete halt



Energy experts and policy analysts at a round-table conference organized at Institute of Policy Studies (IPS) have warned that if immediate measures are not taken by the federation and the provinces to sort out their policy differences on the interpretation and application of the 18th constitutional amendment vis-à-vis oil and gas exploration, the consequences could be disastrous. Because of the impasse there has been a complete halt on exploration activities since 2014 and the major multinational companies in the sector have either left or are at the verge of closing their business operations in the country, they lamented.

The policy dialogue titled "Status of Petroleum E&P in Pakistan: A Deliberation on Future Strategy" chaired by Mirza Hamid Hassan, Member IPS National Academic Council (NAC) & Chairman IPS Steering Committee on Energy, Water and Climate Change, whereas Mohammad Raziuddin, CEO, Khyber Pakhtunkhwa Oil & Gas Company Limited (KPOGCL) delivered a keynote presentation on the progress of his organization and the challenges it has been faced with. It was followed by an interactive session among the participants at National University of Science & Technology (NUST) among others.

Raziuddin, in his presentation, hoped that the initiative taken by the government of KP in the shape of KPOGCL would play its role in overcoming the challenges through positive engagements with the federation and the policy stakeholders at all levels. He said, KPOGCL is making all out efforts to bring in investment to start exploration and development work in eight blocks in the province, which has an immense potential to increase its GDP from USD25bn to USD125bn by 2025 through oil and gas production.

Criticizing the proposed scheme of things by the federation in the shape of Pakistan Petroleum Exploration and Development Authority (PEPRA), after a lapse of seven years since the 18th amendment was passed, he said that it will give all oil and gas regulatory matters to the federal government and the provinces will have nothing. He claimed that the federal government's stance on the critical issue is still to have all upstream regulations and becoming the sole regulator, rolling back the 18th amendment. No representation is being given to provinces in PPEPRA. Its authority will be extended to the whole of Pakistan, including its territorial waters, the Federally Administered Tribal Areas (FATA), and the Provincially Administered Tribal Areas of KP and Balochistan. It shall also apply to offshore Exclusive Economic Zone of Pakistan as defined in the Territorial Waters & Maritime Zone Act of 1976.

He suggested that the proposed PPEPRA should only be

authorized to regulate pricing and concession management of offshore, FATA, Azad Jammu & Kashmir, and Gilgit-Baltistan, and its chairman should be appointed on rotation basis between federation and the four provinces. The provinces should have their own regulatory authorities for concession management. Ashfaq Mehmood was of the view that provincial governments should work in synergy with the federal government. Road-mapping for delegation of powers and determining their extents needs be done and think-tanks like IPS can play their part in this regard.

Mirza Hamid Hasan in his concluding remarks regarded the situation as a failure on part of both the federation and the provinces and stressed measures on war-footing to resolve the crises. He was of the view that lack of understanding and conflict of interest between provincial and federal government is the major cause of the crisis and no regulatory body was playing its role effectively, worsening the situation. ■

WB's role in drafting oil exploration law stuns senators

An admission by a federal minister on the role of the World Bank in drafting of a law about apportionment of the country's natural resources took senators by surprise on Wednesday, prompting the Senate chairman to seek a written response from the petroleum ministry about the extent to which the bank was involved in the matter.

Winding up a discussion on an adjournment motion about the recent move by the federal government to delink the petroleum and natural gas regulator from provincial oversight in direct violation of the Constitution, Minister of State for Petroleum, Jam Kamal Khan conceded that the draft Pakistan Petroleum Exploration and Production Regulatory Authority bill had been prepared by a World Bank consultant and that it had been placed before the Council of Common Interests (CCI).

He, however, emphasised that it was merely a draft law and would be given a final shape in consultation with the provinces.

In an effort to downplay whatever he himself had conceded, he added: "Proposals are made and we pick and chose."

Speaking on the motion, Senator Farhatullah Babar had said earlier that "a mysterious and unexplained move was afoot to deprive the provinces of their right to develop the petroleum sector by awarding petroleum concessions and vest the federal petroleum ministry with this right in violation of Article 172(3) and other articles in the Constitution introduced under the 18th Amendment". And this is being done under the advice of the World Bank. He said a bill titled the Pakistan Petroleum Exploration and Production Regulatory Authority Act, 2107 had already been drawn up to set up an authority to grant and monitor all petroleum concessions and other upstream activities throughout the country. He also read out excerpts from the bill. ■

Sindh gas should be given to its consumers

Only surplus gas can be diverted to other areas, CM writes to PM

EU Report

Sindh CM has urged upon the federal government to allocate all gas produced in the province for energy requirements to Sindh in the first place and then only surplus could be diverted to other parts of the country.

The Sindh Chief Minister Syed Murad Ali Shah has written a letter to the prime minister requesting him that "All natural gas being produced in his province should be first allocated for gas consumers in Sindh for meeting all its energy-related requirements as only the surplus quantity of gas should later be diverted to other areas of the country that too after consent of the provincial govt".

The Sindh CM made this request to the PM in pursuance of Article-158 of the Constitution so that natural gas produced in Sindh should first and foremost be used to meet all industrial, domestic, commercial, power sector-related requirements of the province to consume gas.

The letter also expressed the intention of Sindh government to generate up to 3,000 MWs of electricity, at cheaper cost, through available gas reserves in the province. The CM's letter to Prime Minister Shahid Khaqan Abbasi contains dated 23 November, 2017 the subject "Implementation of Article 158 of the Constitution". The letter was written just a day before meeting of CCI in Islamabad.

The CM's letter says: "I am writing with



reference to the CCI (Council of Common Interests) summary floated by Ministry of Energy, Petroleum Division on implementation of Article 158 and Article 172(3) of the Constitution wherein Federal Government has grossly erred in concluding that Article 158 has been implemented. Ground realities are contrary to this claim. Detailed comments on the summary have been provided to Petroleum Division.

As per the last published Energy Year-book 2015 daily natural gas production in Sindh has varied between 2,700 to 2,900 MMCFD in different years as against daily consumption of 1,560 MMCFD by all sectors of economy in 2015. The power and fertilizer sectors consumed the bulk i.e. 589 MMCFD and 252 MMCFD respectively whose benefits were enjoyed by the entire country. Despite surplus gas production, Sindh has been facing gas loadshedding in CNG and industrial sectors and no new connection is being provided to power generation, industrial, commercial and residential sectors by SSGCL. This is unjust and a clear violation of Article 158.

Sindh has a growing and vibrant economy with a potential to utilize the entire gas produced in the province. Diversion of gas to other parts of the country, without first meeting the requirements of Sindh, on the basis of an arbitrary and unilateral decision of ECC (Economic Coordination Committee), is unconstitutional.

Currently, Sindh continues to produce over 2,700 MMCFD whereas approximately 1,000 MMCF gas is still being diverted daily to other parts of the country without any consent from gas producing province i.e. Sindh. Allocation of gas to Sindh in accordance with Article 158 would be

beneficial for the entire country as Government of Sindh intends to utilize 500-600 MCFD gas to generate 3,000 MW affordable power which would cost much less than the current average tariff; and rest of the gas for industrial and domestic consumers of Sindh.

It is therefore, requested that in pursuance of the Article 158, please allocate all natural gas from old and new wellheads located in the province for the consumers of Sindh so that province can meet its immediate short term and long term requirements in power, fertilizer, industrial, domestic and commercial sectors. Only the surplus quantity, after meeting the full requirement of the province and with the consent of provincial government, may be diverted to other areas. A prosperous and developed Sindh guarantees economic well being of Pakistan. Sindh would prove to be the economic engine of the country.

"I earnestly look forward for a positive response in this matter of great public importance, please," said the CM in his letter.

Meanwhile, the CCI meeting held in Islamabad on 24 November, 2017 with PM in chair decided to share with provinces real time data of electricity production and transmission and also about gas production and distribution. The decision was taken on the advice of Sindh CM. Also on the proposal of Sindh CM, the CCI meeting decided that the provincial holding companies would be given one time award of an oil block under Article 172(3) of the Constitution. The CCI decided that both gas utilities i.e. SSGC and SNGPL would provide gas to villages situated within five kilometres radius of any gas field. The meeting decided that from onwards no cabinet committee would use the exclusive mandate of CCI. ■



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Marvel or mishap? Hong Kong's troubled mega bridge

Billed as the world's longest sea bridge connecting Hong Kong, Macau and mainland China, it has been touted by supporters as an engineering wonder. But critics say the multi-billion dollar infrastructure



mega-project is politically driven and a costly white elephant. Dogged by delays, budget overruns, accusations of corruption and the deaths of construction workers, there is little prospect it will open by the end of 2017 as hoped. Building started in 2009 on the 55-kilometre (34-mile) crossing, which includes a snaking road bridge and underwater tunnel, linking Hong Kong's Lantau island to the southern mainland Chinese city of Zhuhai and the gambling enclave of Macau, across the waters of the Pearl River Estuary. Officials say it will boost business and cut travel time, but opponents in Hong Kong see it as another attempt by Beijing to tighten its grip on the semi-autonomous city.

Pakistan's 'Dangal' sisters flex muscles against gender stereotypes

Pakistan's powerlifting champions Sybil and Twinkle Sohail have lifted the expectations of the country after their clean sweep in an international championship. The two sisters won a cumulative eight gold medals at the Oceania Pacific Powerlifting Championship



2017, which was held in Singapore, bringing laurel to the country. In 2015, Twinkle became the first Pakistani woman to represent her country in powerlifting, taking a gold medal in the 57-kilogramme junior event at the Asian Bench Press Championship in her first attempt. Besides Twinkle and Sybil, their two other sisters are also training for powerlifting and weightlifting. Their journey in many ways is similar to that of Phogat sisters in India, whose struggles were shown in Bollywood blockbuster Dangal.

SpaceX confirmed its CEO Elon Musk plans to blast his cherry red electric car off toward the Red Planet when the company's Falcon Heavy rocket launches for the first time next month. Many wondered if Musk was joking last week when he tweeted his plans for the Falcon Heavy's inaugural payload to be his "midnight cherry Tesla Roadster playing Space Oddity," the classic song by the late David Bowie. "Destination is Mars orbit. Will be in deep space for a billion years or so if it doesn't blow up on ascent," the famed space enthusiast and Internet tycoon said on Twitter. Touted as the "world's most powerful rocket," the Falcon Heavy is designed to one day carry crew and supplies to deep space destinations such as the Moon and Mars. It can propel 119,000 pounds (54 metric tons) -- or the same as a fully loaded Boeing 737 jet -- into orbit, twice the load of the Delta IV Heavy, currently the biggest rocket in operation.



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



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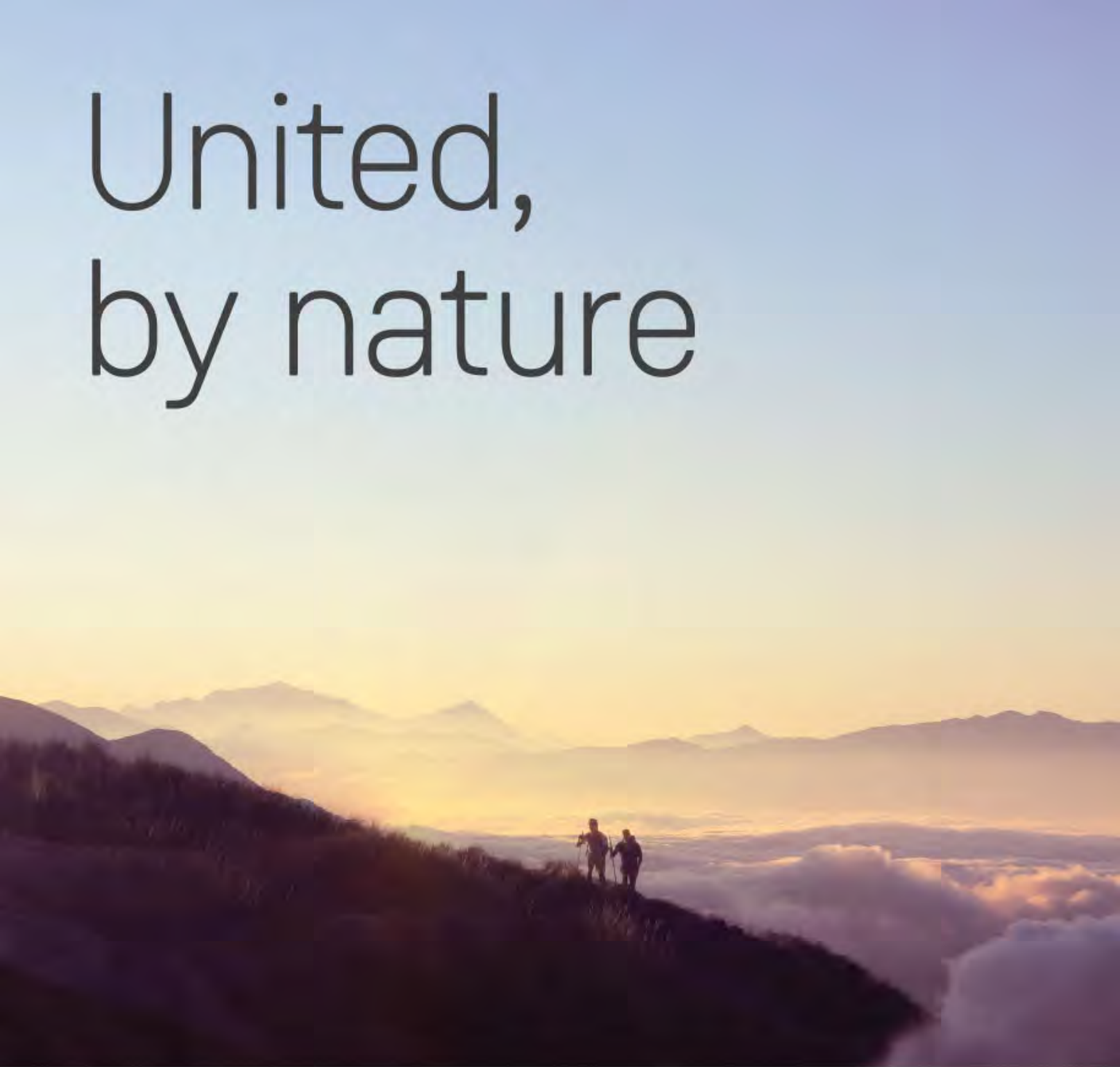
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