

# MONTHLY **Energy** UPDATE

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**Can LNG import solve energy problem?**

**Role of political parties on sustainable development**

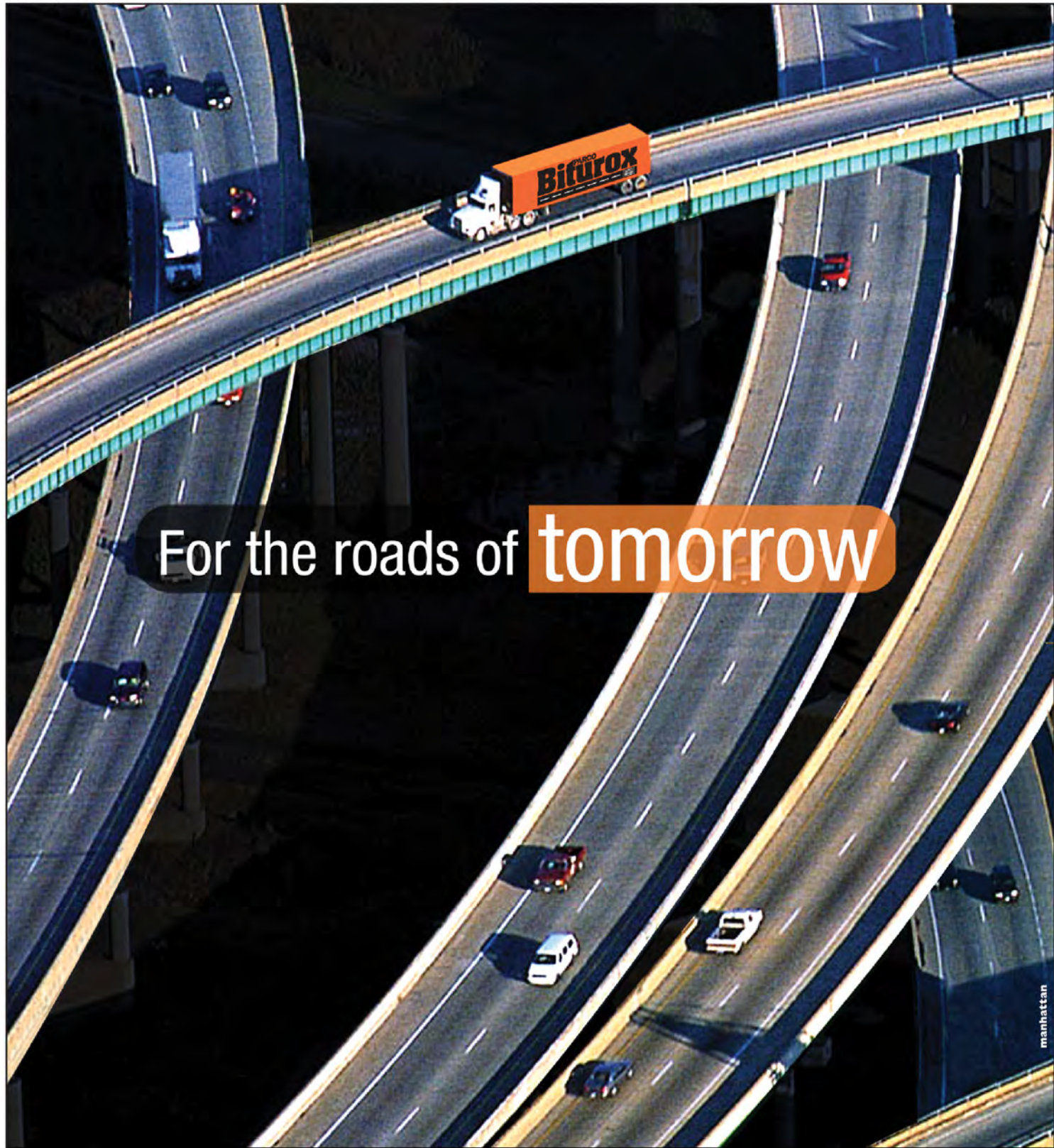
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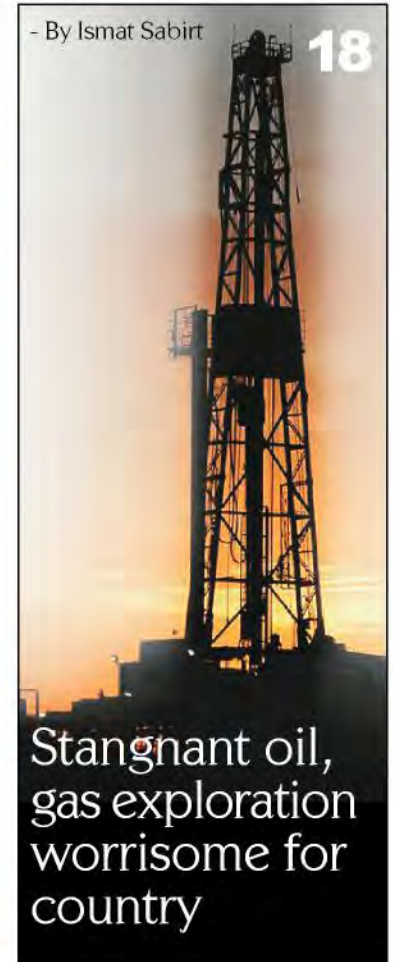
## Nuclear power plants route to energy self-sufficiency



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## From the editor's desk...

# Economic stability impossible sans energy development

The surprising inflows of the \$1.5 billion from the brotherly state of Kingdom of Saudi Arabia has dramatically changed the economic scenario of the country for few next months as Rupee recovered its values sharply against the Dollar to stand below 100 level.

The dialogue process with Taliban has continued despite many ups and downs but any settlement either for short-term period will give a chance to government to buy a time and address its rest of governance issues chiefly energy crisis for economic stability.

Billion dollars inflows are expected more from different Middle East countries in the coming months. There will be tranches of Coalition Support Funds (CSF) of \$ 1.2 billion are likely in the current financial year. The sale of 3G/4G licenses and privatization of different government entities will attract billion of dollars into the national exchequer this year and major microeconomic indicators will be settled in quite stabilized position for next two to three years.

This is the high time that the PML (N) leadership and economic managers should utilize to take major and long-term initiatives to end energy crisis of the country in phases. Now, the government has plan, money and opportunity to do away the menace of circular-debt in the energy sector that piled up again to Rs 271 billion as per predicted by many experts of energy sector in the past.

The economic manager should carry out extensive steps to maintain financial management in different entities and various sectors of energy including power producers, refineries, oil marketing companies.

There are different projects in the queue to be started in the near future including the much-delayed LNG project, which should be kicked start, come what may, through adjustment of feasible pricing should be best suited as described by experts at \$10-12 MMBTU or at par dynamics of global market trend.

Thar coal-based power projects should be started on war footing besides different power projects to be have been announced by the government in recent past. Because this is the ideal time for the government to make implement its Power Policy 2013 and attract local and foreign investors for the development and expansion of power sector whether they are being converted to coal-based power producers from natural gas or they should be established on the basis of solar or wind energy.

The foundation stone of different project should be laid down for their timely and quick completion including K2-K3 Nuclear Power Project and TAPI gas pipe line projects.

The private sector should be facilitated into fast track basis for the development of infrastructure of energy sector such as LPG autogas project and oil and gas exploration sectors because the rupee strengthening has given them opportunity to stakeholders to import resources at relatively reduced capital for materializing their business plans.

Last but not least, Rupee appreciation against Dollar will reduce the import bill of oil of the country significantly. Hence, the government should pass on the impact to consumers in every month without any hesitation that will create a positive impact at wider scale from controlling inflationary affect over the consumers to stir up economic and business activities.

Government should scale down prices of petroleum products ensuring its impacts to be transferred to the masses in all sectors from airfare to electricity cost, transportation expenses to commodities prices of essential chicken times.

The resolution of energy crisis and its self-sufficiency will lead towards stable and strong economy for developing, prosper and true welfare state of Pakistan.

*Naeem Qureshi*

Managing Editor  
**Salahuddin Haider**  
[energyupdate@gmail.com](mailto:energyupdate@gmail.com)

Editor  
**Salahuddin Haider**

Associate Editor  
**Ismat Sabir**  
[ismatsabir@yahoo.com](mailto:ismatsabir@yahoo.com)

Editorial Team  
**Yasir Ameen**  
**Arsalan Ali Bugti**  
**Mustafa Tahir**

Bureau Chief Islamabad  
**Shams ul Azhar**

Advisors  
**Dr. Nasim A. Khan**  
**Kalim A. Siddiqui**  
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**Dr. Bashir A. Syed (USA)**  
**Dr. Kaiser Waheed**  
**Anwar Shahid Khan**

Head of Admin & Accounts  
**Ruqiyah Naeem**

Commercial Designer  
**Rizwan Rathore**  
[rathore.rizwan@gmail.com](mailto:rathore.rizwan@gmail.com)

Marketing Team  
**M. Musaddiq Aziz**  
**Mehmood Tareen**  
**Engr. Nadeem Ashraf**  
**Ghulam Kibriya**

Legal Advisors  
**M. Nadeem Sheikh Advocate**  
**Saleem Michael Advocate**

Circulation  
**Zahid Ali**  
**Abdul Hayee**

Photographers  
**Ahmed Tareen**  
**Abdul Haleem**

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

### Monthly Energy Update

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



# Letter's to Editor

## Pipe dream after all

The plan of Iranian gas powering Pakistan's industry and fuelling its electricity generation plants from next year has been shelved, at least for now. Minister for Petroleum and Natural Resources Shahid Khaqan Abbasi, has told lawmakers that the multi-billion-dollar gas pipeline project is off the table because "international sanctions against Iran are a serious issue". He reportedly said: "in the absence of sanctions the project can be completed within three years but the government cannot take it any further at the moment." His statement in the National Assembly is quite the opposite of the position he and his cabinet colleagues had taken until very recently. This changed official stance on the import of gas from Iran through a pipeline to overcome energy shortages in the country also does not match a previous Foreign Office view. The Foreign Office has on several occasions declared that the sanctions (sponsored by the US and EU) on Iran do not cover the gas pipeline. Not very long ago, the PML-N government was trying to persuade Tehran to provide financing for the completion of the pipeline on Pakistan's side and bring down the gas price agreed upon.

Why then has the government of Prime Minister Nawaz Sharif suddenly given up its earlier stand on the project conceived more than a decade ago? When India distanced itself from the project, Islamabad was quick to criticise New Delhi for its decision apparently taken under pressure from Washington. After winning the elections, the PML-N, like its predecessor the PPP government, had pledged to build the pipeline (despite pressure from the US). Many suspect that the project - a sovereign agreement between the two countries - that is seen as crucial for the country's economic growth has been abruptly abandoned under outside influence. There are suspicions, yet to be substantiated, which link the sudden change in Pakistan's Syria policy and the shelving of the long-pursued gas pipeline project to recent visits here by the Saudi leadership. The U-turn has left the government in an unenviable position. Not only does it face the prospect of tensions with Iran, it has also to brace itself for questions that are raised regarding the Pakistani state's sovereignty.

*AIR CDRE (r) AZFAR A. KHAN, Rawalpindi*



## Gas security deposit

THE SNGPL and the SSGC have imposed additional security deposits of several thousand rupees on the assumption that all law-abiding consumers, including those paying gas bills regularly for over 10 or 20 years, will be defaulters some day and disappear.

These state-owned companies will collect Rs14bn or rather they have already collected.

The Ogra has approved it. Now, even suppliers of electricity, water and other services may follow suit which will hurt employees of these gas companies as well. Individual consumers cannot afford justice through courts.

In a democracy, people's representatives are expected to look after the interest of citizens. Now, it is yet to be seen whether our parliamentarians and minister for petroleum examine this concept of extracting money from the helpless consumers.

*M. Akram Niazi, Rawalpindi*

## Attack on gas pipelines

PEOPLE in most parts of Punjab were forced to do without gas for almost 48 hours after three main transmission pipelines supplying the fuel to the province were blown up near Rahim Yar Khan on Sunday night. While supply to domestic consumers was reinstated, to some areas partially and fully to others, by Tuesday afternoon, the Sui Northern Gas Pipelines Ltd had told its commercial and industrial users to wait at least one more day before the ruptured lines were repaired to restore their limited supply. The duration and frequency of power cuts in many parts of Punjab - and in other parts of the country - have also increased because of interruption in gas supply to power producers. Consequently, factories are facing significant output losses or have switched to expensive alternatives to meet their production deadlines as gas vanishes from the system and power shortages rise. There is little the government has been able to do to mitigate the sufferings of domestic consumers or save commercial and industrial users from financial losses.



The incident in which at least one life was lost and scores of villagers were forced to flee their homes has exposed the vulnerability of similar installations across the country. It isn't the first time that a gas pipeline has been blown up. It has happened many a time in the past in Balochistan - and once in Punjab. Mostly Baloch dissidents have accepted responsibility for carrying out the attacks. But the fact that it is the first incident of its kind to have taken place in Punjab shows that the dissidents have acquired the capability to attack and destroy important installations deep in this province as well. (The Baloch Republican Army is reported to have accepted responsibility for the Rahim Yar Khan blasts.) A senior police official's statement that the SNGPL had failed to take proper measures to secure the pipeline even after a previous attempt to blow it up at the same place was fortunately averted just a month ago underscores the bureaucratic lassitude the company is immersed in. It can only be hoped that this incident will prove big enough to awaken the company and the other authorities responsible for protecting such installations from their deep slumber.

*EJAZ AHMAD MAGOON, Lahore*

Send your letters to  
[energyupdate@gmail.com](mailto:energyupdate@gmail.com)

# Nuclear power plants route to energy self-sufficiency

By Yasir Ameen

The plan of constructing mega nuclear power plants is an arduous task to be accomplished in the country yet it is vital as most economical and sophisticated source of electricity production in the future.

The proposed Karachi Coastal Power Project for production of 2,200 MW electricity through its two units of K1 and K2 has drawn serious technical concerns including construction model, safety of the masses living in the city and consistent financial backup.

Since the groundbreaking of the project made by Prime Minister Mian Nawaz Sharif in November 2013, the debate emerged in different quarters including media and scientists fraternity.

Pakistan Atomic Energy Commission (PAEC) has addressed in detail all specific and general concerns of doubting minds dispelling all controversies at the beginning of the emerging disputes and issues.

The opposition of the project is imminent from developed countries which termed Pakistan's administration as dubious for misusing and mishandling the nuclear technology but it is a fact that a Pakistan is a country having a nuclear technology and warheads for its defence and peaceful generation of electricity which is needed as air or oxygen to the masses in the present situation.

It is a factual argument that has provided support to this project on technical grounds, thus paving the way towards smooth development of the projects as planned by the government and concerned departments.

Any project for power generation is important for Pakistan which is struggling from energy crisis and nuclear power projects are the source of cheap electricity production to the masses and industries stuck in poverty with dismal financial situation.

PAEC engineers, who have been given an important task of developing nuclear power plants, estimated that the electricity generation will be economical at Rs 10 per unit after six years that will include all cost of production and distribution.

K-2 and K-3 project has been planned to be completed in next six years with the financing facility of China of about \$ 6.5 billion. But it is considered as a milestone towards establishing 8,800 MW by 2030 and 40,000 MW by 2050.

All developed countries particularly those having nuclear power for any purpose must be well-aware of the fact that Pakistan is 15th country in the entire world and the first in the Muslim world to have a nuclear power plant.

It started construction of KANUPP, the first nuclear power plant in 1976 despite resistance of the world which tried in vain to stop the country from becoming capable of producing electricity from this source.

The country has established the best performing power stations supplying over 600 MW of electricity to the national grid at high capacity at the average rate of Rs 7 per unit.

The second plant (C1) having capacity of 325MW was set up







in collaboration with China in September 2000. An additional plant (C2) was added to the system at Chashma. Two more plants C3 and C4 will be completed by 2016-end and start generation of electricity.

The ACP1000 model selected for the new reactors is based on the well-tested PWR concept of which hundreds of systems are operating around the world. It is not new in Pakistan neither in the world. The country has 15 year experience of operating such system at Chashma.

There are 21 such reactors and 28 are under construction in China, the collaborating country, and many of which are similar to ACP1000

The great advantage of ACP1000 model is its several safety systems added on to the basic PWR concept. One of its features is the double containment- a complete shell over the main containment based on the incidents of Fukushima.

Power generation could be priority of the country at any cost but not at the cost of public lives hence if they are risked from such projects, there is no use of technology or power generation.

Therefore, the construction of Karachi Coastal Power Plants in Karachi has come under harsh criticisms particularly in the city which is densely populated with limited resources of protection in case of emergency.

Experts said that nuclear power projects and its construction particularly the proposed K-2 and K-3 has been planned to reduced the maximum risk in case of any emergency.

It is desirable to establish a nuclear plant as far away from the cities as possible but it is not a general rule. There are several plants close to large population centres which include Guangdong in China, Kuosheng in Taiwan and Indian Point near New York City, USA.

As far as environmental aspects are concerned, there are various sold measures planned to initiate for avoiding the contribution of nuclear power projects in the global warming and emission of hazardous gases.

PAEC will ensure the new projects to be constructed and operated in a way that their negative part will be lesser. WHO studies show that increase in occurrence of cancer is negligible from any rapid emission of nuclear gasses.

The billion dollar project raises legitimate concerns that how ailing economy of the country could bear such mega power projects in the country. But the financing support of friendly country China will make it possible

The project will be financed primarily by China with \$6.5 billion lending facility which is about 82 percent of the total contract cost. China also financed C1 and C2 projects with 85 percent of its share.

On the top of all, the payment to contractors whether foreigner or local will be made in local currency instead of dollars mainly not to impose burden on current account of the country.

According to the plan, the project cost will be paid back to China by Pakistan in next 13 years and the production of the electricity will be further cheaper at large scale benefiting to masses and economy of the country. ■

## New York Times Report

# Pakistan breaks ground on nuclear plant project with China

Prime Minister Nawaz Sharif ceremonially broke ground on a \$9.59 billion nuclear power complex to be built in Karachi with China's help, seeking to ease Pakistan's long-running energy crisis and signaling a new step by China in becoming a top nuclear supplier.

The new project is not without potential controversy. In the years since China and Pakistan agreed to build the first reactor at Chashma, China has joined both the Nuclear Nonproliferation Treaty and the Nuclear Suppliers Group, an agreement by 47 countries to limit exports of nuclear technology and materials.

Mr. Zhang said that China is almost certain to deem the new projects as a "grandfathered" extension of the countries' earlier nuclear deals signed before China joined the Nuclear Suppliers Group.

"My analysis is that this issue won't trigger too much controversy," Mr. Zhang said. "The Indian government will certainly respond, but I don't think that this will fundamentally harm Sino-Indian relations, because it's not something that has come out of the blue. China and India have exchanged views on this many times."

One of the main events considered to have weakened the Nuclear Suppliers Group, in fact, was the 2005 commercial nuclear deal between the United States and India, which like Pakistan developed nuclear weapons in the face of global pressure. The deal has been a lasting source of outrage for Pakistani officials.

The Chinese Ministry of Foreign Affairs has not commented on the project with Pakistan. Yet in the past, it has said that China's nuclear cooperation with Pakistan is entirely peaceful and comes under International Atomic Energy Agency safeguards. ■

## The Hindu Report

# Pakistan begins work on civil nuclear power plant

Pakistan has broken ground on what will be the country's largest civil nuclear power plant, which is being built with help from China.

Pakistani Prime Minister Nawaz Sharif performed the ground breaking ceremony in the southern city of Karachi. He said the plant will take 72 months to complete and will produce 2,200 megawatts of electricity.

Critics have said that China's assistance to Pakistan would violate non-proliferation agreements. China has said the deal would be carried out in line with "international obligations" and subject to international safeguards and supervision.

Pakistan is desperately in need of additional electricity since the country currently faces rolling blackouts. The nuclear deal with China represents a continuation of the strong alliance between the two countries. ■

# Pakistani nuclear policy is well thought-out

Facing a dual challenge of bridging its energy gaps, and an ominous stoppage of water from India, Pakistan had little option but to look for nuclear plants. Two such plants, capable of producing 600 megawatts of electricity, are in operation near Chashma in the Punjab. A beach front Karachi Nuclear Power Plant (KANUPP), needs repairs, and modernization. Since neither

By Salahuddin Haider

Dr Ansar during his briefing few weeks back. PWR has been the work-horse for the nuclear industry for the past five decades. Chashma plants are examples closer to that concept. The ACP 1000 system, a continu-

has gained tremendous knowledge about its operational capabilities and safety issues. Pakistan opted for these plants after care considerations of multi-faceted aspects for nuclear technology. Chinese experts have been visiting the sites in Karachi, and Pakistan scientists too have done their homework. These plants are not being installed in hurry. The Prime Minister did the ground breaking for these only after satisfying himself that they are the worthy solutions to our energy problems.

The PAEC has also removed fears about the nuclear fall out or incidents near Karachi by these two new plants, by citing the example that several plants close to large population centres like Guangdong in China, Kousheng in Taiwan, and Indian Point near New York city, in USA. At the Indian point NPP, more than 270,000 people live within a radius of 16 kilometres, and almost the entire city of New York is within 80 kilometres of the plant. The Indian Point plants, built in 1974 and 1976, do not possess the latest Generation-3 technologies which the

K-2, and K-3 have been equipped with. There is no fear either of entire Karachi city being evacuated in case of a possible incident, because USA authorities have established surveys to show that the entire New York city will never be threatened or need to be evacuated in case of a threat from the plant near the city. India, Brazil, Argentina, and Mexico never reported any incident like the safety mode of the KANUPP.

Concluding criticism that such heavy investment plans would make the energy from them costlier, stand negated by the cheaper electricity produced from the two Chashma power plants. Indians have been going ahead with their dam projects on several rivers, including Indus, and are turning a deaf ear to protests from Pakistan or by other agencies about the right of Pakistan being the lower riparian. Pakistan has no option but to either go to war with India and hold them back from building these power plants at rivers flowing into Pakistan, or look for better and peaceful options. The two Karachi power plants, when commissioned will be enormous relief for the Pakistani energy needs. ■



AP1000 nuclear power plant concept map

of these are enough to meet the ever widening electricity needs of the country, Islamabad looked towards China, and felt obliged with its readiness to help us overcome the problem.

A totally unnecessary debate about the safety concerns of the proposed two plants to be built near Karachi shores, demands proper clarification. The K-2, and K-3 nuclear plants, offered by the Chinese, the ever reliable friend, are supposed to replenish the supply grids by 2,200 Megawatts. A credit line of 6.5 billion dollars on soft terms has also been promised. While both these are welcome developments, doubts about their affecting or endangering the megapolis, too are natural. The Chernobyl incident in Russia and the incident in Fukushima in Japan, are bound to create such fears.

But even a cursory look at the designing of the two new plants near Karachi would show that they are based on the proven ACP-1000 system. Their research reactor is based on the PWR concept, as explained by the Atomic Energy Commission chief

of the PWR, have been operational in China, and so far there has been no incident in that great country.

Secondly, the new system, being adopted for the K-2 and K-3 plants have incorporated years of research and development. True, nuclear plants ought to be away from main cities, but guarantees, held out by the PAEC about the safety of new plants near Karachi, ought to be accepted. The PAEC has been doing an excellent job since 60s when the country's first KANUPP plant was inaugurated by late Mr Zulfikar Ali Bhutto in the 70s. The new plants have latest, third generation technologies, being built in Finland, China, France and USA. Yet another argument opposing such plants automatically become redundant because China already has 21 nuclear plants, and



Land at the proposed site for nuclear power plants in the Paradise Point Area.

# Solving energy crisis through nuclear power

China is providing two reactors alongside a concessional loan of \$6.5 billion for the construction of Kanupp-II and Kanupp-III, \$9.59 billion plants. When completed in November 2019, these would add 2,200MW to Pakistan's electric power, at a very cheap rate. This would mitigate the problems of power shortage and high per-unit cost of electricity. Average price of power generated by Chashma-3 and 4 would be around Rs9.59 per unit, much less than the price of electricity generated by thermal plants running on gas or oil. Due to economies of scale, new Kanupp category plants would produce cheaper electricity than the Chashma class power plants.

Following this landmark decision, various vested interests have launched a campaign to tarnish the nuclear power generation by attaching to it gloomy tags. The campaign is being managed by those individuals and entities whose interest is in importing expensive fossil fuels for power generation; and those not comfortable with civil nuclear cooperation between China and Pakistan. Knowing well that they cannot argue on professional grounds and win, they have resorted to bringing forth baseless safety and security related points. Therefore, flimsy concerns are being raised about nuclear power generation- especially the technological and safety aspects. The dooms day narratives are being floated by making reference to Chernobyl and Three Mile Island in the former Soviet Union and the US respectively. In the context of new nuclear power plants, the Fukushima disaster is also being overplayed.

However, after Fukushima important lessons have been learnt and the possibility of accidents occurring in unexpected ways is fully recognised and preventive mechanisms are duly incorporated in the designs of present day nuclear power plants. Post-Fukushima, nuclear power plants are being equipped to cope with the most unlikely scenarios of total blackout and non-functionality of several of the engineered safety features incorporated in these plants. These include multiple barriers in the design and several levels of safety assurance throughout the design, construction and operational phases. These safety upgrades are already being retrofitted in the present operating plants and would be inbuilt features of the new Karachi plants.

Even the Fukushima power plants had survived the massive earthquake that accompanied the tidal wave, but it was the latter tsunami, which incapacitated the emergency diesel generators, that caused the plants to collapse. Subsequent to Fukushima, studies were carried out for the Karachi sites to ensure that the plant systems to be built would survive the biggest earthquake and tsunami that can be expect-



ed in the area. After Fukushima, most countries have continued to construct and plan for new power plants. In Asia the number of under-construction and planned power plants is the highest in the world; around 49 reactors are presently under construction, and there are firm plans for over a 100 more. Countries where these projects are underway include India, China, South Korea and Pakistan. These 149 reactors will be in addition to the 435 reactors already in operation in the world. Questions are being raised about the design model of Karachi power plants. It has been claimed that the design of the Karachi plants, the ACP 1000, is still under development and thus untried and untested. This is not correct. This design is based on the PWR concept, very similar to the hundreds of such systems operating around the world for more than 50 years. Chashma 1 and 2 power plants are also based on the PWR designs. The ACP1000 model of the PWR concept, to be commissioned in Karachi, is not an unproven design. The ACP1000 uses the basic PWR design with safety improvements added, to meet the current safety targets of Generation-III reactors and after incorporating the lessons learnt from the Fukushima accident. It is based on the earlier

By Iqbal Khan

CPR1000 design, which has been used in 15 plants now under construction in China, of which the first unit started operations in 2010.

An American think tank, Nuclear Threat Initiative (NTI) has recently released its comparative nuclear security indexation encompassing worldwide nuclear material security. This study has assessed Pakistan as the 'most improved' country among nine nuclear armed states. Pakistan, which improved its score by three points compared with 2012, and has demonstrated the largest improvement by any nuclear armed state. Country's score benefited primarily from increased physical protection and stringent regulation of licences and on-site security reviews. Report credits Pakistan for having an operational Centre of Excellence. Pakistan has also participated in new bilateral and multilateral assistance, although its score for Voluntary Commitments was already high. Moreover, in a document issued after Prime Minister's visit to the United States, the White House has acknowledged improvement in a key area of US concern: the safety and security of Pakistan's nuclear assets. "Pakistan is engaged with the international community on nuclear safety and security issues and is working to ensure its strategic export controls are in line with international standards," says the document. "Pakistan is an active participant in the Nuclear Security Summit process and works closely with the International Atomic Energy Agency's Office of Nuclear Security to promote best security practices," it adds.

Pakistan Nuclear Regulatory Authority (PNRA) has meticulously examined and scrutinised the entire project, it has also consulted the International Atomic Energy Agency (IAEA) on all technical aspects of the planned power plants. While work has started in Pakistan on two Chinese-made ACP1000 reactors, India is still negotiating the purchase of two similar AP1000 reactors from Westinghouse. One Indian newspaper has lamented that while these negotiations are lingering, "China will be able to... sell its third generation nuclear reactors to Pakistan, making its sale a win-win deal for both countries".

It is inalienable right of the public to know the safety aspects of such projects. Therefore, it would be appropriate if Pakistan Atomic Energy Commission and PNRA launch a public awareness campaign so that demagogues, clandestinely representing the vested interests, do not fill the void. ■

-The writer is Consultant Policy and Strategic Response, IPRI.

# Country needs nuclear energy

By Hasan Ehtisham

Monday, December 30, 2013 - Energy resources are imperative for economic growth of any country. In this regard generation of electricity through nuclear stations is one of the cheapest ways to support a country's energy security. Pakistan is in a dire need for electric energy because crippling energy crisis in the country is a larger threat than the war on terror. One of the best energy supply options is nuclear energy, which is cleanest source of energy, and also important for numerous other reasons.

To overcome current energy crisis in the country, Pakistan has broken ground on what will be the country's largest civil nuclear power plant in Karachi, which would be built with help from China. The Karachi plant will be Pakistan's largest nuclear power project, with a production capacity of 2,200 megawatts. Despite international constraints, the nuclear energy program in the country is progressing steadily. Pakistan has the potential to generate power by a variety of means, but rather than investing in new industries to develop energy sources that would be economical to work in nuclear sector that has the expertise and experience.

After the Fukushima nuclear disaster due to the unprecedented tsunami, the safety of nuclear facilities has turned into a hot debate in all nuclear states. In Pakistan, numerous sectors have expressed apprehensions about the protection of this newly planned Karachi nuclear power plant in case of any natural disaster. Fears shown by some quarters after nuclear accident in Japan about the safety of nuclear installations in Pakistan do not correspond to realities on the

ground. Comparing Japan to Pakistan is not appropriate because Japan is an island country surrounded by ocean and more vulnerable to tsunamis. Earthquakes are rare in Pakistan as compared to Japan. According to gathered seismic data, there are three red zones (Makran, Quetta and Muzaffarabad) in Pakistan which have a potential to cause earthquakes in future. Pakistan's nuclear facilities are hundreds of miles away from these areas.

International Atomic Energy Agency and the PAEC have comprehensively studied the circumstances that led to the Fukushima failure and the measures taken by Japan to address the crisis, draw conclusions on how to improve the safety of nuclear power plants in Pakistan. Pakistan has an experience of operating nuclear technology that spans over four decades. In the wake of Japan's Fukushima nu-

clear disaster, however, some experts argue reactor models China is supplying to Pakistan are outdated and based on 1970s technology. But in an interview with China.org.cn in 2011, Masood Khan, Pakistan's ambassador to China said, "Immediately after the Fukushima accidents, China conducted the most rigorous stress tests just to make sure that their systems were up to the mark. They have given a clean bill of health to their nuclear power plants and their nuclear technology." Also the designs which Chinese are promoting now, EPR and AP1000, have been developed and approved by the regulatory authorities in the US and Europe, and are two orders of magnitude safer than the currently deployed fleet of nuclear plants. ■



# Biofuels utility rising from houses to industries

The energy crisis is never-ending in Pakistan which has crippled national economy, business and lives of the masses but not for all as there some people in Pakistan who believes to survive at any cost not to bow down in front of any issue.

Such situation has led the country to explore new avenues for generating energy hence Pakistan has become one of top10 countries in terms of the use of biomass for energy with users of biomass growing in rural household to industrial areas.

There are interesting types of biofuels and waste derived fuel alternatives, which are presently being used in the industrial sector.

**Waste Derived Fuels Waste:** This derived fuel include residue from industrial or commercial operations, such as rubber, used tires, battery cases, plastic residue, municipal waste, etc.

**Refuse Derived Fuel (RDF):** This technology was primarily designed to reduce the amount of solid waste in the country, but is now being used to meet the energy demand of various sectors. RDF plants utilize municipal solid waste after screening for clay, dust particles, debris and metal, etc. The cement industry is the prime beneficiary of this alternate energy resource in Pakistan, as almost a quarter of the entire cement industry has started using RDF.

**Tire Derived Fuel (TDF):** TDF refers to using old shredded tires to produce fuel. The government does not allow the use of TDF in industries other than cement, as burnt tires emanate hazardous elements into the atmosphere. Surprisingly, import of rubber scrap is the main source of shredded tires, as no viable domestic avenue exists for recycling of used tires in Pakistan.<sup>40</sup>

The cement sector, which is presently using coal as the base fuel, has started to operate on TDF, not only because of its high energy content, but also because it is cheaper than coal.

Moreover, anecdotal evidence suggests that small steel firms are

also using this resource illegally for power generation, as the process of steel melting requires uninterrupted power supply.

**Poultry Waste:** Chicken litter can also be used for energy generation by combustion, using purpose-built incinerators. The cement sector and brick kilns are currently utilizing poultry waste for energy generation in Pakistan.

The forward, poultry waste biogas plants are being set-up to provide electricity to large poultry and dairy farms.

Biofuels include plant tissue such as wood and farm waste - the latter include rice husk, rice straw, coffee husk, wheat husk, com cob, sugarcane bagasse, cotton sticks, cane trash, etc.

**Rice Husk:** Rice husk and straw is the most productive agricultural by-product in rice producing countries. It can be used for power generation via steam or gasification, and is being utilized by the cement, paper and board, brick kilns and steel industries. Rice husks are also being used in textile sector via boilers to generate power for dyeing and bleaching purposes.

**Bagasse:** Bagasse of crushed sugar cane is considered to be an important source for generating power. Currently almost all sugar mills in Pakistan have in-house bagasse-based power generation capability, though many are using inefficient boilers

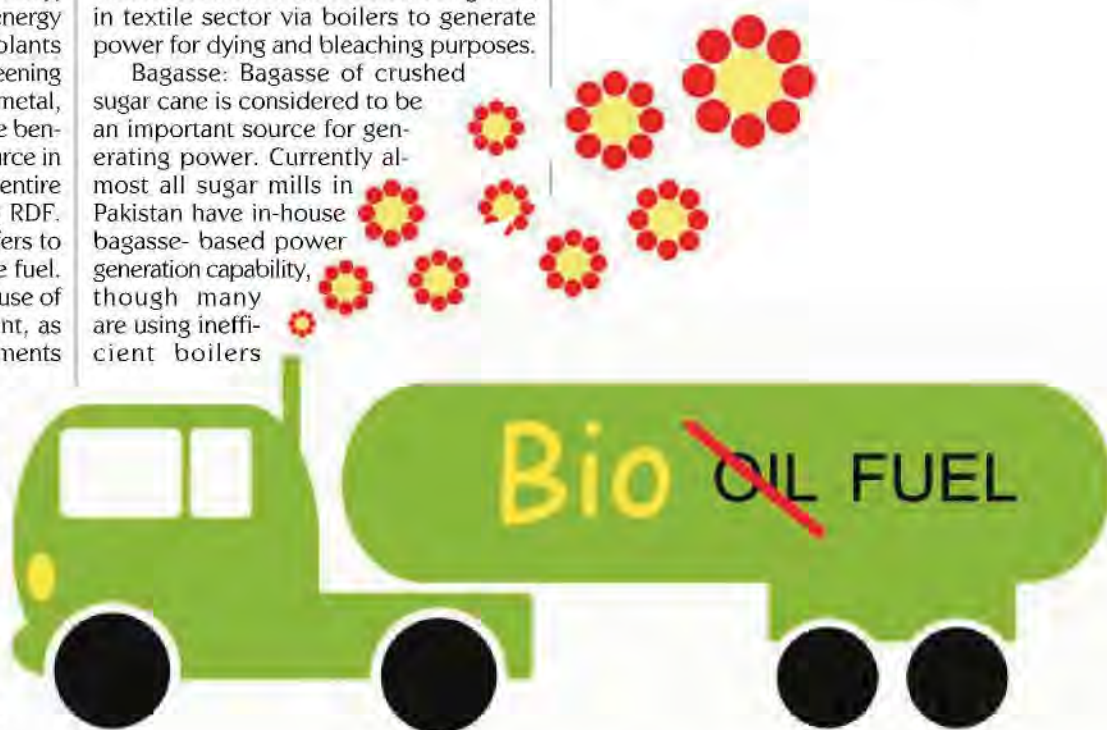
and primitive pressure turbines.

In the future co-generation of power on commercial basis is in the pipeline, for which sugar mills will install steam economization equipment and infrastructure for more efficient use of bagasse for power generation. This will be done by replacing existing low-pressure boilers with new high-pressure technology to increase efficiency.

**Cotton Sticks:** Cotton stick is a major residue of the cotton crop, which, by weight, constitutes as much as 3 times the cotton produced. Energy derived from cotton sticks are currently being used by brick kiln operators and cooking fuel by farmers.

Besides wheat husk, corn cob, corn husk, maize stem, are other sources of power generation currently being used in the cement, paper and brick kiln industries.

In overall terms, such usage of agricultural and industrial by-products is a very positive step, as long as the resulting pollution is strictly regulated. Given the fact that user dependence on such renewable sources of energy is more common in the rural sector, this reduces the need to expand an already stretched national energy grid (be it power or gas). The Alternate Energy Development Board must focus on this issue to reduce rural household dependence (or expectations) on piped gas. ■



# Can LNG import solve energy problem?

Pakistan is severely deficient in its energy needs, with its industry, transport and households almost at breaking point. The present government of Prime Minister Nawaz Sharif, blaming General Pervez Musharraf, and also the previous PPP regime of Asif Zardari, however has been painstakingly working to bridge the gap as quickly as possible and then move on for having surplus power for the future. He even cleared a heavy burden which his government had inherited of Rs 500 billion circular debt, but financial crisis, running simultaneously, has again raised this liability for another Rs 200 billion. The premier was clear that 1000 megawatt shortage could not be overcome within the twinkle of an eye, and careful planning is the only solution.

He said work on  
various

By Ismat Sabir

mega and small power projects is in progress in different parts of the country, mentioning that 425MW from Nandipur power project will soon be added to the system while Neelum-Jhelum project will be completed in next two years, 2015-16.

To overcome the crisis the government is planning to import LNG in the country by the beginning of 2015, and seeking the formal approval of LNG import agreement between the Elengy Terminal Pakistan Limited (ETPL) and SSGC.

The LPG is mainly used as burning fuel by the poor people of the remote areas and rising trend in its price is putting extra burden on their pockets.

An agreement between SSGCL and Engro Terminal Pakistan Limited (ETPL) was waiting for formal approval of Prime Minister Nawaz Sharif to set up a terminal for im-

port of liquefied natural gas (LNG).

The approval of LNG Services Agreement (LSA) was for fast-track construction of terminal in 335 days that would enable the government to negotiate and sign LNG import and supply agreement.

Engro Corporation's subsidiary Elengy Terminal Pakistan Limited (ETPL) bid for the fast track LNG contract to import up to 3 million ton per annum (MTPA) of LNG or 400 MMSCFD of re-gasification liquefied natural gas (RLNG) for the next 15 years. Engro planned to build a floating terminal at its site and obtained an NOC for an alternate site at Khiprianwala in August 2011.

Total investment in the terminal is about \$100m with storage capacity of 82,400 cubic meters. Over the last seven years, Engro's investments in Pakistan have exceeded \$1.8 billion.

Gas shortage is estimated to be about 1.5 billion cubic feet per day (bcfd) to 2 bcfd. But some vested interests are working against the import of LNG in the country, accused that ETPL's site is not conducive to importing LNG which is incorrect.

The EVTL has vast experience of handling LPG and had been



the first company to construct and commission LPG storage in 1999 and cryogenic facility of Ethylene in 2009 in Pakistan. The EVTL established integrated bulk liquid chemical terminal, in 1997 with an investment of \$65 million and can handle 75,000 dead weight ton (DWT) vessels. The EVTL has handled the largest ship of phosphoric acid of 31.5 KT with DWT of 33.5 KT in 2013 with commissioning of Phase-IV (Ethylene) in 2009. The company has also handled the largest LPG ship of 9 KT with DWT of 19 KT in Pakistan's history in 2013.

Moreover, with its Vopak association, it has the experience of two LNG terminals based in Rotterdam and in Mexico. Further, Port Qasim is handling vessels of larger vessels at the FOTCO and QICT for several years. In November 2010, the company completed 13 years of safe operations, i.e. without a single employee losing a day's worth of work due to injury. This is an open access, merchant floating storage regasification terminal with a storage capacity of 3.5 mtpa.

The Oil and Gas Regulatory Authority (Ogra) has made capacity allocations to import 1.4 Billion Cubic Feet per day (BCFD) of LNG to three companies, i.e. Global Energy (500MMCFD), Engro Corporation (500MMCFD) and Gasport (400MMCFD). The three companies were required to provide performance bank guarantees of \$10 million each to meet their LNG delivery deadlines within 90 days.

The Global Energy of Turkey was expected to start importing LNG in October 2012, followed by Engro Corporation in December 2012 and Pakistan Gasport in 2013. The companies were required to submit their timelines for the import, while two gas utilities SNGPL and SSGCL were to arrange Rs1.2 billion financing to put in place infrastructure to receive LNG to be imported by the three companies.

The utility companies, SNGPL and SSGCL, were to start investing in capacity enhancement, after receipt of performance bank guarantee from a bank acceptable to Ogra and encashable in Pakistan. The companies were required to submit engineering contract and design along with detailed schedule and time line within 15 days of capacity allocation. In addition the investors have been directed to submit provisional financial plan regarding the funding of the project to Ogra. The financial closure was to be

achieved within six months of the capacity allocation with due intimation to Ogra. The Implementation Agreement with Port Qasim Authority was to be submitted to the authority by project proponent within 30 days of capacity allocation.

Failure to achieve the above condition would result to cancellation of allocated capacity and encashment of bank guarantee. It must also be noted that capacity allocated cannot be transferred to another person by way of sale, assignment, transfer or surrender without prior approval of the authority.

The Ogra had issued construction licenses to the three companies to set up LNG terminals on a fast track basis to offset severe gas shortfall, which at present is estimated at 1.5 mmcf/d and in winter it touched 2 billion cubic feet per day.

The PQA was already working with investors to develop a jetty and terminal facilities for handling LNG. Under the Third Party Access rules now finalized by Ogra, LNG importers would use pipelines of gas utilities for transportation of the fuel across the country.

About 500 mmcf/d of LNG could produce about 2,500mw of electricity. Because of higher import cost, LNG would primarily be used for power generation.

World's largest LNG buyer agreement signed for US Natgas

South Korea's Kogas, the world's largest single buyer of liquefied natural gas, will purchase US natural gas from Cheniere Energy's proposed Sabine Pass export plant in Louisiana by 2017 open the way for the first US LNG export plant in nearly fifty years. Soon consumers across under a 20 year deal.

It could be burning natural gas from the United States, where supply continues to outstrip demand. A patent for LNG was filed in 1914 and the first commercial production was started in 1917.

Constructing an LNG plant costs at least \$1.5 billion per 1 mmtpa capacity, a receiving terminal costs \$1 billion per 1 bcf/day throughput capacity and LNG vessels cost \$200 to 300 million.

## Trade

In 1970, global LNG trade was of 3 billion cubic metres (bcm). In 2011, it was 331 bcm. In 2004, LNG accounted for 7 percent of the world's natural gas demand. The global trade in LNG, has increased at a rate of 7.4 percent per year over the decade from 1995 to 2005, was expected

to continue to grow substantially. LNG trade was expected to increase at 6.7 percent per year from 2005 to 2020.

By the end of 2011, there were 18 LNG exporting countries and 25 LNG importing countries. The three biggest LNG exporters in 2011 were Qatar (75.5 MT), Malaysia (25 MT) and Indonesia (21.4 MT).

The three biggest LNG importers in 2011 were Japan (78.8 MT), South Korea (35 MT) and UK (18.6 MT). LNG trade volumes increased from 140 MT in 2005 to 158 MT in 2006, 165 MT in 2007, 172 MT in 2008.[2] IT was forecasted to be increased to about 200 MT in 2009, and about 300 MT in 2012. During the next several years there would be significant increase in volume of LNG Trade: about 82 MTPA of new LNG supply will come to the market between 2009 and 2011. For example, about 59 MTPA of new LNG supply from six new plants came to the market just in 2009,

## Imports

In 1964, the UK and France made the first LNG trade, buying gas from Algeria, witnessing a new era of energy. Now only 19 countries are exporting LNG.

Compared with the crude oil market, the natural gas market is about 60 percent of the crude oil market assured on a heat equivalent basis), of which LNG formed a small but rapidly growing part. Much of this growth is driven by the need for cleaning and some substitution effect due to the high price of oil primarily in the heating and electricity generation sectors..

Japan, South Korea, Spain, France, Italy and Taiwan import large quantity of LNG due to their shortage of energy. In 2005, Japan imported 58.6 million ton of LNG, representing some 30 percent of the LNG trade around the world that year. Also in 2005, South Korea imported 22.1 million ton, and in 2004 Taiwan imported 6.8 million ton. These three major buyers purchase approximately two-thirds of the world's LNG demand. In addition, Spain imported some 8.2 mmtpa in 2006, making it the third largest importer. France also imported similar quantities as Spain. Following the Fukushima Daiichi nuclear disaster in March 2011

Japan became a major importer accounting for one third of the total. European LNG imports fell by 30 percent in 2012, and were expected to fall further by 24 percent in 2013, as South American and Asian importers pay more. ■

**EU Report**

# The nightmare of LNG project



Government is now actively working on Liquefied Natural Gas (LNG) project to meet the country's much needed energy requirement for its different sectors subsequent it realized that Iran-Pakistan pipeline gas could not be accomplished under heavily conveyed US pressure.

The gas project envisioned in 2006 primarily to avoid imminent crisis of energy is still uncertain due to element of corruption, mismanagement and inefficiency as part of the government.

Pervez Musharraf-led government planned the project initially which was restarted with all procedural measures by the PPP regime and now PML (N) government is finally working on the same project which has been tendered again and again almost sixth time.

In the meantime, the prices of LNG surged gradually in each passing year and the high time of negotiation with supplier in conducive situation passed away many times. But now the government has no choice but to kick start the project to give spark to its dying economic activities and sick industries.

Unfortunately, Pakistan will pay the

heavy prices of the LNG import which is estimated to be reach at \$18 per MMBTU instead of 10-12 which few countries successfully set on the best occasions and terms.

As the government is heading towards imports of LNG this year, there are serious concerns yet to be resolved but it must be addressed by the related organs of the government to ensure transparency and avoid any legal intervention by apex court again.

Engineer Arshad Abbasi extensively reviewed the situation of LNG imports in making and its offered prices to seller by the government. He expressed his deep concerns on technical grounds and pricing issues.

LNG would be only be a viable option for Pakistan if were to cost us less than \$12/MMBTU. However, media reports and statements from the Ministry suggest a price \$17 per MMBTU for Qatari LNG. Additional costs of re-gasification and charges of SS-GPL & SNGPL and other taxes will likely push up its price to not less than \$ 18 /MMBTU. The most compelling argument offered by the Ministry in favor of buying

LNG has been that it is a cheaper fuel for electricity, but at anything more than \$ 14/MMBTU, LNG loses its competitive advantage against oil.

Basic simple calculations on LNG and RFO fuel comparison show that there is a lot of misleading information that LNG will be cheaper Residual Fuel Oil (RFO) at this price. The argument that LNG will be the cheaper fuel is not valid.

Accordingly, one rupees of Furnace Oil can release 630 units of energy (at a spot rate USD 606.50/Metric ton) compared to one rupee of LNG, that will garner 529 units of energy (at a rate of \$ 18 /MMBTU ). This is an enormous 84% energy content price gap. Therefore, the argument that LNG at stated rate will be the cheaper fuel loses its validity. As seen below, natural gas for price above \$14/mmbtu will lose its competitive edge on price against oil.

In this connection, the Ministry of Petroleum and Natural Resources (MPNR) should play its role but which surprisingly appears to have been transformed into a marketing agent for Qatari LNG exporting companies because of a lack of will to negotiate a lower price.

All hope for energy and, subsequently, the economy rests on the import of LNG, and this is being projected as the panacea for all ills. The actual facts, however, are far more complicated; according to my expert opinion and analysis, under the existing gas quota, natural gas as a fuel depends upon the efficiency of thermal power plants

Pakistan has a strategic location, near the world's largest natural gas reserves and at the mouth of the Persian Gulf. In the Iran-Pakistan Gas Pipeline contract, the gas was to have been supplied from South-Pars, part of North Dome Field owned by the Qataris. It shows that both Iran and Qatar are supplying Gas from the same gas field, with the former routing it though IP Gas pipeline and the latter through LNG. This gives Pakistan a unique advantage to bargain at \$ 9 MMBTU. Yet we as a country have failed to capitalize on this strategic advantage which would allow the country to import gas through pipeline or though LNG.

The Ministry seemingly did not consider the fact that the global LNG market will face serious competition in future. The

LNG Price \$/MMBTU	10	11	12	13	14	15	16	17	18	19	20
Energy Against one Rupee	952	866	794	733	680	635	595	560	529	501	476

The country will pocket \$ 5 billion annually if Pakistan purchases LNG at \$ 9 per MMBTU instead of \$ 17 MMBTU.



biggest immediate challenge posed to LNG pricing is Shale Gas that has rapidly changed the natural gas pricing dynamics. Very recently, the biggest buyer of LNG in the world, Japan, has become frustrated with high LNG prices, and wants to reduce its post-Fukushima dependence on natural gas. In fact, it recently announced a new energy policy draft revealing Japan's decision to reinstate nuclear energy as one of the major base load power sources. Japan's economy, industry and trade ministry is expected to

reduce the LNG imports, as the spot prices hovering around \$18-19/MMBTU are too expensive for the largest LNG importer. Therefore, Japan, driven by the agenda of ensuring an uninterrupted and affordable supply of electricity in sustainable manner is planning to return to nuclear power, thus LNG market will soon lose the biggest buyer of LNG.

A major challenge that Qatar faces vis-à-vis its natural gas market competitor is contending with Iran. Iran, with the world's largest reserves of natural gas standing at 1187 TCF, is ambitious to become a major LNG exporter, in the wake of recent developments on the diplomatic front, after an ease out on prolonged sanctions which inhibited access to Western technology. Estimates suggest that Iran will complete



two under-construction LNG projects, LNG Persian and Iran LNG, based on the reserves of the South Pars gas field. Iran has boasted that in a few years 90 billion cubic meters per year of LNG will be exported. Moreover, Canada's Shale Gas production has surpassed 3.5 BCF, and may help it to transform into a major LNG competitor in the future.

What Pakistan should note is that there is a divorce between oil and gas prices, and the new contracts reflect this pattern. In fact, India is going to import LNG from the US at a \$ 10.50 MMBTU, which is a much lower price because of these changing dynamics in International Gas sector. The Indian state-owned company GAIL's contract with the US company Cheniere departs from oil-linked prices, and instead

it is indexed to the Henry Hub with a premium, for a landed price of \$10.95/MMBTU. In fact, data and reports from Argus and other sources now show the prices of long-term LNG contracts. Again, India imported LNG from Qatar at the rate of \$10-12./MMBTU in 2013.

decision, India has commented that not more than \$ 12/MMBTU suits them: India is trying to diversify its LNG supplies geographically, and to support this ambition, it is exploring East African suppliers for cheaper long-term LNG agreement after failure in Shale Gas unlocking initiative.

The questions that arise are: Why is the Ministry disseminating the price earlier than the bidding process, in a complete violation of standard procedure? Moreover, why does it want to put all its eggs in one basket (and that too at an exorbitant price) when there are 23 other LNG exporting countries?

There must be a review of the import of LNG, and a deputing of credentialed and well-known experts to negotiate a favorable deal for Pakistan with Qatar and other LNG exporting countries, which would ensure economic viability for industry and electricity generation. In fact an analysis of the economic impact of LNG is absolutely vital to make well-reasoned policy decisions. ■

## Power sector payables soar to Rs 246 billion, NA told

The Ministry of Water and Power Wednesday informed the National Assembly that payables to power sector had increased to Rs 246 billion and Independent Power Producers (IPPs) circular debt had resurfaced amounting to Rs 173 billion till January 31, 2014. Replying to questions of parliamentarians, State Minister for Water and Power, Abid Sher Ali further stated that the power sector's receivables from private consumers and federal and provincial governments as well as Karachi Electricity Supply Company reached Rs 491 billion.

The minister added that receivables against private sector stood at Rs 326 billion, federal and provincial governments Rs 125 billion and KESC Rs 41 billion. He said the work on Tarbela upraising four had started, which would add 1,420 mega-

watt electricity to the national grid in next three years. The completion of upraising work would increase the power generation capacity of Tarbela to 4,888MW. The minister said three companies had conducted the audit of Rs 500 billion circular debt payment and audit report of Auditor General of Pakistan (AGP) would be made public in next few days. Abid said steps taken by the government had led to reduction in load shedding duration to six hours. In reply to another question, he said the survey of Gaddani power project site as well as revenue survey had been completed and the actual cost of the project would be known after the completion of its feasibility report. He said Nespak was preparing feasibility study of Gaddani power project, which after commissioning would produce 6,600 megawatt electricity.

The minister added that 20 million tons of coal would be imported per annum for this project and National Electric Power Regulatory Authority (Nepra) was in the process of working out upfront tariff of the coal-based project. The minister said that Nepra was an autonomous body, generated its own funds and didn't get any financial support from the government. The regulator had nothing to do with payment of the IPPs which were made by the National Transmission and Dispatch Company. Replying to a call attention notice, Abid Sher Ali said that only four to six hours load shedding was being carried out across the country. The minister said that load shedding was being carried out equally and those involved in electricity theft were sent behind the bars. ■

# Stagnant oil, gas exploration worrisome for country

By Ismat Sabir

Pakistan's energy deficit is likely to reach 110.8 million ton of oil in the next 15 years, at an average 4.5 percent GDP growth rate, as indicated by the Petroleum Institute of Pakistan (PIP).

The document, Pakistan Energy Outlook (PEO) 2013-2028, predicts that country's energy demand would grow to 147.78m TOEs by 2027-28 as against the domestic resources of 36.90m TOEs in the same year.

## Crude Oil

The total supply of crude oil in 2010-11 was 75.3 million barrels, equal to 10.1 million TOE, out of which 68.1 percent was imported and 31.9 percent was locally extracted, as indicated in the Economic Survey 2012-13.

The remaining recoverable reserves of crude oil, on December 31st, 2011, were estimated at 247.53 million barrels. The average crude oil production during July 2011 to Mar 2012 were 66032 barrels per day as against 65997 barrels per day during the corresponding period of last year, showing an increase of 0.05 percent. During this period, 39669, 60 percent, per day were produced in northern region and 26364 or 40 percent, per day in southern region, as against 34762.28 or 53 percent, barrels and 31234.22, 47.33 percent, barrels produced per day, respectively in the same period last year. During July 2011 to March 2012, production of crude oil has increased by 14.11 percent from northern region whereas production decreased in southern region by 16 percent, as compared to the same period last year, overall 0.05 percent oil production increased only in the country.

## Natural Gas

The natural gas is another important source of energy, therefore its consumption is rapidly increasing. As on December 31st 2011, the balance recoverable was estimated at 24.001 trillion cubic feet. The average production of natural gas during July- March 2011-12 was 4236.06 million cubic feet per day (Mmcf) as against 4050.64 (Mmcf) during the corresponding period of last year, showing an increase of 4.57 percent.

industries manufacturing consumer items like cement and to generate electricity. In the form of CNG, it is used in transport sector and most importantly to manufacture fertilizer to boost the agricultural sector. Presently, 27 private and public sector companies are engaged in oil and gas exploration and production activities.

Prime Minister, Mohammad Nawaz Sharif, has said that the government is making all out efforts to enhance oil and gas exploration activities in the country through investment friendly policies.

The Prime Minister said that Pakistan has a vast onshore and offshore sedimentary area out of which only around 35 percent is under exploration. The government is trying to provide level playing field to all foreign investors and oil and gas companies and assured them protection of their investments. However, law and order situation is discouraging investor.

The Prime Minister appreciated professionalism and expertise of MOL and the important role it has been playing in this region for the last 15 years particularly in the development of petroleum and gas sector of Pakistan. There is a need to explore more investment opportunities in oil and gas sector of Pakistan.

The Government is encouraging MOL to acquire new blocks independently or jointly with Pakistan's state owned companies, i.e. Oil and Gas Development Company Limited (OGDCL) and Pakistan Petroleum Limited (PPL) through competitive bidding process or through joint ventures.

Ministry of Petroleum and Natural Resources signed Exploration Licenses (ELs) and Petroleum Concession Agreements (PCAs) in eight blocks with the Oil and Gas Development Company Limited (OGDCL) and Pakistan Petroleum Limited (PPL) and Mari Petroleum Company Limited (MPCL) for exploring oil and gas resources in the country. The total area of aforesaid blocks is 16,117.09 Sq. Km with a commitment of invest of



\$49.58 million. Apart from minimum work commitment, companies are obligated to spend a minimum of \$30,000 per /year in each block on social welfare schemes.

The Ministry has already signed 12 exploration license (EL)/ Petroleum Conces-

was the highest oil production level achieved so far.

Pasni West block is located in Pasni, Gawadar and Kech districts of Balochistan, Pezu block located in Laki Marwat, Tank, D. i. Khan and D. G.Khan districts of KPK

is 52pc and 27pc, respectively. OGDCL is the operator in forty one exploration licenses and working interest owner in 6 other exploration blocks operated by various E & P companies. OGDCL is currently producing 43,807 barrels of oil, 1145 MMCF of gas, 85 MT of LPG and 96 M T of Sulphur per day.

PPL is Pakistan's oldest Exploration &

**Table 1: Oil and gas discoveries during March 2011-2012**

Source: Ministry of Petroleum and Natural Gas.

Discovery	Discovery Date	Status	Company	Total Depth in Meters	Current Production Oil (BOPD)	Gas (Mmcf)
Mulaki-1	July-11	Oil & Gas	United Energy Pakistan (UEP)	2,080.0	92.26	14.68
Maru South-1	August-11	Gas	Oil and Gas Development Company Limited (OGDCL)	720.0	-	-
Halini-1	October-11	Oil	Mari Gas Company Limited (MGCL)	5,350.0	649.29	-
Zin X-1	December-11	Gas	Oil and Gas Development Company Limited (OGDCL)	2,300.0	-	-
Gharo-1	February-12	Oil	United Energy Pakistan (UEP)	1,334.7	501.74	0.04
Mohano-1	February-12	Oil	United Energy Pakistan (UEP)	1,727	187.65	0.07
Suleman-1	March-12	Gas	Oil and Gas Development Company Limited (OGDCL)	4,575	-	-
Pir Apan-1	March-12	Gas	United Energy Pakistan (UEP)	2,155	327.28	10.6
			Total		1758.22	25.39

sion Agreement (PCA) to explore hydrocarbon resources.

The Minister for Petroleum and Natural Resources said these license were awarded for four blocks including Block No. 2562-1 (Pasni West), 3070-16 (Pezu), 2970-6 (Alipur), and 2870-7 (Khanpur) with OGDCL, three for block No. 2566-4 (Hab), 2467-13 (Malir) and 2467-16 (Shah Bandar) with PPL and one for block No. 3371-16 (Peshawar East) with MPCL.

The new discoveries will add 130 MMCFD of gas and 3553 bbl oil per day. So far 45 MMCFD of gas and 1924 bbl oil per day has already been added to the network through these discoveries. Moreover, 184 MMCFD and 5,962 bbl per day have also been added to the gas and oil network from existing fields.

The oil production in the country has achieved 84,374 bbl per day of oil, which

province, Alipur block is located in Multan, Bahawalpur, Rahimyar Khan and Muzaffargarh districts of Punjab.

Khanpur block is located in Rahimyar Khan district of Punjab province, Hab block is located in Jamshoro and Karachi districts of Sindh and Khuzdar and Lasbela districts of Balochistan, Malir block is located in Jamshoro and Karachi districts of Sindh, Shah Bandar block is located in Thatta district of Sindh and Peshawar East block located in Swabi, Mardan, Kohat, and Nowshera districts of KPK and Attock district of Punjab.

OGDCL is a Public Limited Company engaged in exploration and production activities in the country for the last forty years. It has the largest share of Oil, 58percent, and Gas, 42percent, of the total reserves in the country. Its percentage share in total oil and gas production in Pakistan

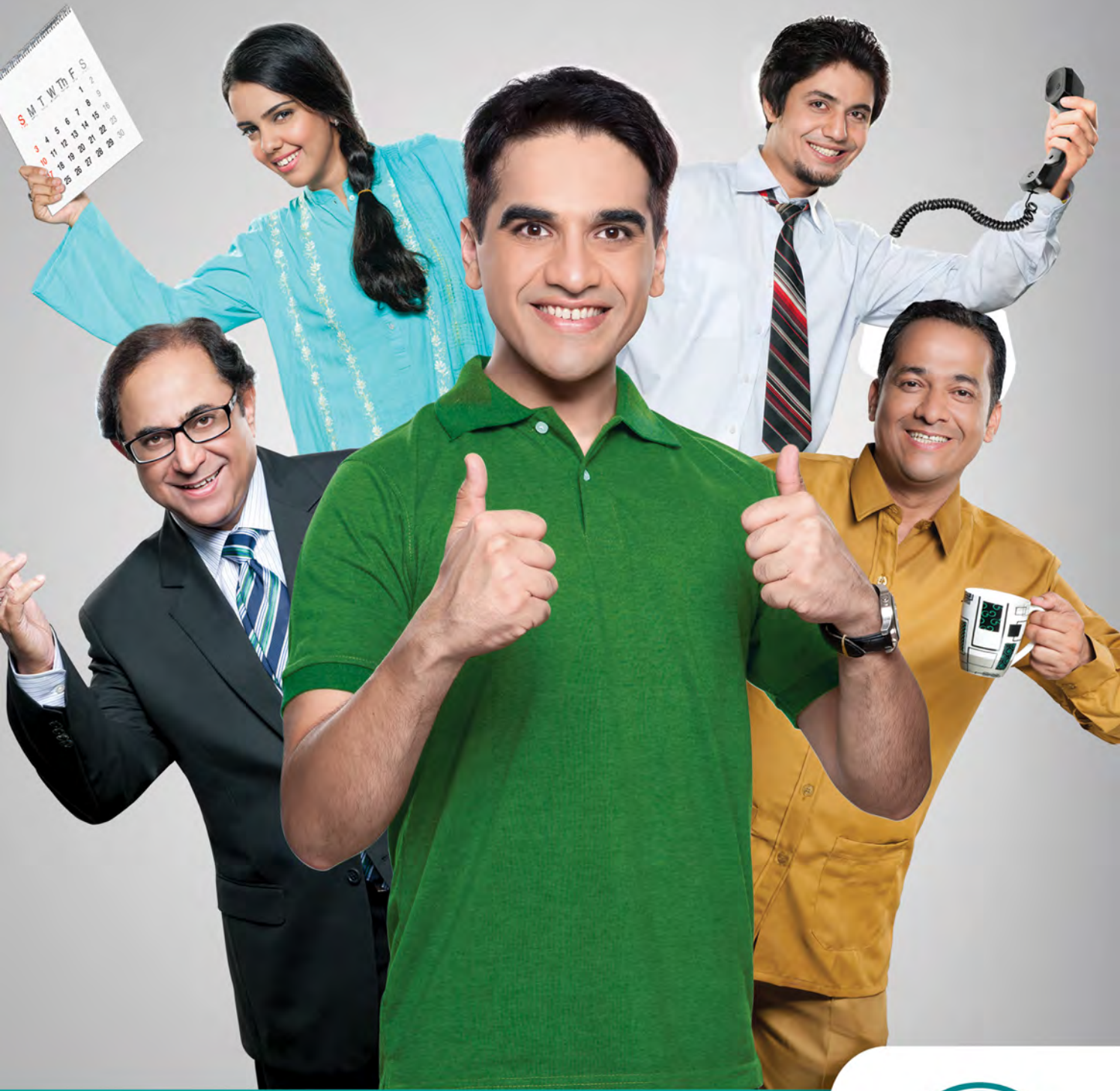
Production company, which was incorporated during 1950. Presently, PPL is the operator of 21 different exploration blocks and working interest owner in 16 other exploration blocks operated by various E & P companies. PPL is operator of six producing fields namely Sui, Kandhkhot, Mazarani, Adam, Adhi and Chachar with the total daily production of 684 MMCF of gas, 7100 barrels oil and 157 metric ton of LPG.

Mari Petroleum Company Ltd is a major Pakistani Petroleum Exploration and Production Company quoted on all the stock exchanges of Pakistan, with equity interest held by Fauji Foundation (40percent), General Public (21.61percent), OGDCL (20percent) and the Government of Pakistan (18.39%). The Company owns and operates the Country's second largest natural gas field viz., the Mari Gas Field in district Ghotki, Sindh. The Company is also the operator of Zarghun South Development and Production Lease in Balochistan. ■

**Table 2: Extraction of Principal Minerals**

Source: Economic Survey 2012-13

Minerals	Unit of Quantity	2010-11	2011-12	2012-13	% Change
Coal	M.T	3,291,617	3,178,986	3,079,156	-3.1
Natural Gas	MMCF	1,471,590	1,558,959	1,525,866	-2.1
Crude Oil	JSB(000)	24,041	24,573	28,462	15.8



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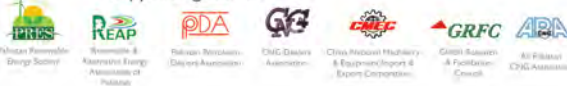
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# Environmental degradation decaying Pakistan

By Haroon Mustafa Janjua

Environmental concerns need to be the linchpin of all development considerations on various levels. Major environmental issues currently confronting Pakistan include climate change, water, energy, pollution and waste management, salinity and water logging, irrigated agriculture, biodiversity and more that are too numerous to count. Pakistan, being one of the highly vulnerable countries to climate change impact, has to bear the brunt of its effects. Environmental hazards have become a major global issue this century. These hazards are impacting the national, social and economic landscape. Rapid economic development and man-made interference in the natural systems are the chief reasons behind this problem.

Climate change threats to Pakistan are considerable increase in frequency and intensity of extreme weather events coupled with erratic monsoon rains causing frequent and intense floods and droughts, projected recession of the Hindu Kush-Karakoram-Himalayan glaciers due to global warming and carbon soot deposits from trans-boundary pollution sources, threatening water inflows into the Indus River system, increased siltation of major dams caused by more frequent and intense floods, and increased temperature resulting in enhanced heat-and water-stressed conditions, particularly in arid and semi-arid regions. All these factors are leading towards reduced agricultural productivity, decrease in the already scanty forest cover from too rapid a change in climatic conditions to allow natural migration of adversely affected plant species, and increased intrusion of saline water in the Indus delta that is adversely affecting coastal agriculture mangroves and the breeding grounds of fish.

Pakistan is disaster-prone country - in recent years it has had to face one of the worst floods in its history and a major earthquake in which the government struggled to overcome the natural calamity. The fast growing population poses a significant challenge for Pakistan. The existing environment management capacity cannot sustain such a large population while providing a good quality of life. Despite the devolution of the federal ministry of environment and transfer of more powers to the provinces,

the state of environment has been in a shambles.

After the devolution of the federal ministry of environment on June 28, 2011, the ministry of disaster management took over the responsibilities of the environment sector at the federal level. Due to the limited



resources at its disposal, government efforts alone are not sufficient enough to address challenges resulting from climate change. A much larger participation and support from other stakeholders including industry, civil society and the public at large as well as donors is needed to effectively respond to climate issues.

Environment related factors cause roughly one third of all child mortality in Pakistan, the highest rate in South Asia. Diseases like diarrhea and typhoid, caused by inadequate water supply, sanitation and hygiene are other significant types of environmental damage that make up about 30 percent of the cost of environmental damages. The remaining 20 percent of the total cost results from reduced agricultural productivity due to soil degradation, particularly salinisation, erosion, and water logging, which has a drastic affect on the livelihoods of people in the rural areas.

The government allocated a total of Rs 58.8 million to combat climate change in the public sector development programme for 2013 to 2014 as compared to Rs 168.1 million allocated to the climate change ministry in 2012 to 2013. The ministry has now been transformed into a division.

Environmentalists and officials say the move may have serious repercussions on different sectors in the country including agriculture, water and forestation besides losing representation at international fo-

runs. International donors and organisations working on climate change are also unlikely to support Pakistan in dealing with this reality. Pakistan may face isolation in the international community if it does not take effective measures to cope with changing weather patterns to halt this highly dangerous threat. All development may go to waste if we do not keep in view the concerns of climate change in the country while constructing dams, roads, canals and bridges. Non-availability of international funding is due to inefficiency in dealing with environmental challenges. An estimated 250 million gallons of untreated water is dumped into the Arabian Sea every day, causing great harm to both humans and the ecosystem.

Pakistan is also losing its representation on international forums for addressing this issue, mainly because of official apathy. Representatives from India and Bangladesh effectively fought their case at the Bonn Conference to seek international funding but there was no official representative from Pakistan to present a case, which was unfortunate. Development and growth in Pakistan are based on utilisation of natural resources but the pressures of population growth and a consequent increase in demand and poverty can all take a heavy toll on environmental assets.

Pakistan needs to strengthen its policy, institutional framework and capacity to mitigate these negative impacts in line with the best international practices. Integrating these practices into the project process from planning to implementation will improve long-term sustainability of these projects.

Despite increasing international attention, the environmental degradation issue is severely harming the public space and the state alike on policy fronts. Pakistan falls in the most vulnerable categories of climate change but we are doing nothing to cope with the challenge. The government should revive the climate change ministry and develop different viable projects to seek international funding for them. It is high time to tackle these problems failing which not only will the environment further deteriorate but also the food security of the country will come under severe threat. ■

# Fueling the fuel via innovative catalyst

## Robert D Christy, Managing Partner and CEO of Fluid Solutions

EU: What is the vision of forming energy conservation product Fluida?

**Robert:** Fluida is an American product. It has been formed specially for reducing the consumption of petroleum products which have been proved over a period of time with testing and experimenting in different ways. It is basically a catalyst which saves 20 percent expenses of the fuels in the utility of different purposes in various machines. It is applicable on petrol and diesel.

EU: Do you think the product will make it place in Pakistan's market?

**Robert:** Of course, the product is significant and a demand of everyone who definitely wants to pocket saving of fuel cost as much as possible and the same case is with Pakistan. The Fluida is being introduced in the Pakistan's market through the platform of EGO Pakistan and it will be penetrated in local market here gradually in the targeted segments.

EU: How have you received the response in USA and in different countries?

**Robert:** The product has been introduced in central USA where it is being sold, marketed and distributed in all states on high demands of customers. Besides, it has been introduced in Nigeria and Lagos where people mostly use the product with the consumption of fuel in power generation and save up to 30 percent of the fuel cost under the specific purpose. The product is being upgraded, experiment and tested repeatedly so the quality could be enhanced and its utility will be

By M. Naeem Qureshi

increased in different equipments and machines without any side effects and negative fallouts.

EU: How do you see the potential of your product in Pakistan?

**Robert:** Pakistan is a really big and lucrative market for our product as its industries and vehicles are largely dependent on fuel but their consumption is very costly for the people who want to save money in their businesses and domestic lives.

We have teamed up with local partner to introduce our product in Pakistan at large scale so we can penetrate our products to the targeted market at face pace as much as possible. We will meet the leading petroleum providers introducing our products in all big cities including Islamabad and Karachi.

I believe that Pakistan is good market place for investments without any harm as people react to me, my language and my dialect with open arms. They want to listen to me and about my products and give positive feedback.

EU: Do you think your product will make a difference in Pakistan having looming energy crisis?

**Robert:** The energy crisis is deep in Pakistan and its needs support from various direction. Energy conservation is one of the best solutions in short-term to long-term bases in every sector and every industry. So we have decided to introduce our product in our fields to give an opportunity to people for availing themselves the choice of cost cutting. ■



**Crisis in any field creates opportunities for innovative people. The energy crisis is global but it is worst in Pakistan where purchasing power is predominately low in the society whereas masses daily and commercial affairs are largely dependent on petroleum products. Robert D Christy, Managing Partner and CEO of Fluid Solutions has come up with his innovative product Fluida with the aim to explore Pakistan and launched his campaign at EGO Pakistan 2013.**

# Mirror image

By BINA SHAH



I RECENTLY made a short trip to the UAE and the glittering city of Dubai, which I enjoy visiting, and I always have a pleasant time when I go there. But every time I return, and I'm back on the rundown streets of Karachi that smell of so many different energies and emotions - ambition, frustration, want, struggle, greed, despair, joie de vivre - I'm reminded that while Dubai may glitter, Karachi is gold.

One day I travelled by taxi with my family in Jumeirah, the beachside neighbourhood filled with resorts and private medical centres.

Our taxi driver was a sweet lad from India, with a calm demeanour and a ready smile. Within a few moments of conversation, he asked my father if we were from Karachi.

When my father replied in the affirmative, the taxi driver nodded knowingly.

"The moment I heard you speak, I thought, you are from Karachi, but you are either Gujrati, or you have been living out of Pakistan for many years."

"But we're Sindhi," said my father, and we all laughed.

The taxi driver chuckled, and told us that although he was from Gujrat, he too was Sindhi, eliciting happy gasps from all of us. Switching from Hindi to Sindhi, he told us - his name was Pardeep - how his Hindu family had emigrated from Sindh to Gujrat at the time of Partition.

They lived in Baroda, the only Sindhi family in the entire neighbourhood. He said

apologetically that his Sindhi was unpractised, although he spoke it with his mom (he used the English word) and grandmother.



He proceeded to tell us about his family, the brothers who emigrated, the distant cousin who had stayed behind, the ones who started their own businesses and were 'set', versus the ones who only got jobs and so never 'settled' properly. And he told us with pride how his mother could read and write Sindhi, but that few of them now spoke it in their family.

His own Sindhi was strongly Gujrati-accented, and I loved hearing the lilt and sway in his words as we drove through the butter-smooth streets of Jumeirah.

My father asked him where in Sindh his family had come from. Pardeep named a

village in Sindh that none of us had heard of - Saiyal, or something to that effect. Many of his people came from around Sukkur as well. He told us his surname and my father told him there were many Sindhi Hindus with that name.

Pardeep asked us if we wanted to hear some Sindhi music and put on a tape of Sindhi bhajans.

The dulcet tones of a woman singing the songs of religious praise to Krishna and Ram surrounded us and we sighed to hear something so familiar and exotic at the same time.

Pardeep explained how as part of their worship, they listened to the songs first thing each morning. He then announced that he was 'full veg', having given up eating even fish when he became the devotee of a certain guru. Milk was allowed, eggs not, as that was considered killing a chick.

Pardeep told us more about his family, who were jagirdars, and had so much land that they used to make rounds of their lands on horseback that lasted all day long.

It was the unburdening of family folklore that he'd carried around for years until he could relate it to someone who would truly understand the time and place when it had been reality, not myth.

My father said that he too was a zamindar, and related a little more of the way of life in rural Sindh today, tales about the farms and crops and the people.

Pardeep drank it all in, thirsty for the knowledge of this homeland he'd heard of but never seen with his own eyes. It's like that with all the Sindhi Hindus we've ever met, who express everything from curiosity to wistfulness to regret to hope that they might one day be reunited with the beloved land they were forced to leave behind.

Pardeep said, "I have never been to Sindh but listening to you talk, now I want to visit." We encouraged him to come, as Sindhis always do when they meet each other anywhere in the world - the timeless ritual of hospitality made even more poignant by the fact that our would-be guest felt like long-lost family.

We reached our destination, and alighted from the taxi. We said goodbye to Pardeep. And all I could think was how when people from Pakistan and India meet each other, it's like looking in a mirror and being surprised at seeing yourself in its reflection. ■

The writer is an author.



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**NFEH holds 6th International Summit on**

**Corporate Social Responsibility 2014**

**Corporate sector needs joint efforts, single target for CSR activities**



**Group photograph of 3rd CSR Award Winners at 6th Int'l CSR Summit, organized by National Forum for Environment & Health. Seen are Dr. Kaiser Waheed, Naeem Qureshi, Mehmood Tareen, Mirza Ishtiaq Baig, Ruqiya Naeem, Ateeq-ur-Rehman alongwith Award Recipients.**

Speakers urged that collaborated efforts and unified policies are needed to frame by the national and multinational companies for executing their Corporate Social Responsibilities (CSR) activities for a greater goal of social and human development in Pakistan.

In a 6th CSR Summit and Awards held here on Thursday, speakers said that corporate sector should unit under one platform and set a single target to achieve for their various CSR activities and projects for significant contribution towards development of the country and far-reaching impacts on the society.

The corporate sector needs to make a shift from cost accounting to full-cost accounting," said Saad Amanullah Khan, CEO Gillette Pakistan and the president of the American Business Council.

Explaining the concept of full-cost account accounting, Khan said: "There was a time when companies used to care only about their profits and losses; now the demands of the time have changed and companies have started adding the health of the environment and social responsibilities to their profit/loss calculations."

According to Khan, since 80 percent of the world's GDP is in the hands of the private sector, it needs to increase its CSR



**Commissioner Karachi, Shoaib A Siddiqui inaugurating CSR Gallery 2014**

**Honourary CSR Excellence Award 2014, LivingLegends & Organizations**

- Dr. Tilo Klinner, Consul General of Germany
- Prof. Dr. Adeb U Hassan Rizvi, Prof. & Director, SIUT
- Dr. Ruth Katharina Martha Pfau, Founder, MALC
- Make A Wish Foundation - Mr. Ishtiaq Baig
- AMAN Foundation / AMANTECH - Mr. Zaheer A. Hussain
- Abdul Sattar Edhi, Founder of Edhi Foundation - Mr. Saad Edhi and Mr. Hamza Edhi
- The Citizens Foundation - Mr. Isfundyar Inayat
- Ms. Nadia Hussain, Senior Model and CSR Activist
- Archbishop Joseph Coutts, Catholic Archdiocese of Karachi
- Ameena Saiyid, Managing Director, Oxford University



Speakers addressing the 6th CSR Summit 2014

### Top Ten Companies of CSR Awards 2014

- Al Baraka Bank (Pakistan) Limited
- EFU Life Assurance Ltd.
- English Biscuit Manufacturers
- Fauji Fertilizer Company Ltd. (FFCL)
- General Electric International Inc (GEII) Sapphire Power Plant
- JS Bank Limited
- National Bank of Pakistan Ltd
- PAK-ARAB REFINERY LTD.
- PAKISTAN TOBACCO COMPANY
- Procter & Gamble Pakistan

activities instead of waiting for governments to play a role. "Governments come and go; the private sector remains in all seasons," he said. "Sustainable development is the route to business sustenance."

Sharing examples of corporate philanthropy across the globe, Dr. Junaid Ahmed, chairman of National Management Consultants, said that Pakistan attracted only \$56.6 million from US philanthropists till 2013 while India has attracted \$8.3 billion in just the last 10 years.

Federal minister for information Javed

Jabbar agreed on the need for corporations to give more, he insisted that philanthropists educate themselves on who they are giving the money to and for what purpose.

"Terrorism is the result of blind philanthropy people used to make in near past," he said, a point echoed by Commissioner Karachi Shoab Siddiqui, who also stressed on the need to make philanthropy visible and documented.

Parvez Ghias, CEO of Toyota Indus Motors, said that the canvas of CSR should be expanded beyond just philanthropy. "We

need to implement good governance and polices, take care of the environment, pay taxes as per our obligations etc," he said. "We should not keep CSR activities limited to the giving of financial assistance to NGOs and similar organizations."

CEO and President Barclays Bank Shahzad Dada said that corporations should work extensively on social development through providing skills and knowledge to un-served and underprivileged members of the society for capable them as the valuable part of the country.



## Winners of CSR Excellence Award 2014:

Abbott Laboratories Pakistan, Adamjee Insurance Company, Al Baraka Bank (Pakistan), Bank Al Falah, Bestway Cement, City Bank, N.A., CRLF Company, Crown Group, Dr. Essa Laboratories & Diagnostic, EFU Life Assurance, English Biscuit Manufacturers, Etihad Airways, Fatima Fertilizer Company, Fauji Cement Company, Fauji Fertilizer Bin Qasim, Fauji Fertilizer Company, General Electric International Inc (GEII), Saif Power Plant, Green Overseas, Hub Power Company, JS Bank, K-Electric (Formerly KESC), Kohinoor Maple Leaf Group Lucky Tex Pakistan, National Bank of Pakistan, Nestle Pakistan, OBS Pharma, OGDCL, Packages, Pak Oasis Industries, Pak-Arab Refinery, Pakistan Tobacco Company, Procter & Gamble Pakistan, Rafhan Maize Products Co, Shan Foods, Sui Northern Gas Pipelines, Sui Southern Gas Company, Total Oil Pakistan, Total Parco Pakistan, Serena Hotel and Yunus Textile

## View of CSR Gallery



The way of social investment should be changed through mindset of welfare and create value through executing activities which will develop societies rather than donating funds to NGOs. He urged the companies to optimize their investment through creating values to different projects under CSR.

Ali Asher Syed, Coporate Manager of Nestle Pakistan said the corporate sector needs to sort out major issues of the society and set a roadmap to achieve their targets mutually through the collected efforts and joint strategy.

He said that companies are willing to invest on the society but variety of different projects could not yield big impact on the society and the country. However, the country will achieve a certain target for the social development and welfare of its citizens if the companies act mutually.

### Corporate sector emerging role in society development

Saad Amanullah Khan, CEO Gillette Pakistan said corporate

sector should influence the government in shaping the policies towards the protection of the environment and health issues of the nation. Private sector imparts pivotal role in the economy including the major share of the revenues of the government through taxes.

Government comes and goes but the business of companies will remain in the country, hence the national and multinational companies should advocate the government with joint strategy and convince them devising policies towards achievement of Millennium Development Goals.

CEO Indus Motor Pervaiz Ghias said the corporate philanthropy should be increased to achieve all eight MGDs that Pakistan has missed. He urged corporation to expedite their activities and contribute significantly towards the society they are operating in.

continued on page # 50



Group photo of Organizers with volunteers

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# Transforming Youth Media Summit 2014

## Students should benefit from social media tools: media experts

Students associated with the media need revised curriculum, and research-oriented hard work for a better career, because in the past 15 years, there has been a revolutionary change in Pakistan's now thriving media sector. These were some of the sentiments which were expressed by Commissioner Karachi, Shoib Ahmed Siddiqui, as he addressed the youth present at "Transforming Youth Media Summit", an event jointly organized by Publicity Channel and Youth Affairs Department, Government of Sindh.

Other speakers at the event were: Special Secretary Youth Affairs, Dr. Riaz Siddiqui, renowned journalist Mazhar Abbas, ex-Director Corporate Affairs Dr. Sajid Hussain, Afia Salam, a trainer, senior drama producer Kazim Pasha, CEO Publicity Channel Naeem Qureshi, Project Head Ruqiya Naeem, news anchor Sana Mirza, Rizwan Ja'far, columnist and industrialist Mirza Ishtiaq Baig, General Manager SSGS Shahbaz Islam, Shehnaz Ramzi, Dr.



At the occasion of prize distribution ceremony of Transforming Youth Media Summit, jointly organized by Sports and Youth Affairs Department and Publicity Channel. Commissioner Karachi Shoib Ahmed Siddiqui, Secretary Youth Affairs, Dr. Riaz Ahmed Siddiqui, Chief Executive Publicity Channel Muhammad Naeem Qureshi, Afia Salam, Salahuddin Haider, Project Head Ruqiya Naeem, Shehnaz Ramzi, Dr. Shahzad Ali, Kamran Javaid, Atiq-ur-Rehman, Nadeem Ashraf and Mehmood Tareen are seen along with the award recipients



Kaiser Waheed, Saleem Mughal, Dr. Shahzad Ali Sarwar, and others.

Chief Guest at the occasion, Commissioner Karachi Shoib Siddiqui said that the new tools of social media and the internet served to facilitate media students, who now have greater access to attaining political and social awareness through various programs which are aired highlighting social issues, crime, human rights, peace and education. He expressed his profound admiration for Publicity Channel for having pulled off what he termed an excellent event, which would benefit the students. Special Secretary Youth Affairs, Dr. Riaz Siddiqui said that the media student of the present

has become much more capable due to easy access to knowledge.

Other speakers and experts highlighted the positive and negative aspects of media and talked about freedom of media, event management, drama, social media, radio, and the promotion of information.

A competition for students in the areas of short TV documentary, radio documentary, photography and essay writing had also been organized for the occasion. In photography, Jinnah University for Women bagged the 1st prize, with Federal Urdu University ranked 2nd, and Karachi University ranked 3rd. In essay-writing, students from Karachi University bagged all three positions. In documentary film competition, Karachi University won the 1st and 2nd prize, with Jinnah University for Women bagging the 3rd prize. In radio documentary category, Karachi University won the 1st and 3rd prize, with Federal Urdu University winning the 2nd prize. In the short film category, Muhammad Ali Jinnah University won the prize. Commissioner Karachi Shoib Siddiqui, Dr. Riaz Siddiqui, Naeem Qureshi, Ruqiya Naeem, Salahuddin Haider and Afia Salam distributed prizes among the winning participants. Support for this event was provided by Adamjee Insurance and Sui Southern Gas Company Ltd. ■





# Circular Railway is imperative

THE likelihood of the revival of the Karachi Circular Railway (KCR) is the best infrastructure-related news that Karachi has had since the preparation of the 1975-85 Karachi Master Plan. All efforts should be made to see that this revival takes place and soon.

This is in spite of the fact that the KCR will serve only 0.75pc of the trips generated in Karachi; will not be affordable to the poor without a major subsidy; and will not overcome traffic congestion as cars and motorbikes will keep on increasing. But then, it has to be understood that the KCR revival is the foundation stone of the JICA-supported Karachi Transport Improvement Project (KTIP) which consists of several corridors of which the KCR is one. If the others follow then in 15 years the majority of Karachiites will be able to travel with dignity and comfort and if subsidies are generated (and they can easily be) the fare will be affordable for most commuters.

Transport systems reshape a city since they bring about land-use changes. If these changes are managed, the city improves both in physical and social terms. If they are not managed, then chaos, congestion and environmental degradation follows. The KCR will bring about major changes along its route and especially at its intersection with important road corridors.

It is necessary to plan the development at these intersections. They are ideal for high-density commercial and for high-density low-income housing, both of which Karachi desperately needs and which are multiplying in an ad hoc manner all over the city. Such development will also make the KTIP economically more feasible and the real estate development process can also subsidise the subsequent operation and maintenance of the project.

There are other requirements also. The stations should have sizeable space for the parking of cars, motorbikes and bicycles so that people can travel from their home to the station to take a train to their destination. Space should also be provided for rickshaws and Qingqis in a manner that

By Arif Hassan

they do not cause congestion.

It has to be understood that they will continue to be used for the foreseeable future. Space for hawkers also needs to be provided since the latter, low-income groups and commuters are inseparable, something planners and bureaucrats do not seem to understand and it is because of this that hawkers' eviction and rehabilitation projects invariably fail. Unless these requirements are fulfilled you might have

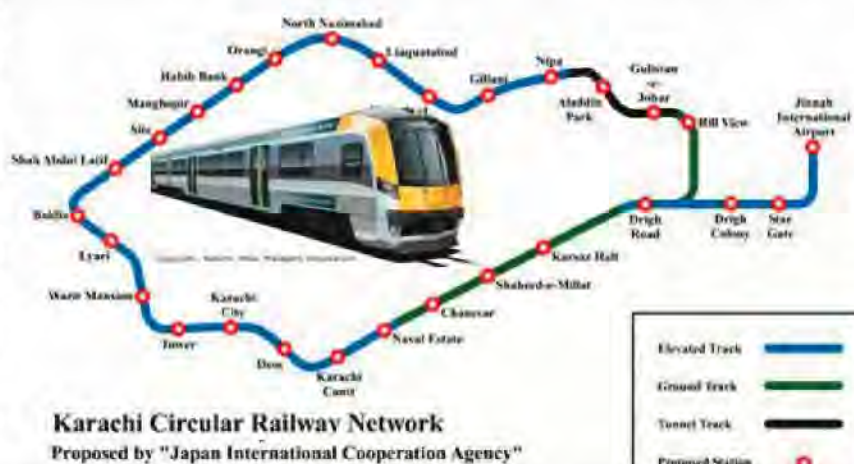
owned homes.

There is also conclusive evidence that insensitive relocations increase social alienation, depression and anger and make socio-economic upward mobility difficult if not impossible. These repercussions are the last thing that this already fragmented and increasingly violent city requires.

The KCR Affectees Action Committee has presented two alternatives to the government's relocation plan. One, it has identified railway land near where most of those affected live. It wants this land to be allotted to them along with a HBFC house building loan for those who opt for it. Two, that the

government simply offers a lump sum of an average of Rs1,500,000 to Rs2,000,000 per affected household and they will move out and find their own accommodation. This will increase the rehabilitation cost from 1.6pc of the total project cost to between 2pc to 2.5 pc.

The Action Committee argues that the rehabilitation cost will go up in any case to well over 2.5pc just as the Lyari Expressway rehabilitation cost increased from



an efficient rail system but you will have chaos and environmental degradation around it.

The rehabilitation of the railway also means removing 5,000 families who currently live on its right of way or adjacent to it. The project plans to relocate them to distant Murad Goth and to provide them with an 80 square-yard plot and Rs50,000. This move will impoverish them. They will be removed far from their places of work. This will mean extra travel time and cost. It will also mean that their women will be without a job; their children without a school; and the family far from health and recreation facilities.

Currently, these, along with legally acquired utility connections, are available to a sizeable majority of the households within their neighbourhoods. Studies of the relocated Lyari Expressway-affected persons show that 89pc of them have become poorer because of the relocation; many have become destitutes and many more have migrated back into the city as renters near their places of work where they once

Rs2 billion to Rs7bn. This second alternative also saves the government problems associated with implementing a flawed rehabilitation process and its corruption-related issues. The alternatives presented by the Action Committee need sympathetic consideration.

Many of Karachi's infrastructure projects, designed and built decades ago, remain incomplete. This should not happen with the KCR and its related developments. Also, whenever land has been opened up as a result of planning initiatives, it has been plundered by those in power and their underlings, impoverishing the city and its citizens.

It is hoped that this time this will not happen. Maybe it is time to think of establishing a citizen's committee to oversee the planning and implementation of land-related issues that will surface as a result of the KCR revitalisation.

But then for the effective implementation of the KTIP, Karachi needs peace and an efficient local government, both of which it does not have. ■

# AMAZing

## Philips invented the concept of phone-bracelet



Philips invented the wrist phone. The Brazilian designer Dinard da Mata has created for Philips a flexible phone flexible OLED screen called Fluid. This smartphone can be attached around the wrist like a bracelet. Once unwound, the Philips Fluid incredibly thin offers all the traditional functions such as internet browsing, downloading and application platform for video games.

## The biggest flat screen in the world is super HD

The biggest flat screen world Developed by Japanese manufacturers Panasonic and NHK, the giant plasma screen opens the door super HD television, expected by 2020. Resolution image is 16 times greater than current HD displays.



## Oculus Crystal Cove Prototype Hands-On: Wow This Is Great



Away from the noise of CES, away from the curved 4K TVs, activity trackers and sad accessories, I'm sitting in the cockpit of a spaceship. I look to my left, lean in to inspect a screen of information, and do the same on a screen to my right. All systems are go. When I give the thumbs up, I'm launched into the middle of a huge, operatic space battle. I look to my left, and there is a beautiful galaxy swirl off in the distance. To my right, vessels the size of skyscrapers are deploying space fighters. It's beautiful and mesmerizing, like I'm actually in space, fighting for the Rebel Alliance in Star Wars. I now know what it's like to be an astronaut. When I turn to face forward, I'm face-to-face with the backside of an asteroid, and I flinch so hard I literally jump out of my seat. This is what it's like wearing Oculus's new Crystal Cove prototype.

## Wearable MRI technology

What if we could use radiology imaging without those huge machines? A Swiss group has been working on a wearable magnetic resonance imaging (MRI) detector and sensor arrays. It would vanish long waiting lists and allow medical professionals to literally see through the patient in emergency situations.



## Android is much safer iOS

When the Android operating system was still in its beginnings, many users (even its competitors like Apple) were very critical regarding the reliability of the OS, indicating that it is completely free it will facilitate the introduction of viruses or other spyware. However, Android has received a lot of patches from these few years whether the interface, functionality, but also safety. Today, Eric Schmidt, who is one of the bosses of Google adamant during a question and answer conference at Gartner Symposium that its Android OS is much safer than the iPhone. A statement that is certainly a bit provocative, but nevertheless the merit of reviving the debate on security level of mobile operating systems, as well in Google than Apple.



2014 BMW M4 First Ride

# Can Pakistan be governed by the present legislators?

The recent "Parliamentarians Tax Directory", released by the Federal Board of Revenue last week, at the behest of the Finance Minister, is now being referred to as the 'Directory of Shame' and a 'Citizens Hall of Shame'.

The directory gives the names of all the 1,174 legislators of the country and reveals that 108 MNAs did not pay any taxes, while 120 lawmakers did not file their income tax returns and 90 lawmakers did not even have NTN Numbers, as such, they were tax defaulters.

This validates the sad situation, that most of our democratically elected parliamentarians are not honest nor law abiding citizens, as required by the Constitution of Pakistan and do not pay taxes and yet have a princely lifestyle.

They have lied and mis-declared their personal wealth while filing the Election Forms and have proved that they are unfit to govern us. These leaders make tall

**By Hameed Maker**

promises to win votes during election time, but once in power, we become the 'Forgotten Citizens' and are left at the mercy of militants, gangsters and criminals.

In the past six years, both, past and present governments have failed to introduce any legislation that would establish good governance, protect the life and property of the citizens and improve the quality of their lives, by providing basic health, education and infrastructure.

Instead, they have shamefully wasted the tax payer's money, by turning our assemblies into a circus, where parliamentarians thump desks, hurl abuses at each other and stage walk outs.

The Constitution and democracy are a farce, as they are used by 'self above all' corrupt leaders and politicians to get

themselves elected, so that they can rob the nation. Look at their track record. We have two former PMs, who have been indicted for corruption and misuse of powers, in the Power Rental scams and other related crimes.

In any other country, where there is a system of good governance and respect for the law and accountability, it is a matter of routine, for parliamentarians found guilty of corruption or violating the law, to resign. But not so in this land of the Pak and the Pure. But when we talk of democracy, the Rule of Law and Good Governance, let us ask ourselves, are our democratically elected Ali Babas and their Forty Thieves, fit to do the job and govern us? If not, then what is the other alternative?

Therefore, before we label General Musharraf, a former COAS, a traitor, let us decide on the status of our parliamentarians, who have also betrayed us and violated our Constitution. ■



جب تک ٹیکس نہ دیں گے سیاستدان  
بجلی بن کے برسے گا مہنگائی کا طوفان

# Bad governance: How to turn around?

By Syed Zubair Ahmed

Economy is the pillar of a country's infrastructure and hence a country should have a sound economy. Economy also implies careful management of resources. A country's strength depends on a sound and stable economy. When economy turns bad, it leads to anxiety, unemployment, extremism, poor governance, mounting debts and host of other ills. Circular debt is striking again with prolonged gas, energy and power load shedding. Inflation, downward slide of dollar, and budgetary deficit are some of the major challenges. Three core obstacles currently facing Pakistan's economy are, limited tax mobilization, mounting domestic debts and ever increasing loss sustained by Public Sector Enterprises caused by excessive public spending, inefficiency and corruption. Under the previous government, public debt surged to an alarming figure of Rs. 14,561 billion in 2012 as against Rs 6,691 billion (the pre-2008 figure) adding to the dismal situation of Pakistan's Economy.

Pakistan has the lowest tax-to-GDP ratio in the world and a taxation system that is characterized as unjust and inequitable. The amount of tax evasion estimated by the NAB is equal to Rs 7 billion per day. The main culprit is corruption that comes at a heady cost of an estimated Rs 12 billion per day and is an evil that has been accelerated leapfrog. Even institutions like the Federal Board of Revenue have fallen prey to corrupt practices. State-owned enterprises such as PIA, Pakistan Railways and Pakistan Steel Mills have bled profusely to the tune of Rs. 625 billion.

The public institutions have consistently shown signs of stagnation, inefficiency and corruption at its core because top positions were stuffed with corrupt, inefficient and crooked, and these institutions were reduced into political nurseries. The results are an eye-opener to all of us. The leaders' inability can be manifested with unchecked corruption, inefficiency and over-employment in these institutions, devoid of effective public service delivery, and the government's flagrant ignorance towards institutional reformation and revival. Despite deepening and burning problems, the government's efforts in planting people who have reputation as subservient to the ruling political party, raises eye-brows

about the leadership's intent and purposes.

We are mainly confronted with governance crises. The leadership is seriously lacking clear vision and lured to personal financial gains or political mileage by bending and avoiding the rules of law and best business practices of transparency, accountability and fair play. Pakistan International Airlines was once considered the sign of national pride in the skies, has devoured immense national wealth, and is relegated to the symbol of incompetency, inefficiency and wastefulness.

Nevertheless, we have to determine whether we are interested in pursuing the cause of accountability seriously. The government will have to consider restructuring the entire accountability mechanism. There is a strong need to revamp the whole accountability landscape right from Provincial anti-corruption regimes to the Department of the Auditor General of Pakistan. The capacity and capability of these institutions are undermined by the political exigencies, Pakistan utterly necessitates across the board callous accountability without discrimination of province, status and political affiliation.

Thus far we have seen intense debate over the selection of heads of anti-corruption organization should not be restricted to a judge, a bureaucrat or a general. Fraud and white collar crimes by its very nature are always hidden. It needs altogether diverse approach to uncover the fraudulent schemes. The roots of fraud are entrenched in society. It essentially invites you to study minutely the motives, methodology and psychology of the fraudsters. With the advent of information technology and complexity in business environment, fraudsters are more sophisticated. Why the head of anti-corruption organizations, never thought of a professional anti-fraud specialist. The appointments for these organizations have usually been made of these senior citizens, who at the tail end of their careers or those who have retired. Under these circumstances, their attention is always focused on enjoying perks and privileges. In the normal course of business, these appointments have never been made above the political affiliations, seniority and larger interest of the party in the government. The question essentially remains

how the impartiality, professional competence and credibility of the incumbent can be ensured. The autonomy of anti-corruption institutions is difficult to safeguard unless technological training and capacities of human resource are not fully improved. The government must allocate resources for conducting effective and independent investigations, and must bridge the skill gaps in order to gain desired results; it still remains a daunting task. The public institutions such as The Auditor General of Pakistan, the Public procurement regulatory authority, Ombudsman offices, National Accountability Bureau, and regulatory authorities must be reinforced and appointments to these institutions should strictly be on merit, fairness and competency based rather than other considerations. Improving the governance structure seems to be the major requirement across the public domain from legislation to judicial enforcement and policy objectives. Nevertheless, the governance reforms agenda should be the overriding goal - right from the Parliament to Election Commission and trickling down the judicial ladder and towards transparency and accountability in political parties, public institutions and public representatives at large.

Challenges confronting Pakistan are quite serious and these cannot be just wished away. Great leadership and persistent effort by the state and society are prerequisite for a turnaround. Do we want to give ears to Martin Luther King, Jr., "A genuine leader doesn't reflect consensus, he molds consensus". 70% Pakistanis are dissatisfied with government's performance on decreasing inflation, it was disclosed in a Gilani Research Foundation Survey carried out by Gallup Pakistan. If government persistently ignoring the fundamentals of economy; does show up determination and capacity to deliver, it must remove the impression that the government itself is blocking the building blocks, rather it must pave the way to progress. Providing basic necessities and removing circular debts are necessity but improving accountability mechanism is equally crucial. By streamlining the whole process and strengthening the governance structure, the hopes can be revived and the seeds of disillusionment can be trimmed. ■

The writer is an Islamabad-based forensic Accountant. -Concluded



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# Break through in coal power

Until the late 1970s, Pakistan's entire power generation was based on indigenous resources. Now, less than 60 per cent of power generation is from indigenous resources, which are depleting fast or getting replaced.

There are now no two opinions that after hydropower generation, domestic coal, in the long run, is going to be the cheapest source of power generation when compared with imported coal, LNG, furnace oil and high speed diesel. Domestic natural gas, although cheaper than coal, is fast becoming a scarce commodity, and is at the centre of political wrangling.

For example, an average 600MW power plant based on Thar coal is estimated to have a levelised 25-year per unit cost of less than 9.5 cents per unit (in domestic currency), compared with 10 cent per unit for imported coal; 13 cents per unit for LNG; 19 cents per unit for furnace oil and Rs21 per unit for diesel. As the size of the project goes up, the cost of Thar coal-based power project will be on a sliding scale compared with LNG, furnace oil and diesel.

Rapidly rising electricity costs and limited foreign exchange reserves have forced policymakers to concentrate on a domestic resource that is in abundance and whose future cost is predictable. This makes sense given that power demand is forecasted to touch 45,400MW in 2019-20, and 134,800MW in 2034-35, according to state-run National Transmission and Dispatch Company.

The effort seems to be picking up pace. According to Shamsuddin A Shaikh, the Chief Executive Officer (CEO) of Sindh Engro Coal Mining Company (SECMC), the first Thar coal-based power project of 600MW is expected to come into commercial production by end-2017, as its financial



close is now near.

According to his estimates, the cost of imported furnace oil-based power generation has increased by over 700 per cent in the last 15 years, while that of gas-based project has increased by only 39 per cent.

"Had we accepted Shenua's [of China] Thar fuel cost of 2.7 cents per unit in the mid 1990s, it would have been 3.6 cents per unit [now], with an increase of just 35 per cent in 15 years. And there would have been no circular debt in the country," he said.

The Thar Desert is estimated to have over 175 billion tonnes of coal. According to Mr Shaikh, this is about 50 billion tonnes of oil equivalent - more than Saudi Arabian and Iranian oil reserves put together. "This is equal to about 2,000 TCF of natural gas - about 68 times higher than Pakistan's total gas reserves," he said, while confirming similar estimates by nuclear scientist Dr Samar Mubarakmand.

He said the Thar Block II - now allocated to the company, which is jointly owned by Engro and the Sindh government - alone contains two billion tonnes of lignite coal, of which 1.57 billion tonnes are exploitable and can produce 5,000MW electricity for 50 years. The SECMC plans to set up a 3,600MW plant on its own, and feed excess

By Khaleeq Kiani

coal to other plants being set up by the government and other private companies.

Separately, the government is currently in the final stages of awarding contracts to generate about 5,480MW of coal-based power projects in the public sector, apart from a private sector investment into the Gadani Coal Power Corridor.

After the recent approval of the \$900 million loan by the Asian Development Bank (ADB), coal conversion and power generation has gotten a new hope. This would help convert an 850MW thermal power station at Jamshoro's conventional oil-fired steam units to coal. Consultants are currently being hired for this.

Almost same is the case with conventional oil-fired steam units 1-6 at Wapda's thermal station at Muzaffargarh of total capacity of 1,350MW. Simultaneously, the 640MW furnace oil-based project at Guddu is also being

converted to coal.

In addition, two new coal-fired power projects of 1,320MW each are being taken in hand in the public sector. Along with ADB's financial support, the Islamic Development Bank, China Exim Bank and other financiers are chipping in to finance a brand new coal-based power project at Jamshoro of two units each of 660MW, with super-critical technology of boilers.

The project feasibility study and environmental impact assessment studies have been finalised by consultants directly hired by the ADB, which is now waiting disbursements because of project engineering contract award.

To attract private investment for the 6,600MW (10 plants of 660MW each) Gadani Power Park, the government has decided to implement the first power project of 1,320MW (two plants of 660MW), for which bids have already been received and are being evaluated for contract award. The federal government would make arrangements for its funding from its own resources.

The National Electric Power Regulatory Authority has also now announced upfront tariff of 9.65 cents per unit for large coal-based projects for 30 years to encourage investment in power generation. ■

A dialogue with political parties of the country



# Renewing Political Will towards Sustainable Development in Pakistan



A first-of-its-kind dialogue to debate weightage political parties of Pakistan give to environment in their manifestoes was organized by the Government of Pakistan and IUCN under their joint National Impact Assessment Programme (NIAP) in Islamabad recently.

The dialogue titled 'Recapping commitments for sustainable development - A dialogue with political parties' brought together sitting federal ministers, distinguished MNAs and leading politicians to elicit their thoughts on and commitments towards environment. Participants at the dialogue included senior government dignitaries, diplomats, civil society representatives, the media, academia and eminent experts.

The National Impact Assessment Programme (NIAP) being jointly implemented by the Government of Pakistan and IUCN aims to contribute to sustainable development in Pakistan by strengthening Environmental Impact Assessment (EIA) and introducing Strategic Environmental Assessment (SEA) in Pakistan's development planning processes. NIAP has four partners namely: the Pakistan Environmental Protection Agency (PEPA); Climate Change Division, Ministry of Climate Change; Environment Section, Planning Commission of Pakistan and IUCN Pakistan. Technical assistance to the programme is being provided by the Netherlands Commission for Environmental Assessment (NCEA) while the project is being funded by the Embassy of the

## Panelists and their Quotes

**Javed Jabbar:**

We as a nation are very generous, but when it comes to protecting our environment, we lack focus there. It is mandatory upon us to also act responsibly towards the environment that we have. Climate change is adversely affecting us all, and this is the first time in human history that our interference with nature is causing us this problem. ■



**Ahsan Iqbal (PML-N):**

Let me underscore our total support to the commitment and sustainable development. We have this in our 2025 vision. Because sustainable development is not only about preserving environment, but in spirit is the preserving of resources of our planets for future generations. While the resources are at our command today, we need to enhance them also, while using them, for a better life for mankind. We have a great responsibility to preserve them in a manner that the future generations can use them. I use them in a manner in which we are compromising the quality of life of our future generation. If we are not doing this, we are acting very selfishly, and we are denying a good life to our future generations. We haven't had the tradition of sound economic development planning. We have been planning for times, but there is no continuity. From 1999 to 2014, we did not have a concrete development framework, which could have assessed our consumption patterns, our demands, and our resources. We consumed our resources as if they are only for us. The drought condition in Thar is very disturbing, but how many of us, realize that if we did not think of properly managing our resources, half of the country might face a situation similar to Thar. There is going to be a very serious food security issue for us in the next 15 years. We feel our rivers will not dry up, but when they do, how will we provide for the water needed for the entire country? ■



Kingdom of Netherlands (EKN).

The dialogue was an opportunity for renewing political commitment to promoting sustainable development in the country. Moderated by a renowned news analyst and television anchor Syed Talat Hussain, the dialogue aimed at including environment as a priority subject on the election agenda and mainstream political process. Representatives of major political parties sitting on the panel comprised Mr. Ahsan Iqbal, Federal Minister for Planning and Development; Mr. Javed Jabbar, a veteran politician and a media expert; Mr. Malik Amin Aslam from Pakistan Tehrik-e-Insaaf; Mr. Mushahid Hussain Syed from PML (Q); Mr. Qamar Zaman Kaira, (PPP), Mariam Aurangzeb of PML (N); Siraj-ul-Haq (Jamaat-e-Islami), and Mr. Jan Achakzai from Jamiat Ulmai Islam (F).

The proceedings started with a welcome address by IUCN Project Manager on NIAP, Mr. Ahmad Saeed, who said:

Weak environmental governance is a root cause of all environmental problems in Pakistan, indicated by the fact that EIA is not being implemented properly in the planning and development of projects. Also, there is no concept of SEA in policy formulation.

Awareness-raising and capacity building of stakeholders is an important component of NIAP. To improve understanding of SEA and EIA of stakeholders and the public in general, it is critical that all stakeholders are actively involved



- specially the policy-makers, civil society, the private sector, academia and the media.

A documentary on environmental impact assessment was also shown. The panelists were then invited to express their views and political commitments towards environment.

In his closing remarks, IUCN Country Representative, Mr. Mahmood Akhtar Cheema, noted:

There is no question that effective and transparent environmental impact assessment processes play an important role in driving sustainable development, and helping to ensure resilience in the face of climate change and other natural disasters.

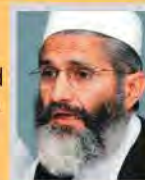
Environmental Impact Assessment has evolved and become part of major project requirements in many countries - and IUCN is helping to strengthen EIA in Pakistan as well.

Environmental degradation poses risks to livelihoods of the people. It is therefore essential that urgent steps are taken and the collective voice of our political parties on the cause of environment is raised. of the environmental issues being faced by Pakistan, I hope that the debate today will lead to renewed commitment from all major parties that are present today in this dialogue, and that we all understand why sustainable development holds key to an economically viable future for all of us.

The dialogue concluded that in order to influence the decision- and policy-makers into taking the right decisions, it was imperative that environmental issues were well-understood along with implications from a lack of action. It was also felt that the power of the media, especially social media, should be capitalized upon to mobilize larger organizations into action, while all other stakeholders continued to play their respective roles. ■

#### Siraj-ul-Haq (Jamaat-e-Islami):

We want a clean and a green KPK. We are making efforts towards that end. One of those efforts is ensuring that environmental messages are embedded in our religious talks, speeches, mosques, and that each child should plant a tree in their respective madressahs. We have given targets within KPK. But we should also focus on developing our own resources rather than relying on external funding. Markhor was an example, in which people were given an ownership of that animal's protection through the hunting trophy concept. ■



#### Mr. Jan Achakzai from (JUI-F):

We know that environment has become a serious problem - the Tharparkar tragedy is a repercussion. The water available in Balochistan is dangerously low, and if we don't act we will have another tragedy similar to Thar. ■



#### Syed Mushahid Hussain (PML-Q):

It is an issue in which every Pakistani should take interest and initiative. There have been public hearings on the issue of climate change recently in Pakistan, and we have launched a manual on climate change, and initiatives are being taken. However problems are lack of interest and involvement, either of the politicians or media on environment issues. They are focused on day to day affairs but not the future issues that will affect our generations. I commend Ms. Aban Marker Kabraji for taking this initiative at IUCN. Political elite have a convoluted development model - making Islamabad a concrete jungle like Dubai, which is an issue of mindsets, and these are issues that have affected policy makers - we live in a region adversely affected by climate change. At least 500 million people live close to coastline in India, Pakistan, Maldives, Sri Lanka, and the livelihoods of this population is at risk of being undermined because of climate change. There have been 141 extreme weather incidents, directly as a result of climate change - in South Asia. In last 5 years, floods in KPK, Sindh, parts of Punjab, displaced 20 million people, and such situation can lead to political instability through the onset of resulting poverty. Pakistan is a high-risk country, and a victim of climate change. For the first time, Pakistan competed for a UN award, amongst 30 countries. Pakistan was among the eight countries that received a grant from UN for climate change, of 3.8 million US Dollar. ■



#### Ms. Aban Marker Kabraji, IUCN Regional Director Asia:

IUCN will be completing 30 years. We have over the years, worked with provinces, NGOs, and tried to build institutions, like SDPI is one example, and we are trying to create best practices. IUNC Pakistan has been IUCN's largest country programme in the world. Much of what IUCN does in Pakistan is also replicated in the Asian region. Success depends not on good knowledge and information, but the political will - to implement policies.



## NBP gets Gold Medal for CSR initiatives

Federation of Pakistan Chamber of Commerce & Industry (FPCCI) has awarded Gold Medal to National Bank of Pakistan for its CSR initiatives. Syed Ahmed Iqbal Ashraf, President and CEO of NBP, will receive the award on behalf of NBP. In 2012, the NBP was also awarded CSR Award by FPCCI.

This award is given on the basis of overall contributions and donations for charities, social, educational and public welfare initiatives. The overall contribution of NBP in CSR front in 2013 was approximately Rs 120 Million. NBP's mainly contributes in health, education, community development, disaster relief, women emancipation, infrastructure development, environment, water purification and sanitation, special children, sports and culture etc.

NBP has contributed whole heartedly in the 'Health' sector by supporting Marie Adelaide Leprosy Centre through adoption of MALC's Female Ward; SIUT Sukkur for free treatment of underprivileged patients; Noor Memorial Hospital Chakwal for construction of Lab & X-Ray facilities; Equipment support to various other hospitals and organising numerous Medical & Eye camps countrywide. In 'Education' sector too, NBP has played a vital role by construction of various schools in the remote areas and specially the adoption of 'The Citizen Foundation School' at Nawabshah; sponsored students and trainees with focus on girl education. Besides these NBP has tremendously supported Sports & Culture at national level, Community Development, Disaster Relief, Women Empowerment, Infrastructure Development, Environment, Water Purification & Sanitation and Sponsoring Special Persons. ■



# Pakistan industries moving to alternative energy resources

By Yasir Ameen

Pakistan's industries have been incurring losses on the poor availability of energy resources- electricity and natural gas-for past many years which drastically reduced their productions and contribution to economy on alarming level. But different industrial units of various sectors have found development of alternative energy on following the proverb "necessity is the mother of invention" consuming energy for enhancing their production level gradually.

The trend has been on the rise as many industrial units have set up various plants and resources for energy and utilizing them in accordance with the demand of their plants and manufacturing units.

Different industries second-handedly created their ways without any support of the government that suit their business needs and made an ecosystem for industrial units to imitate the trend to be self-sufficient in energy production.

State Bank of Pakistan (SBP) has traced out in detail the increasing consumption of energy resources in the different industries of Pakistan which showed that acceptance and successful level of alternative energy in the country.

## Steel

The steel sector in Pakistan comprises of melting and re-rolling units. In the steel melting process, scrap is melted by using arc furnaces to form

billets. This process is 100 percent electricity intensive and cannot be substituted by any other energy source. Facing power shortages, smaller firms located in Punjab, switched to diesel-run generators, which not only increased production cost, but also reduced productivity, as uninterrupted power supply is required to melt steel scrap.

In contrast, larger units in Karachi switched to captive power, which required higher fixed costs, but guaranteed smooth production without interruptions.

In contrast, the re-rolling process that requires the preheating of billets to shape final products, is a gas-intensive process. It is estimated that around 12-13 re-rolling units in Punjab have installed coal gasification plants in the previous two years. These plants have been imported from China, and their costs vary from Rs4 million to Rs 30 million, depending upon size and specification. In addition to this, some smaller units in Punjab are also using used tyres for heating purposes.

## Paper

The production of paper is a very energy intensive process, and requires a combination of electricity and steam. Energy is required to compress air, process pulp, and dry paper.

Most of this energy is consumed in the

drying process, which requires a steady flow of steam. In Pakistan, natural gas was the main fuel source for generating steam; its shortage has forced many manufacturers to shift to alternative sources recently. For instance, a large number of pulp manufacturers (e.g. Premiere Paper Mills), are using

bio-mass run boilers (mainly wheat straw, kai grass and bagasse) to drain extra moisture from the paper, while Century Papers- one of the largest paper manufacturers in the country, has recently installed a coal/bio-mass run boiler.

## Textiles

Within textiles, spinning and weaving of fiber are electricity-intensive, whereas dyeing and finishing are gas-intensive processes as these require a steady supply of steam. In Pakistan, most spinning units are large-scale units, which can afford to run on back-up diesel generators. In the weaving sector, a large number of units located in Faisalabad, use power looms for fabric manufacturing.

These power looms are small-scale units, and are



forced to shut down in case of power outages as alternative energy sources are too expensive for their modest operations. Some medium-sized power looms have installed diesel generators, but as is the case in the steel sector, this has increased production costs in contrast, a number of textile processing units have installed boilers that can run on bio-fuels like cotton waste, rice husk, and other waste.

As far as big textile groups are concerned, most of them have captive power plants of their own; Nishat, Gul Ahmed, Sitara, and Sapphire are a few examples. More importantly, these companies use gas-fired combined-cycle power plants, which generate power from gas; and the waste produced is automatically used to generate steam. For gas-intensive processes, companies like Yunus Textile, Kohinoor, Chenab, and Fazal have installed waste heat recovery boilers.

### Chemical

In the chemical sector, caustic soda and soda ash are highly gas-intensive products. When gas shortages began, chemical producers in Punjab suffered the most. Recently, the two largest players in Punjab -Ittehad and Sitara Chemicals, have shifted part of their production to coal-fired boilers. Large producers in Karachi, have also reduced their dependence on natural gas. For instance, ICI Chemicals has installed a coal-fired boiler for its soda ash plant, while it has arranged solar thermal boilers for its polymer plant. Engro Polymers, on the other hand, is using excess energy from normal operations to generate steam using waste boilers, for the production of polymers.

In the polyester business, the largest manufacturer (Ibrahim Fiber), has installed a gas run power plant, which produces steam as a by-product that is sufficient for the production of polyester staple fiber.

### Leather

The leather industry requires both electricity and steam for its production process. As per our conversation with the industry, Punjab-based firms are using diesel-run generators as a back-up for electricity.

For the gas-intensive process of drying of leather, a few companies have installed solar thermal boilers to generate steam. In Karachi, where gas outages are not as common as in Punjab, manufacturers only rely on diesel generators.

### Sugar

Sugar mills in Pakistan are using captive power generated from bagasse. This obvious synergy in the production process was initiated only four years back when the energy crisis was at its high.

Presently, most of the large mills are generating power from by-products that is not only sufficient for their own needs, but

could (by some estimates) as much as 3,000 MW of power into the national grid.

Realizing this potential, the ECC approved a Framework for Power Co-generation in March 2013, which sets the modalities related to co-generation, tariff determination, and sales to DISCOs.

This process would be overseen by the Alternative Energy Development Board.

### Cement

Cement production is the most energy-intensive within LSM. The process of clinkering, in which the blend of different raw materials (including clay and limestone) is partially melted to form a granular material requires a great deal of energy.

This requires heating the rotary kiln using various fuels including pulverized coal or coke, natural gas, lignite, and fuel oil. In Pakistan, almost all cement manufacturers shifted from natural gas to coal in the early 2000s, which means this sector was largely immune to the worsening energy shortages in the country.

However, as a cost cutting measure, a number of cement manufacturers (e.g. DG Khan Cement, Lucky Cement, Fauji Cement) have started using bio-fuels, especially refused and tyre derived fuels.

In addition, Bestway, Cherat, Fecto, Lucky and DG Khan, have recovery plants to generate

also installed heat their own electricity.

### Fertilizer

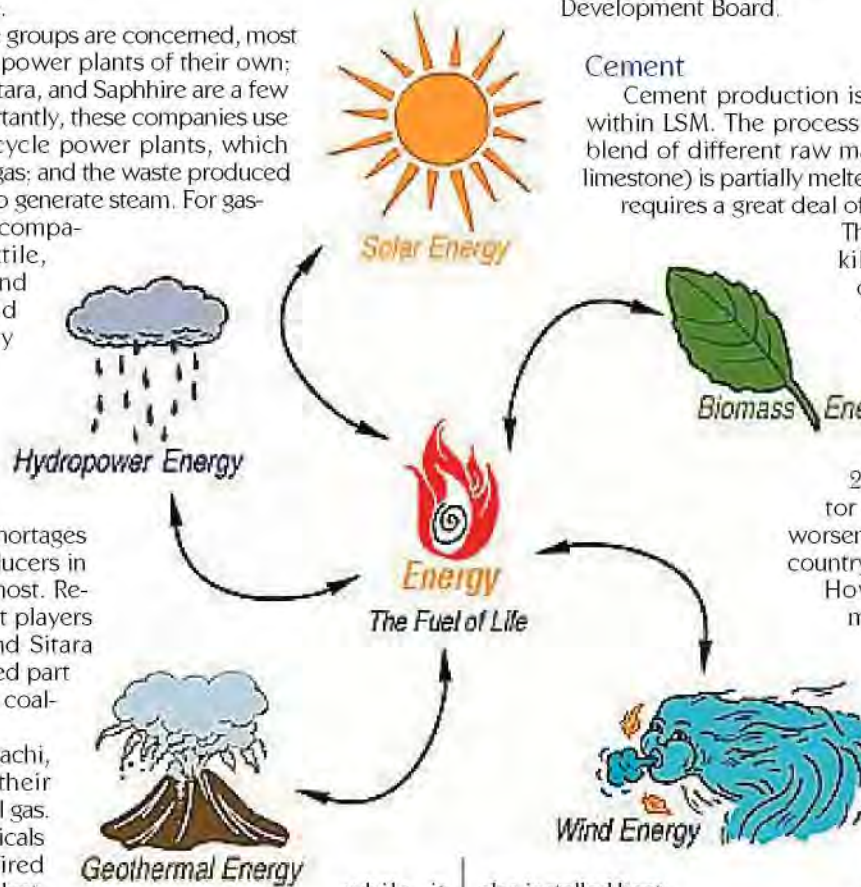
The fertilizer sector has no alternative, but to use natural gas as the principal raw material (feedstock) in the production process. Due to inadequate availability of gas, fertilizer production has declined in the previous 2 years, and the demand-supply gap in the country had to be met via imports edible oil/ghee.

In Pakistan, edible oil manufacturing includes the refining, bleaching and deodorization of imported palm oil. These processes are highly energy-intensive as they require heating and cooling at different stages. Steam is a primary heating source, for which these units have installed boilers that run on furnace oil and high-speed diesel. Due to high costs and space limitations, manufacturing units cannot afford large boilers that run on bio-fuels, and hence are forced to operate on relatively expensive imported fuels.

### Glass

Glass manufacturing is also an energy-intensive process. Most of the energy consumed comes from natural gas combustion, which is used to heat furnaces that melt the raw material to form glass. In Pakistan, these furnaces are typically fired on natural gas.

The share of natural gas in total fuel cost is estimated at 62 percent. Most of the large players in this sector are planning to install coal gasifiers within 2 years. ■



# Bank Alfalah: Making a difference in the service of communities

Bank Alfalah Limited has set an exemplary role in carrying out services of humanity and communities which it operators as it has done marvellous activities under Corporate Social Responsibilities (CSR).

The banking company aims to conduct business with the multi-pronged approach of creating value for its clients, shareholders and communities responsibly. Through an innovative business strategy, exceptional focus on customer service and experience, sustainable philanthropic investments and a diverse, engaged workforce, it reinforces its commitment to the communities where it operates.

Bank Alfalah has joined hands with the Buksh Foundation to support a solar energy initiative 'Lighting a Million Lives'. This project provides energy impoverished communities with access to solar energy in order to electrify their villages. Bank Alfalah has sponsored the electrification of the village of 112 Buddh Dhako in the District of Sahiwal, Punjab.

It has entered into partnership with Acumen Fund on an 'Eradicating Poverty through Entrepreneurship Program'. Through both volunteer support and funding, this program will help us positively impact poverty alleviation especially in the rural parts of Pakistan.



The bank embarked upon collaboration with the AllWorld Network for the Pakistan Fast Growth 100 (Pakistan 100) Program. This is a pioneering effort to showcase and rank the most innovative and dynamic fast-growth private companies in Pakistan - a forward looking story of ambition and achievement that must be heard.

As part of the bank's efforts towards environmental protection and reducing carbon footprint, our employees joined hands with WWF for a 'Tree Plantation' drive at Lahore airport.

Employees of the Abu Dhabi Group companies, including Bank Alfalah, donated one day salaries to set up a fully operational mother-child healthcare centre in Ziarat, Baluchistan, in the aftermath of the Baluchistan earthquake. This centre has been running successfully through 2013.

The bank continues to play a key role in nurturing sports including Cricket, Polo

and Skiing with a view to fostering youth and community development in Pakistan. Last year we have supported Polo teams in Lahore as well as Skiing competitions in the Northern areas in order to promote peace.

The bank's employees joined hands with Shaukat Khanum Cancer Memorial Hospital for its "Anti-Tobacco awareness Campaign", with the aim of reducing tobacco intake and creating a healthier environment in Pakistan.

The bank's Bangladesh office introduced a novel CSR initiative - "Morning Storming" to demonstrate how we care. As part of this program, the Bank's employees provided free medical check-ups to all individuals at Dhanmondi Lake, in order to promote healthcare awareness and well being - the first of its kind for any Bank in Bangladesh.

The bank takes pride in the fact that its corporate social responsibility endeavors are embedded into its overall business strategy. All its citizenship efforts are underpinned by the commitment of its employees. It is their innovative ideas, solutions and relationships that drive the success of its businesses, communities and clients. The bank is not only an innovative for its banking services but in services to the nation where it sets benchmark and defines the roadmap to other institutions. ■

## Lafarge employees reach out to help families in Thar, Sindh

The Employees of Lafarge Pakistan enthusiastically collected donations to reach out and help the drought affected children and families in Tharparkar, Sindh. Lafarge Pakistan matched the employee contributions and a cheque of Pak Rupees Five Hundred Thousand was presented to Edhi Foundation on Tuesday, March 18, 2014 at Lafarge Pakistan Head Office in Islamabad. The money will be utilized by Edhi Foundation to fulfill basic needs of the drought affected children and families in Tharparkar such as dry rations including milk for children, sugar, oil, wheat and water.

Lafarge Pakistan, a subsidiary of Lafarge Group, is a world leader of building materials. It is the first and only multinational cement manufacturer in Pakistan. Lafarge's innovative and world class construction solutions contribute to Building Better Cities in 62 countries, with the help of 64000 employees. Our commitment to building better cities and contributing to making a difference to local communities we operate in, takes us beyond frontiers to deliver outstanding value to our customers, a safe and stimulating work environment for our employees and continue contributing to the local community. ■



Lafarge Pakistan management presenting Lafarge employees and company donation to Edhi Foundation to contribute to the valuable lives of Thar drought affectees

## Engineering industry in Pakistan has a bright future: Amjad P. Janjua

Inauguration ceremony for the 29th of Electrical and electronics engineers (IEEEEP) Karachi chapter was held at a local hotel in Karachi. The Chief Guest was Mr. Amjad Parvez Janjua Managing Director and CEO Pakistan state oil while the key note address was delivered by Mr. Guenter Zwickl MD and CEO Siemens Pakistan. Engr. Tahir Basharat Cheema Central President IEEEEP was also present.

Mr. Amjad Janjua in his address welcomed the unique assembly of delegates to the symposium including engineers, academics and corporate leaders. He expressed the hope that the symposium will prove to be a useful venue for interdisciplinary exchange of perspectives as well as produce a rigorous debate invaluable for implementation oriented solutions to



Pakistan's greatest Engineering Challenges.

In his key note speech the MD and CEO of Siemens Pakistan Mr. Guenter Zwickl said there were prospects of a bright future for the engineering industry in Pakistan. He said the remedy of the energy crisis presents a great opportunity for the industry. Already projects worth billions of rupees have been announced to be in the pipeline and once ready for execution will boost the industry, that will provide employment to thousands of

young graduates from the engineering universities of Pakistan. He said that his company has a long association with Pakistan and he sees a bright future ahead as it has many solutions to offer in the energy sector.

The Chairman IEEEEP in his address of welcome outlined the aims and objectives of the two day symposium and expressed his gratitude for the presence of the luminaries on the occasion.

He said his organization has been holding this symposium for last 29 years which provides a forum for discussion on current engineering issues and recommendations are prepared in the concluding session which is sent to the government. International Multi topic Symposium organized by Institution. ■

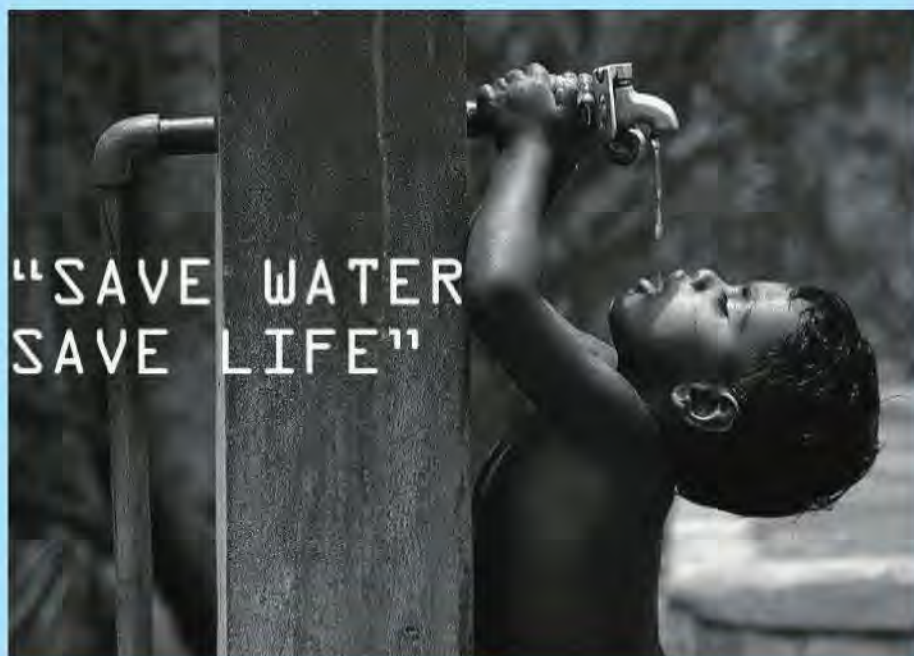
## Save Water...Save Life

Water and energy are closely interlinked and interdependent. Energy generation and transmission requires utilization of water resources, particularly for hydroelectric, nuclear, and thermal energy sources. Conversely, about 8% of the global energy generation is used for pumping, treating and transporting water to various consumers.

In 2014, the UN System - working closely with its Member States and other relevant stakeholders - is collectively bringing its attention to the water-energy nexus, particularly addressing inequities, especially for the 'bottom billion' who live in slums and impoverished rural areas and survive without access to safe drinking water, adequate sanitation, sufficient food and energy services. It also aims to facilitate the development of policies and crosscutting frameworks that bridge ministries and sectors, leading the way to energy security and sustainable water use in a green economy. Particular attention will be paid to identifying best practices that can make a water- and energy-efficient 'Green Industry' a reality.

### The benefits of saving water:

1. Reduced water bills by more efficient water use and wastewater disposal.
2. Reduced chemical applications and recovering chemicals for reuse.
3. Reduced pumping needs which will reduce annual energy costs.
4. Decreased infrastructure requirements such as maintenance and upgrades of equipment.
5. Reduced environmental risks associated with wastewater, by making wastewater treatment more cost effective.
6. Improved business image and marketability of your product.
7. Preparation of your company for future water restriction and increased water prices. ■



## Iran says Pakistan obliged to complete IP pipeline

Tehran: Iran's oil ministry said that Pakistan is contractually obliged to complete a major pipeline project which would allow Tehran to export gas to its south-eastern neighbour. The warning came a day after Petroleum Minister Shahid Khaqan Abbasi, said work on the pipeline was not possible because of sanctions imposed by the United States and the European Union on Tehran over its controversial nuclear drive.

"Iran has carried out its commitments ... and expects the Pakistani side to honour its own," the deputy oil minister, Ali Majedi, said in a statement seen by AFP. "They should even pick up the pace of work and make up for falling behind schedule" in constructing Pakistan's 780-kilometre (485-mile) side of the pipeline, he said.

Iran, which has the world's second largest gas reserves, says work on its side in the \$7.5-billion project launched in 2010



is almost finished. But the project's fate has faced uncertainty, with Pakistan repeatedly running into problems, including major financing issues, while being pressured by the US. On Tuesday, Abbasi told AFP that the work on the pipeline "is affected by the sanctions imposed" on Tehran. He did not elaborate on how the sanctions could derail the project. In Tehran, Majedi rejected the argument, saying the issue of sanctions was not a new development. "Pakistan faced pressure at the time of signing the

deal," he said. "But fully aware of the situation and the issue of sanctions, it still signed the contract." Majedi added that the option of "bringing in a third party to finish the pipeline" had been raised in recent negotiations with Pakistani officials. He did not elaborate. Iran's Oil Minister Bijan Zanganeh said in late October he had "no hope" for the project, after Islamabad asked Tehran for \$2 billion in financing to build its side of the pipeline. That request was denied by Iran.

Iran currently produces nearly 600 million cubic metres (21.2 billion cubic feet) of gas per day, almost all of which is consumed domestically. Its only foreign client is Turkey, which buys about 30 million cubic metres of gas per day. Pakistan is struggling with a severe gas crisis, with natural gas supplies running out in winters, forcing consumers to rely on liquid gas cylinders. ■

## Local crude oil production may cross 0.1 million barrels per day



Pakistan's local crude oil production may cross 100,000 barrels per day from the current production of around 70,000 barrels and Liquefied Petroleum Gas (LPG) production is likely to go up to 2,100 tons per day from current 1,400 tons.

Petroleum Ministry officials said on Tuesday that recently a Hungarian Oil and gas company had added 28 Million Cubic Feet Per Day (mmcf) natural gas and 7,600 barrels crude oil to the system from Makhori East-

III field. The total capacity of Makhori East-III field is 30,000 barrels of oil/condensate, 150 mmcf of gas and 450 tons per day of LPG. The company along with its partners within next one or two months would enhance the field's current oil/gas production from 28 mmcf of gas to 150 mmcf gas and crude oil from 7,600 barrels per day to 30,000 barrels of crude oil/condensate.

"Oil and Gas Development Company Limited (OGDCL) has recently added 22,000 barrels per day of crude oil to the system from Nashpa field. The addition of 30,000 barrels of crude oil to the system will save an estimated \$1.1 billion per annum from Pakistan's spending on oil import. The additional production of local LPG will not only reduce the local prices, but also save \$9.3 million foreign exchange being spent on the import of LPG," the officials said.

"Local gas production from different fields is gradually increasing, as we have recently added 13 mmcf of gas from Reti Maro gas field, 28 mmcf from Makhori East-III, while another 120 mmcf of gas will be injected into the system from Makhori East-III within next month and 25 mmcf will be added to the system from Zarghum by March 15, 2014," they added.

The officials said that gas/oil had already been discovered at a number of blocks and now the gas companies were working to connect these oil/gas fields with the gas distribution system and by the end of June 2014 up to 400 mmcf of gas would be injected into the system. They said that the additional gas would be added to the system from following gas fields: 120 mmcf from Makhori Gas Field, up to 60 mmcf from Latif Gas Field, 18 mmcf from Mehar Gas Field and 25 mmcf from Zarghoon Gas Field. ■

## Norwegian companies urged to invest in energy sector



Special Assistant to the Prime Minister on Foreign Affairs Syed Tariq Fatemi reiterated Pakistan's commitment for Afghan-owned and Afghan-led reconciliation process which is imperative for lasting peace in the region. He was talking to Director General, Department for Regional Affairs and Development at the Norwegian Ministry of Foreign Affairs Tore Hattrem who called on him after the eighth round of Political Consultations between Pakistan and Norway.

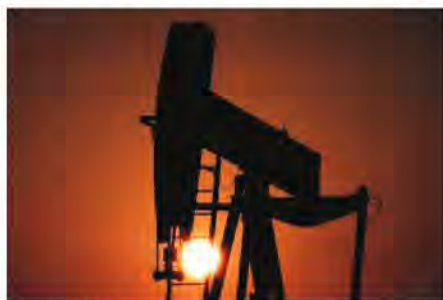
According to Foreign Office spokesperson Tasnim Aslam, the Special Assistant to the Prime Minister briefed Tore Hattrem and his delegation on Afghanistan. He stressed upon the need of Afghan-owned and Afghan-led reconciliation process which is imperative for lasting peace. "The present government desires a stable Afghanistan, which is absolutely essential for peace and stability in the region", Fatemi said. Fatemi also briefed the visiting delegation about Pakistan's energy needs and called upon the Norwegian companies to invest in Pakistan's energy sector. ■

## PEL discovers oil, gas in Badin South

Karachi-Petroleum Exploration (Pvt) Ltd (PEL), a private sector Pakistani company has made a significant discovery of oil and gas in its Badin South IV Concession Block. The well named as Ayasha-1 was spud-in on December 31, 2013 and completed on February 14, 2014 after achieving the target depth of 2400 meters. The well flowed 11.32 MMCFD of good quality natural gas with a heating value of 967 BTU. Well also flowed 115 barrels of 57o API condensate per day with a well head pressure of 2000 PSI. In Badin South IV Block alone PEL had acquired 150 line km 2D seismic data and acquired 3075 Line km 2D seismic data and 630 km<sup>2</sup> 3D seismic data from Directorate General of Petroleum Concessions.

The well is being put into production and being connected with the main gas distribution system without any loss of time. The discovery augurs well for the energy starved nation and will act as stimulant for further exploration in the region. PEL is the operator and holds 47.5 interest while other working interest owners in the Block are Frontier Holdings, a subsidiary of Jura Energy (Canada) 27.5% and Gulf Petroleum International (Kuwait) 25%. Mr. Zaheeruddin, Chairman & Chief Executive of PEL expressed that the discovery in Badin South IV Block made possible with the active and joint support of Ministry of Petroleum & Natural Resources as well as cooperation of joint venture partners. He further disclosed that his Company is committed to build a strong indigenous base of oil & gas exploration and to bring the country on the path of self-sufficiency in petroleum products.

To achieve this goal PEL, with its joint venture partners, has embarked upon an aggressive exploration programme and is



all set to drill another exploratory well in Badin South IV block named as Haleema-1. Drilling is likely to commence on 26 February 2014. The Company has also hired another rig for drilling Badar-2 well in Badar Mining Lease in Ghotki, Sindh and Hasan-4 well in Block-22 in District Shikarpur, Sindh which are aimed at increasing gas production from these two gas fields operated by PEL. PEL is a private sector Pakistani E&P company actively engaged in oil & gas exploration in its petroleum concession areas which includes 6 development & production/mining leases, 9 onshore blocks, one offshore block and 5 overseas blocks.

The Company is already producing about 20 MMCFD gas from two of its producing gas fields. It is the first private sector E&P company that is venturing in offshore exploration in Indus offshore J-Block located in the deep waters of Arabian Sea. PEL is also the first private company to engage itself in the overseas oil & gas exploration in North Africa and Myanmar. It has signed Petroleum Agreement and Association Contract for exploration of hydrocarbons in three blocks in the Kingdom of Morocco. PEL holds 75% working interests and is the operator while its joint venture partner ONHYM, the Moroccan state oil & gas company, retains 25% stakes. ■

## OGDCL posts profits of Rs 67.2 billion in first half fiscal year 2014

Oil and Gas Development Company Limited (OGDCL) on Tuesday has posted profits of Rs 67.2bn that translated into EPS of Rs 15.63 in 1HFY14, up 36 percent from Rs 11.46 posted in the corresponding period last year. This is slightly higher than market consensus of Rs 14.5-15/share, according to review report of Topline Securities.

The corporate result was also accompanied with second interim cash dividend of Rs 2/share, taking total payout to Rs 4/share for FY14 YTD. This falls short of market expectation of Rs 2.25-2.5/share cash payout for the period, it mentioned. During the period under review, company's Topline increased by 14 percent to Rs 126.2bn versus Rs 110.6bn last year on account of 2.8 percent higher oil production and 9.0 percent YoY PKR depreciation in 1HFY14. Moreover, company's other income increased by a massive 77 percent which further enhanced its bottom-line, the report stated.

In 2QFY14 alone, company posted EPS of Rs 7.82, up 42 percent versus Rs 5.50 in 2QFY13. Growth in 2QFY14 earnings primarily stem from 12 percent growth in net sales. Going forward, further uptick in production from Nashpa and Tal Block is likely to augur well for OGDCL's profitability in 2HFY14. "We have a 'Buy' stance on OGDCL at current levels", Topline commented. ■



## PSO six monthly earnings rise by 150 percent

The Board of Management (BoM) of Pakistan State Oil Company Limited (PSOCL) convened at the PSO headquarters, to review the company's performance for the first half of financial year 2013-14 (1HFY14). In the period under review, PSO's revenues rose 15 percent to Rs 727 billion for the half year ended 31st December 2013 as compared to Rs 630 billion during the Same Period Last Year (SPLY). The company's after tax earnings rose by 150 percent to Rs 15.8 billion as compared to Rs 6.31 billion during SPLY.

These all time high six monthly earnings surpassed the after tax earnings of Rs 12.6 billion during the entire financial year 2012-2013 by 25 percent. PSOs share price re-

corded an impressive growth, outperforming KSE 100 share index by 11 percent during the second quarter ended December 31, 2013. It is indeed an evidence of strong investor confidence in the management of the company.

PSO led the market with a share of 63 percent while its market share in black oil and white oil stood at 75 percent and 53 percent respectively during the six months period ended December 2013. During this period, the company's sales of furnace oil and motor gasoline grew by 13 percent and 15 percent respectively. A decline of 6.4 percent in sale of high speed diesel during the first quarter was followed



by a growth of 3.5 percent during second quarter resulting in 1 percent decline over the six months period.

The company realised substantial cost efficiencies. The distribution and marketing expenses increased by merely 4 percent against 15 percent increase in sales. There has been an increase of 2 percent in the administrative, distribution and marketing expenses in comparison with 13 percent increase on average during the corresponding periods of the last three years and an inflation of 9.2 percent during the half year. ■

## Smuggling, lower local prices hit LPG importers hard

Smuggling of Liquefied Petroleum Gas (LPG) has hit documented sector badly, forcing the importers to shut their business, it was learnt on Tuesday. Not a single shipment has arrived since June 2013; consequently hundreds of people associated with this business are in state of disappointment, the industry sources told.

They said that for the last few months LPG smuggling is on the surge and presently being smuggled from Iran, creating lots of hurdles in the way of legal imports of LNG. The local prices of LPG have been lower than international prices that are also a reason behind the declining trend of LPG import for the last some months. The local price per ton LPG, without general sale tax, ranges about Rs 80000 while with GST it goes up to Rs 93000. On the contrary price of per ton imported LPG ranges around Rs 136000, they said.

Answering a query they said that, average domestic demand in winter remains about 1500-1600 tones per day, while in summer it goes down to 1200-1300 tons. They added, to meet the additional demand in winter, businessmen used to import gas, however due to comparatively higher international prices of LPG, the import business suffered much and not even a single shipment came during last 7 months.

The domestic production has also hurt



the LPG import business; however, it would be good sign for the nation to become self-sufficient in LPG sector, in this way country would be able to save a huge amount of foreign exchange, but unfortunately due to the government's negligence, regarding providence of better inspection arrangements at borders, a huge quantity of sub-standard gas is being imported from Taftan border without any restrictions.

we think, the situation is not going to be changed until government steps up to stop the elements involved in this illegal business, adding further they said that, import of LPG from Iran is also continuing through mouser and cylinders, resultantly the imported gas finds difficult to have market share. "I have been associated with LPG business for last 42 years; I have faced a huge loss during last year, adding that number of associated businessmen intending to leave their businesses, and looking for other sectors after bearing losses, said a business man. ■

## PPL signs agreement to acquire new blocks

Pakistan Petroleum Limited (PPL) signed three Exploration Licenses (ELs) and Petroleum Concession Agreements (PCAs) with the Government of Pakistan in Islamabad on February 28 for Blocks 2569-5 (Khipro East), 2866-4 (Margand) and 2867-5 (Kuhan), the last two in joint venture with OMV (Pakistan) Exploration GmbH (OMV), an Austrian Exploration and Production (E&P) company.

PPL will be operator in Khipro East and Margand, located in Sindh and Balochistan, respectively, together spanning an area of approximately 4900 square kilometers. OMV, on the other hand, will be operator in Kuhan, also located in Balochistan, marking a first in recent years that a multinational E&P has ventured into the country as operator.

Notably, the signing allays the general apprehension regarding Balochistan's security situation forestalling exploration activities in the province on the one hand and lack of interest by multinational com-



panies to invest in Pakistan's oil and gas sector on the other.

played a key role in bringing the Austrian E&P to Pakistan in 1990, PPL and OMV share a fruitful business relationship for over two decades and have since partnered in successful ventures, including Sawan, Miano, Latif and Tajjal fields.

PPL intends to make an estimated total investment of USD 50 million in Khipro East and Margand to discharge minimum work commitment of 570 work units through acquisition, processing and interpretation of 2D/3D seismic and exploratory drilling during the first three years.

The ELs and PCAs were signed by Secretary, Ministry of Petroleum and Natural Resources (MPNR) Abid Saeed, MD and CEO Asim Murtaza Khan and OMV's Senior Vice President, Middle East and Caspian Region Erwin Kroell. Federal Minister for Petroleum and Natural Resources Shahid Khaqan Abbasi, Minister of State for Petroleum and Natural Resources Jam Kamal Khan, Director General Petroleum Conces-

## PAK TRL Refinery generates businesses

Installation and start-up of the Pakistan refinery project has come a step closer with the issue of tenders for engineering and construction by the operators, Trans Asia Refinery (TRL) Ltd - and the successful completion of a health check on all critical equipment. At least four international firms of consultants from Pakistan, India, the U.K and U.S were hired by TRL to study the engineering of different sections of the refinery, develop 'basis of design' plans and, ultimately, prepare Invitation to Bid proposals for various parts of the development.

Trans Asia Refinery floated the revised tenders on February 1st 2014, reflecting certain upgrades required to meet the new products specification - and the project has stimulated interest from around the globe. A number of companies are currently preparing their proposals for engineering, procurement and construction contracts.

When completed, the TRL plant will produce four million tons of petroleum products every year - all in high demand in Pakistan. Its output will include 80,000 tons of LPG, 455,000 tons of Naphtha, 410,000 tons of Motor Gasoline, 422,000 tons of Jet Fuel and 1,000,000 tons of Gas Oil - of which 630,000 tons will be treated Diesel. It will also produce 1,050,000 tons of Fuel Oil and 200,000 tons of Bitumen. More than one hundred million rupees have been spent on the refinery since last year when TRL signaled to end the project delays with an announcement that investors had decided "to push the project forward in the interests of all parties and the people of Pakistan".

The TRL refinery will create at least 350 direct jobs and several thousand indirect jobs for Pakistani workers. Government officials have welcomed the project which will reduce dependence on petroleum imports and also the burden of additional foreign currency expenses. It will also boost technology development in Pakistan. ■

sions Saeedullah Shah, Advisor to MPNR Zahid Muzaffar and Parliamentary Secretary to MPNR Shehzadi Umarzadi Tiwana were also present.

The signing of the ELs and PCAs, which is the third round by the current government, concludes the grant of all the blocks won by PPL in the last bidding round held in March 2013. ■



## Coal-based power projects can help control power crisis: chief minister Punjab

Punjab Chief Minister Muhammad Shahbaz Sharif has said that coal-based power generation projects are short-term planning and can help control power crisis to a large extent within a short period of time.

He said that the cost of production of electricity from coal is about 50% less than that of thermal energy. He said that the Punjab government is working on a big project of generation of electricity from coal in the province and six sites have been selected for setting up of power plants. He said that there is a need to evolve a complete system for supply of imported coal from the seaports to the sites of the proposed power plants. The chief minister constituted a sub-committee headed by Additional Chief Secretary Energy and directed to submit its recommendations within 14 days regarding the supply of coal, its off-loading at seaports and supply system of railways.

Federal Minister for Railways Khawaja Saad Rafique, Minister for Ports and Shipping Kamran Mischel, former federal min-

ister Shaukat Tareen, Provincial Minister for Minerals Sher Ali Khan, Federal Secretary Ports and Shipping, General Manager Operation Railways, Chief Secretary Punjab, Acting Chairman Karachi Port Trust, Chairman Port Qasim Authority, Chairman Planning & Development, Additional Chief Secretary Energy and senior officials of Railways and NESPAK were present.

The participants reviewed in detail the matters regarding a comprehensive system for transportation of imported coal for coal power project. The Chief Minister said that all out measures are being taken for ridding the country of the energy crisis and the work is being carried out on power generation projects round the clock under the leadership of Mian Muhammad Nawaz Sharif. ■



## Country to get benefit from solar energy this year: Chief Minister Punjab

Punjab Chief Minister Shahbaz Sharif dilating on their PML-N government endeavour on productivity of electricity stated in the Punjab Assembly Session Tuesday that country would benefit from solar energy this year. Dilating that with LGM gas coming period October-November, Nandi Pur first turbine would also be operative in the current year.

Chief Minister referring to biogas projects undertaken by present government to produce electricity stated that projects of coal-based power plants would be established at five places in Punjab. He said feasibility of these areas has been done. He said electricity produced from coal would be much cheaper than electricity generated by furnace oil. Chief Minister stated that his endeavour for electricity generation would benefit Punjab by 60 percent.

Referring to construction of Kala Bagh Dam he said though its viability on technical grounds is without a speck of doubt firm, still question of unity of Pakistan remained supreme near them. He averred decision on this dam would only be possible by consensus of all the provinces. Chief Minister pointed that a 12-year period and cost of \$12 billion are required for construction of Basha Dam. He said keeping in view of this fact, efforts are being made for production of electricity in early period. Chief Minister highly appreciated friendship of China in giving assistance to Pakistan and termed the country as a very sincere friend. ■

## Energy, mining sectors: foreign investment will be welcomed: Shahbaz

A representative delegation of foreign investors and traders led by Prime Minister's Special Ambassador on Foreign Investment, Javed Malik called on Punjab Chief Minister Shahbaz Sharif, here on Tuesday and expressed their interest in investment in various sectors including energy and mining. Provincial Ministers Mian Mujtaba Shuja-ur-Rehman, Sher Ali Khan, Additional Chief Secretary Energy, concerned secretaries and DG LDA were also present on the occasion.

Talking to the delegation, Chief Minister Shahbaz Sharif said that government is providing special facilities to foreign investors on priority basis. He said that Punjab government is working on a mega project of generation of electricity from coal and six sites have been identified for setting up coal-based power generation projects in Punjab. Shahbaz said that Punjab government is establishing two projects of generation of energy from coal with its own resources in Sahiwal. He said that there are vast reserves of coal and iron ore in the province and foreign investment in energy and mining sectors will be welcomed. He said that a conducive atmosphere for investors has been created in the province and all facilities regarding investment are being provided under one roof

Prime Minister's Special Ambassador on Foreign Investment, Javed Malik said that Punjab Chief Minister is taking practical measures for the betterment of people of the province. He said that foreign investors are willing to invest in Pakistan. Those who met the Chief Minister included Chairman Colt Investment Resources Richard Quessnal, Director Cal Valley Petroleum Nicolas Perrault, Saeed Al Dhaheri of Royal Partners, Yazit Yusuff of RHB Islamic Bank and Managing Director Banco Espirito Pedro Costa. ■

### Dr. Baig appointed chairman banking committee

Dr. Mirza Ikhtiar Baig, a renowned industrialist and Chairman of Baig Group, a multi-national conglomerate operating in Pakistan, UAE and Morocco for the last three decades, has been appointed Chairman FPCCI Standing Committee on Banking, Credit & Finance for the year 2014 by the President FPCCI Zakaria Usman. ■



### Ishtiaq Baig appointed chairman diplomatic affairs committee

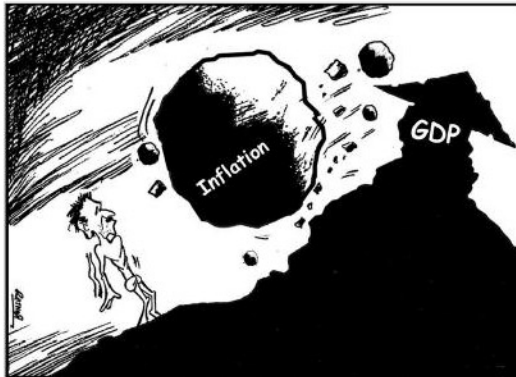
President Federation of Pakistan Chamber of Commerce & Industry Zakaria Usman has appointed Mr. Ishtiaq Baig as Chairman FPCCI Standing Committee on Diplomatic Affairs. Ishtiaq Baig is a leading industrialist and Vice Chairman of Baig Group. He is also the Hon. Consul General of Kingdom of Morocco and Founding President of Make-A-Wish Foundation Pakistan. ■



## Minimum tax: Dar expected to exempt cost of electricity

Finance Minister Ishaq Dar is likely to exempt cost of electricity from minimum tax for further five years on the ground that financial position of power Distribution Companies (Discos) is very weak, sources close to Secretary Water and Power told Business Recorder. Water and Power Ministry's plan, however, is being opposed by the Federal Board of Revenue (FBR) which argues that earlier exemption was a short term measure for improvement of financial condition of corporatized entities of Wapda (Discos) and cannot be converted into a long-term measure.

Giving the background, the sources said, in view of privatisation of power sector, corporate entities (Gencos, Discos, NTDC, etc) were created by un-bundling of Wapda. Due to corporatisation, power sector entities exposed to financial hardships on legal front as their power tariffs were notified, keeping in view the socio-economic policy of the Government of Pakistan which is not cost compatible. However, Wapda was exempted from income tax under clause 66 (XVI) Part-I of second schedule of Income Tax Ordinance 2001. According to sources, at the time of corporatisation, it was rational to pass on all exemptions available to Wapda to the corporate entities to keep the taxation system on a smooth footing. Keeping in view the implication of taxes, corporate entities were allowed Income Tax exemptions from their creation to their privatisation on notification of companies' tariff. However, all the exemptions under section



- 53, Second Schedule were withdrawn and Companies were also made liable to pay a minimum tax under Clause - 113 of the Ordinance.

Water and Power Ministry maintains that in case of power sector, NTDC and Discos transfer electric power while charging wheeling charges and a distribution margin. Therefore, it was not appropriate to include the purchase price of electricity in the turnover. In view of heavy financial implications of issue, the matter was taken up with Ministry of Finance through a letter issued on October 02, 2007 for: extension of exemption under Clause 66 (xi) of Part - 1 of Second Schedule and turnover tax liable to minimum tax under Clause - II (xvi) of Part IV of Second Schedule of the Ordinance OR necessary notification be issued by the CBR to exclude purchase price of NTDC/CPA and Distribution Companies (DISCOs) for the purpose of payment of minimum tax under Clause 113 of income Tax Ordinance - 2001.

FBR approved option - II and issued SRO 171(1)/2008 adding Clause - 5 of Part - 3 of Second Schedule to Income Tax Ordinance, 2000, reproduced below: "Where the corporatized entities ie Discos and National Transmission and Dispatch Company (NTDC) are required to pay minimum tax under Section - 113, the purchase price of electricity shall be excluded from the turnover liable to minimum tax up to the tax year 2013".

This SRO was issued when NTDC and Discos transfer the same electricity by charging wheeling charges and a distribution margin. Therefore, the real turnover of the companies is restricted to wheeling charges and a distribution margin respectively and the price of electricity is ostensibly taken into account for accounting purposes only. If the price of electricity is subjected to minimum tax, the corporatized entities of Wapda, which are presently acting as agencies of Power Sector, will be burdened with multiple taxation. It will result in undue discrimination between the aforesaid corporatized entities of Wapda and the companies independently to determine their margin of profit on the whole of their turnover. This multiple taxation will not only undermine the financial viability of the corporatized entities of Wapda, but also will ultimately result in higher cost of power adversely affecting the economic growth. The extension of SRO 171(1)/2008 of February 21, 2008 up to the date of the privatisation of corporatized entities of Wapda is, therefore, imperative to avoid any further crunch on power sector. ■

## Possible refund of bill charges: over 2 million KESC consumers look to Nepra

A great benefit will accrue to over 2 million Karachi Electric Supply Company (now K-Electric) consumers if the National Electric Power Regulatory Authority (Nepra) directs the power utility to refund Rs 1.392 billion, collected as additional bill collection charges since October 2006. On 6th February, 2014, the Nepra had directed KESC to stop collecting Rs 8 additional charges from its consumers until a decision on the case by the authority.

"It would be gross injustice with 2 million KESC consumers if the amount of additional bill collection charges was not refunded. The power utility has been accruing Rs 1.392 billion, through 'inflated billing' since it levied bank charges," said a KESC shareholder while talking to Business Recorder. The Nepra must issue orders for the refund of the amount which has

been collected so far, he said. A letter has also been written to Minister of State for Water and Power, Abid Sher Ali by a KESC shareholder.

The letter states, "Various other sections of the KESC operations are also involved in the 'intentional swilling' of consumers' money by various means, including meter rent, TV license, interest on security deposit, subsidiary, fuel adjustment charges, low tariff and average billings."

Consumers who use less than 50 units are supposed to pay Rs 2 per unit, but KESC cleverly sends these consumers a bill for zero unit consumption and charges only minimum rate, but the next month the readings of both the months are added to a single bill with over 50 units applying higher tariff rate. Hence, the consumers are deprived of subsidy.

Karachi Electric Supply Company is recovering Rs 7 per month from its consumers on account of meter rent, whereas this cost is paid by consumers at the time of the installation of the meter!!! The power utility is charging Rs 35 per month as TV licence fee from commercial, residential, industrial and even mosques and churches.

Despite passage of more than 50 years, 5 percent interest on security deposit remains an issue. At the time of privatisation of the company in 2005, Rs 5 billion subsidy was paid by the government to KESC which has now gone up to Rs 76 billion. Monthly and quarterly fuel adjustment charges are claimed by KESC on which the subsidy is given to KESC. A huge amount is allowed by Nepra to KESC on a quarterly basis. ■

## Metro Bus Project must not violate master plan, harm green belts

Senator Mushahid Hussain Sayed, Convener of the Senate Sub-Committee on Environment, argued that the metro bus project for the ICT must not violate the master plan of the city while addressing the media workshop on environment. "We are not opposed to the mass transit project for Islamabad which we believe is the need of the hour, however, it must not harm or infringe upon the scenic beauty and green belts of this beautiful city." He said

The occasion was the first ever media workshop on environment held by the sub-committee in collaboration with Konrad Adenauer Stiftung (KAS) Foundation at PIPS, Islamabad, which saw wide and enthusiastic participation from the country's mainstream and leading media institutions.

A premier media manual on Climate Change and Deforestation was also launched specifically for media persons, which in the course of 56 pages covers facts and data regarding the issue in simple, understandable terms. "The intention is to institutionalize the awareness of such critical issues," the Senator explained. "This is



why this media manual includes chapters on reporting environmental issues, giving an understanding about how to do a story, use specific language and terms, and to identify issues for public awareness and interest." He stated that by PEMRA laws, 5% of the airtime has to be allocated for public service messages free of charge which is why it is even more important to educate the media about this issue.

The workshop a full house affair which was also attended by Senator Afrasiab Khattak, Senator Hidayatullah, Senator Far-

hatullah Babar and Senator Dr. Saeeda Iqbal along with Shaban Khalid, President of Islamabad Chamber of Commerce and Industries, Christina Afridi and Dr Dushka Hyder Saiyid, leaders of Islamabad Green Movement and other representatives of the civil society.

The journalists were enlightened about important issues of climate change and deforestation. Senator Mushahid Hussain emphasized on the importance of preserving the forests, stating that cutting trees is a crime all across the world and such perpetrators in Pakistan must be taken to task. A compliance report on the stone crushers operating in the ICT jurisdiction was taken from the ICT; the issue persistent stone crushing like that of FECTO Cement will be taken up with the Ministry of Law to clear the legal issues and put a permanent end to it while IESCO has been called upon to cut off their electricity supply. The issue of stone crushing also poses a security risk as explosives for stone crushing are freely transported in trucks without prohibitive checks and balances. ■

### CSR Summit 2014

continued on page # 28

The government should realize that companies having business in the country could enhance their CSR activities for social and human development until their businesses are flourished on the land. The sustainable business enables empowerment in society. The summit was addressed by different CEOs of the corporate sector. Around 40 companies will be given awards for their CSR activities and projects in Pakistan. The country's living legends of Pakistan- Dr Adeeb Rizvi and Abdul Sattar Edhi have been given awards for their valuable services for Pakistan's people.

Shireen Naqvi, Associate with Novartis: Corporate sector should devise a pragmatic, sustainable and long-term strategy to serve the nation specially under-privileged society through activities of Corporate Social Responsibilities (CSR) for empowerment of individuals.

The corporate philanthropy is not meaningful and sustainable for our masses to live with honor. The charity provides relief to masses on temporary basis but at the expense of their self-esteem. We should empower our people and educated and train them to stand on their foot financially.

Companies having multiple projects of CSR in the fields of health and environment are good initiatives however policy-makers should focus on those projects that could the luck of individuals and nation. The generous businessmen should think that if they empower the society where they are operating in, they will have extra money for their business because they don't give bread to people but they arrange resources for them for earning bread. United Nations has changed its definition of poor people. It says that a poor is the person with limited or no access to resources. It used to refer poor is the people having no enough money for the food.

In Pakistan, top brass of the corporate sector should join heads and devise a unit strategy to spend their billion of dollar budgets for purposeful target, which is to reduce poverty through empowerment of the people, providing them education and training so that people could earn their living themselves.

We should inculcate in ourselves that our nation is not poor but it needs resources to end its poverty. We are honorable and having strong self-esteem not to beg for financial aid or anything. But we are lively nation that could stand on its own foot with pride. If we stick to guns and continue to spend our money on projects and activities, the nation could not be served and the role of corporate sector remains limited and insufficient.

Media should highly positive things of societies

Sultana Siddiqui, President Hum TV Network said the development of society is visible but it does not reflect on the media which is a sad part. The media should highlight the positive development and prosperity in the society instead of telecasting bad elements all the time. Media is the reflection of the society and it should present all happenings of the society including the role of the corporate sector and those companies have been engaged actively for public service. ■

### Byco Commissions New Refinery

Pakistan's largest oil refinery, the 120,000 barrels per day Byco Oil Pakistan Limited (BOPL) has been working smoothly since being commissioned late last week. The Refinery is currently operating at an initial capacity of 50,000 barrels a day.



Speaking at the occasion, Mr. Derek Alan Lawler, CEO, BOPL stated that after the successful start-up of the first phase, the company is now preparing for the next stage of the commissioning. "We are now targeting and continue to work on the 2nd phase of the commissioning. This will be to increase the refining schedule of the plant to 90,000 barrels per day and onwards to 120,000 barrels per day."

As a result of the commissioning, the new refinery has started to make products on specification. These include the LPG, Naphta, Motor Spirit, High Speed Diesel and Fuel Oil. "In the coming 12 months we will be able to produce Euro II standard motor spirit and high speed diesels. Our products will be of international standard and will be second to none, as we had promised." ■



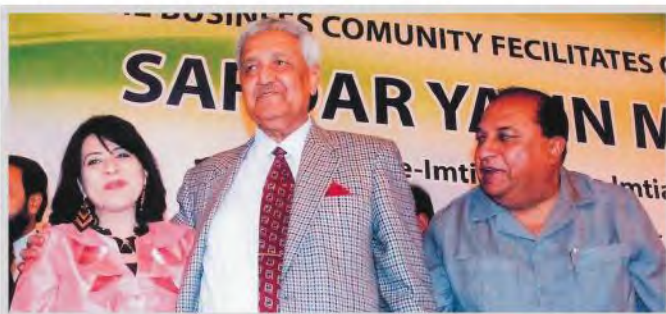
A group photograph of the participants taken during the Istanbul Forum. The Prime Minister of Pakistan Muhammad Nawaz Sharif along with Mr. Zakaria Usman, President FPCCI and Mr. Amjad Rafi, Chairman, Pakistan – Turkey Business Council of FPCCI are seen in the Picture. Mr. Abdullah Gul, President, Turkey & Mr. Hamid Karzai, President Afghanistan are also seen in the picture along with the Presidents of National Chambers of their respective countries.



Prime Minister of Pakistan Mian Nawaz Sharif presenting FPCCI Export Trophy Awards to Dr. Mirza Ikhtiar Baig, Taimur ALi Malik, Babar Khan Durrani & Haroon Mehmood. FPCCI President Zubair Malik also present on the occasion.



Mr. & Mrs. Dr. Mirza Ikhtiar Baig hosted dinner reception. from Left: Arif Ali Shah Bukhari, Naveed Qamar, Sharjeel Memon, Dr. Ikhtiar Baig, CG Russia, CG Germany, Ali Raza, Tariq Kirmani, Sohail Wajahat, Irshad Kassim and Omair Baig



Dr. A. Q. Khan is appreciating Ms. Talat Jabeen being a lady to Head Kuwait Petroleum business in Pakistan."



Dr. Mirza Ikhtiar Baig, Chairman Pakistan Textile City meeting MD SSGC Zubair Siddiqui. Also seen DMD Yusuf J Ansari and Sr. GM Dr. Ijaz Ahmed

# Liquefied natural gas foes go to the mat in Maryland

By TIMOTHY GARDNER

Maps of Indian and Japanese ports paper the walls of a Dominion Resources Inc conference room in a small Maryland town, population 1,835, known more for crabbing and bird watching than global trade and the US natural gas revolution.

Dominion, an American energy company long focused on US markets, hopes to begin an expansion worth billions of dollars at its Cove Point complex on Chesapeake Bay later this year. As part of the plan, compressors fired by a new power plant would cool gas to -260 degrees F (-162 C) until it becomes the hot global commodity known as liquefied natural gas, or LNG.

But if environmentalists, including a group that has led the charge against TransCanada Corp's long-delayed Keystone XL oil pipeline, get their way, Dominion won't soon be shipping anything anywhere.

The Cove Point site, a little more than an hour's drive south-east of Washington, DC, boasts four large storage tanks and a pier built in the 1970s to import LNG from Algeria.

That was long before the United States rode the wave of hydraulic fracturing, or fracking, to become the world's top gas producer.

The gas boom has set

**Unlike other LNG projects on the West and Gulf Coasts, Cove Point lies within 1 mile (1.6 km) of hundreds of homes, and opponents hope related concerns will delay the project.**

**Dominion has already signed contracts with India's gas utility, Gail, and Japan's Sumitomo trading company to start shipping more than 700 million cubic feet of LNG by late 2017 - roughly, a shipload as long as New York's Chrysler Building is tall, every four days.**

off a race among US companies to export LNG to China and India, which are both trying to cut their use of coal in power plants, and to Japan, which moth-balled nuclear plants following the 2011 Fukushima disaster. European economies also covet LNG.

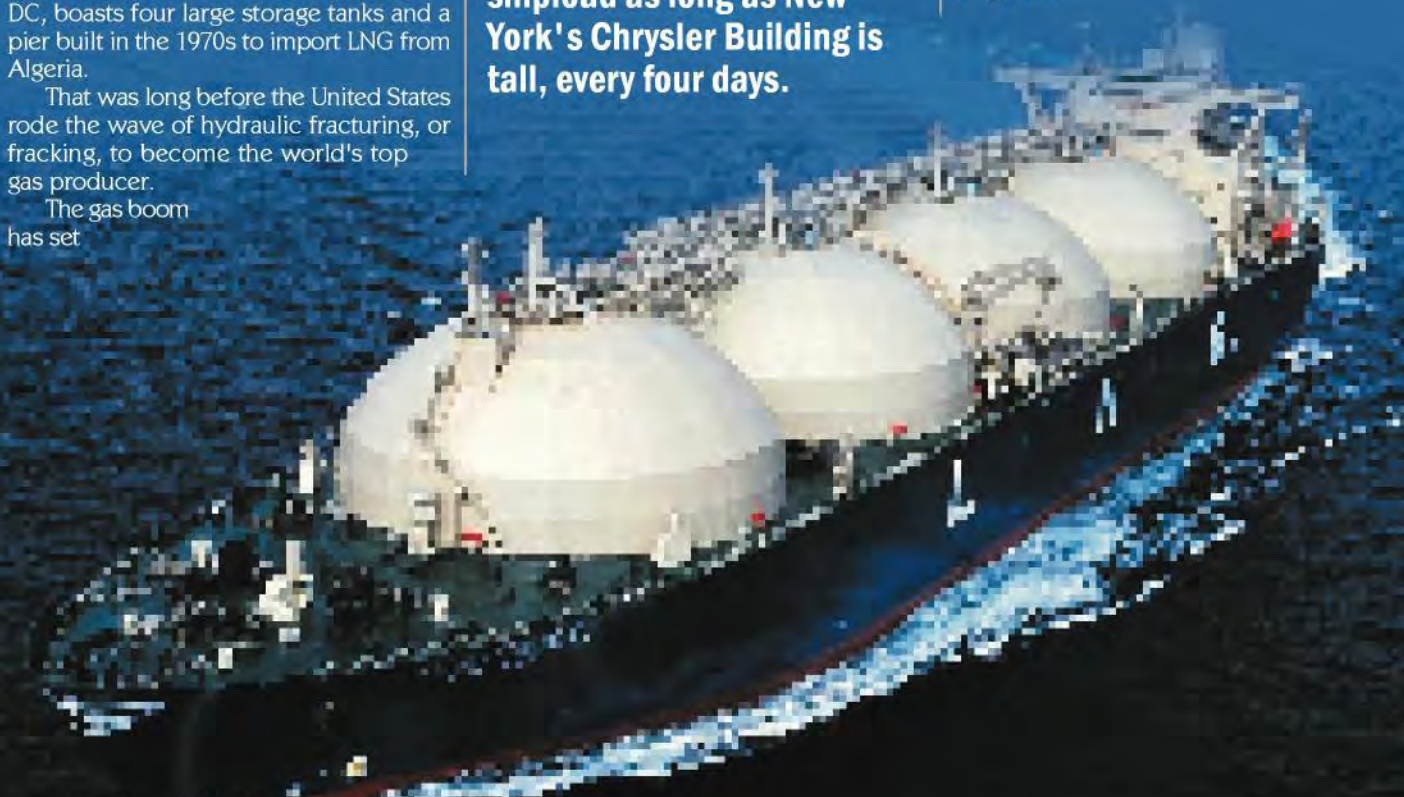
Cove Point is among more than 20 US projects that want to export LNG. Of those only one, Cheniere Energy's Sabine Pass in Louisiana, has full federal permitting.

Competition from other exporters, including Russia, Australia, Mozambique and Canada, makes it unlikely that all the proposed US export projects will get off the ground, analysts say.

"Timing is the most crucial element, when you look at the global gas market right now," said Leslie Palti-Guzman, a gas analyst at Eurasia Group, a risk consultancy. "You have such a flurry of projects coming on line, they will all compete for the same markets and around the same time."

Cove Point has two major selling points. Proximity to the Marcellus Shale region, a huge gas resource in Pennsylvania and surrounding states, is one. Not having to build from scratch is another.

The US Department of Energy has only approved six export licenses for LNG projects, including Cove Point, since 2011. Pressure is building for more, as President Barack Obama wants the country to help build a global



gas market as part of his climate action plan.

Opponents, including nearby homeowners concerned about safety and environmental groups agitated about the amount of carbon emissions from the fuel's journey from wells to power plants, want to slow down the permitting process and dull Cove Point's competitive edge.

### 'ARE THE RISKS TOLERABLE FOR PEOPLE?'

Unlike other LNG projects on the West and Gulf Coasts, Cove Point lies within 1 mile (1.6 km) of hundreds of homes, and opponents hope related concerns will delay the project.

Dominion has already signed contracts with India's gas utility, Gail, and Japan's Sumitomo trading company to start shipping more than 700 million cubic feet of LNG by late 2017 - roughly, a shipload as long as New York's Chrysler Building is tall, every four days.

Before Dominion starts work on the expansion it needs the green light from the Federal Energy Regulatory Commission (FERC). The agency has already been working on an environmental assessment of the project for 20 months. But opponents are urging the agency to conduct a wider review, known as an environmental impact statement (EIS).

Dale Allison, a retired Navy aerospace engineer who can see Cove Point's tanks from his house, cites a 2009 report by the independent Congressional Research Service that said spills from tanks, while unlikely, could form a vapor cloud that may drift, catch fire and cause "considerable damage."

He wants FERC to do a full EIS. "The right way to assess the project would be to establish what are the risks, are the risks tolerable for people who live near it, and if not, get them out," Allison told Reuters.

Dominion says anxiety about the existing storage tanks is unfounded because they already have been approved, and the company will soon get permits to install roughly \$3.6 billion of new equipment at Cove Point.

"Nobody is more interested in protecting that investment than us," said Dominion vice president Mike Frederick, who is in charge of operations at the site. In the unlikely event of a leak or attack at the plant, dams built around tanks would contain any leaks, keeping workers and nearby residents safe, he said.

Dominion officials say Cove Point's less polluting LNG will displace coal at power plants in India, which is struggling to control emissions linked to climate change.



The pier at Dominion's Cove Point liquefied natural gas (LNG) plant on Maryland's Chesapeake Bay is seen in this picture

But environmental groups are pushing local and federal agencies to consider whether LNG, once it has been super-cooled, sent via potentially leaky pipelines at home and abroad, and shipped thousands of miles, is really the low-carbon alternative to coal that boosters have claimed.

Adam Brandt, a professor at Stanford University who has studied the climate benefits of natural gas, said when companies say LNG is replacing coal they present only a partial picture of the fuel's emissions.

"You need to look at the entire value chain, from the well in the United States, all the way to the liquefaction and shipping," Brandt said, adding that more study needs to be done on LNG's overall climate benefits.

### SECRET SAFETY INFO

Dominion has submitted 21,000 pages of information about Cove Point to FERC for the agency's assessment, even including calculations on vehicle emissions that an additional 75 workers would add to the existing 100-member crew.

Frederick said that the process has been public, with opponents free to add comments into the docket, and that FERC has added an additional public comment period. Still, much of the information on safety at Cove Point is not public.

"It's absurd to build what Dominion has in mind close to so many human beings without at least doing an EIS to really look at this," said Mike Tidwell, the director of the Chesapeake Climate Action Network, a non-profit group promoting renewable

energy solutions.

Tidwell's group has partnered with 350.org, an international environment group that has fought against Keystone and development of Canada's oil sands, to push the relevant agencies to examine the risks of Dominion's plant as well as the likely emissions.

Cove Point has support from powerful Maryland politicians including Steny Hoyer, the second-ranking Democrat in the US House of Representatives.

Maryland's Attorney General Doug Gansler, however, who is running for governor in November, wants FERC to conduct a full EIS, as does the editorial board of the Baltimore Sun, the state's largest daily newspaper.

Christi Tezak, an analyst with ClearView Energy Markets, said an EIS probably will not be needed because the export project is within the site's existing footprint, and even if it were needed it might add only about three months to the approval process.

A longer delay could cause problems. "If the project is delayed too much, maybe the (Indian and Japanese) contracts could be cancelled and the buyers could look for another project," said Eurasia's Palti-Guzman.

Dominion would not comment on its contracts.

It is unclear whether opponents can force FERC to undertake the full study. A spokeswoman said the agency would conduct a full EIS only if the initial assessment were to find a significant impact on the human environment. ■

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# 11<sup>th</sup> Annual Environment Excellence Awards 2014

## Call for Nominations

All environment friendly organizations are invited to submit their nominations

**Introduction of Award:** Annual Environment Excellence Awards were instituted by NFEH 10 years ago and have elicited a very enthusiastic response from the industry. These awards have become the benchmark for the standards that need to be followed.

**Deadline for Nominations: April 30, 2014**

**Award Ceremony:** On June 5, 2014 at the occasion of World Environment Day.

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