

Brief recordings

Proven reserves are enough to cover all energy needs for next 80 years: MD Thar Coal & Energy Board

BR Research: How much coal do these deposits in the Thar Desert hold?

Mohammad Younus Dagher: It is a huge resource that can meet all our energy needs for many years to come. Our estimated coal reserves are about 175 billion tons, of which 30 billion are proven reserves. Even if you consider only the proven reserves, there's coal enough to cover our energy needs for 70-80 years.

What's more, based on successive studies we are witnessing growth of about 5 billion tons in our proven reserves each year. It is also interesting to note that in the area which we have covered so far, we expected about 22 billion tons of coal deposits, but the actual proven reserves in that area tower above our expectations. Judging by this standard, our total reserves may, in effect, be even greater than what we have estimated so far, possibly around 200 billion tons.

BRR: Briefly tell us about how coal reserves were first discovered in the Thar Desert and what has been done over the years to ascertain the size and quality of these reserves.

MYD: Back in 1990s, we had had a department called Sindh Arid Zone Development Authority which was responsible for the provision of basic amenities such as water and sanitation to the people living in far-flung areas in the desert. At that time, SAZDA in collaboration with USDS was drilling different sites in Thar Desert to check for potable water underground. This hydrological survey accidentally discovered coal in the desert. Upon checking further they found sizeable coal deposits. Subsequently a special project was initiated by USDS and the government of Pakistan. By 1993-4, the search had extended to about 9,000 square kilometers.



Then renowned American mining consultants of John T. Boyd Company were tasked with checking the quality of the coal reserves to ascertain what it may be used for. That Company, which has been in this business since 1938 and enjoying worldwide repute in its field, had at that time confirmed to the government of Pakistan that these are sound quality, lignite reserves.

The shortcoming with lignite reserves is that these have to be dried first before they can be transported efficiently; otherwise the water content of the coal is quite high which means that in any given consignment about half of the weight would be made up by water. So it is best to burn it close to the source in order to generate electricity. Alternatively, it can be converted into liquid or gaseous states before being used for power generation.

So back in 1994, we had already known that these reserves we could use as a significant and reliable energy source. But, somehow or the other, we were not able to move

ahead with plans for power generation immediately.

In those days, we did not face an energy crisis the likes of which we are encountering nowadays; Thar Desert was a desolate and distant region which was not easily accessible and the democratic governments came and went quickly during that era. So, due to these and other reasons, the project could not be developed at the pace that it should have been.

Then during Mohtarma Benazir Bhutto's second term as Prime Minister, Hong Kong based investor Gordon Woo came here and expressed interest in coal deposits at Thar. Unfortunately, the government was once again replaced and the prospective investor left. The setting-up of the independent power providers meant that 6,000mw had been added to the grid and exploring new sources for generating power was once again relegated to the back burners.

Around 2,000, the government once again started to consider developing the coal reserves. Then President Pervez Musharraf requested the Chinese government to assist Pakistan in developing its coal reserves, given that country's expertise in the subject. So, China's best mining company, Shenhua Energy Company came to Pakistan with 136 engineers, technicians, geologists and other professionals and established a camp office in Thar Desert.

They worked in the area for two years and carried out extensive tests during that period. Eventually, they proposed that the government should simply provide a link to the national grid, and they would do the rest in terms of establishing the necessary infrastructure and provide electricity to Pakistan at 5.6 cents/kwh. They committed that in the first phase they would start generating 600mw



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which would be expanded within three years to 3,000mw.

In 2004, when this deal was offered by the Chinese, it was actually a good rate for Pakistan. Somehow the local regulatory bodies such as NEPRA did not approve as they argued that the rate should be lowered to 5.3 cents/kwh. Negotiation attempts did not yield any results as neither side budged, the Chinese left in 2005 and we lost another opportunity to tap this resource.

Then the government approached a German firm for the same purpose but they said that it is not feasible under 7.6 cents/kwh. Thereafter we went back to the Chinese and offered them 6.5 cents/kwh but by then they had taken a policy decision not to come back to Thar Coal.

This was a big setback for us. If we had secured the deal back in 2004-05, the oil shock which severely jolted our economy

back in 2007 would have been as pronounced as we would have weaned off our dependence on oil to a certain extent.

Now, we are using furnace oil which cost us about 20-22 cents/kwh on average whereas under the deal that the Chinese had proposed back then, we would have locked in a rate of 5.6 cents/kwh for a period of 30 years.

In 2008, while I was serving as Secretary Mines and Mineral Development, the government once again decided to reinstate this project but we found investors were wary of investing here. To reignite the interest of local and international investors, we opted to establish public-private partnerships so that the private sector would realize the resolve of the government when it would also put in its own funds in the project.

Just conducting a feasibility study costs millions of dollars and investors fear if they commit such funds and then the government changes its stance on the project, they stand to incur significant losses. When government itself also contributes to the costs it instills confidence in the private sector.

We met with success using this approach as Engro, Lucky, Al-Tawairqi Group and other players started to participate and take interest in Thar Coal. We have engaged these and other parties, arranged their meetings with Sino coal experts and developed a comfort level before conducting the first auction for a block there. We received over half a dozen bids out of which based on a transparent process, Engro was brought on board in 2009.

Once they entered the arena, others also gained confidence and UK-based Oracle Coalfields PLC also started work in Block-6. Besides this, China Three Gorges Corporation has recently signed an agreement with us, and then there is an American

consortium that has expressed interest here as has another from the EU.

So, now we feel that people are looking towards the coal deposits at Thar. Now we as a nation have to ensure that we stay on track and patiently pursue this area over the next few years. We have no other sustainable, reliable and affordable option for covering future energy needs of a comparable magnitude to the coal deposits in Thar Desert.

Other projects such as hydro- and wind-power projects are important, but they are cyclical or seasonal and cannot be depended upon as the primary source to cover the nation's energy needs.

BRR: How soon can power generation from Thar Coal commence?

MYD: Thar Coal is not a short-term project; it is at best, a medium-term project. We will have to work on it with commitment over the next four to five years to generate the first one thousand mega watts of energy. Commencing power generation by 2015 is an optimistic target, but it is achievable.

If Engro (Block II) and Oracle (Block VI) each achieved financial close by the end of 2012, then they can start mining at the beginning of 2013 which would take about two years to reach coal. Simultaneously, the funding of the power plant can take place. Then China Three Gorges is a huge company that does not require a similar time period for financial close so, hopefully, they can commence their activities soon as well.

Again, it is important to realise that these reserves can provide us with a long-term solution for our energy needs. The only precondition is that we, as a nation, have to persistently work on developing the necessary infrastructure over the next few years to utilise this potential.