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**ENGINEERING DEVELOPMENT BOARD**



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## the wheel history....

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**Incharge:**  
**Khalid Latif Malik**  
 General Manager (F&A/MIS)  
 Engineering Development Board  
 Tel: 051-9204143

**Editor:**  
**Imdad Ahmed Mian**  
 Manager,  
 Engineering Development Board  
 Email: imdad@edb.gov.pk, bulletin@edb.gov.pk &  
 Tel: 051-9202854 imdadedb@gmail.com

**Muhammad Fiaz**  
**Computer Graphics:**  
 ES/DM  
 Engineering Development Board  
 Email: fiazedb@gmail.com

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Industrial Bulletin is also available on website: [www.engineeringpakistan.com](http://www.engineeringpakistan.com)

**EDB Head Office:**

SEDC Building (STP),  
 5-A Constitution Avenue, Islamabad  
 Tel: 051- 9202854, 9205595-98,  
 Fax: 051-9206161 E-mail: bulletin@edb.gov.pk  
 Website: www.engineeringpakistan.com

**Regional Office Karachi:**

2nd Floor, PIDC House,  
 Dr. Ziauddin Ahmad Road  
 Tel: 021-5633763 & 5633764,  
 Fax: 021-5633762

# CEO EDB visits Motorcycle plants in Hyderabad

Mr. Aitazaz A. Niazi, CEO, EDB visited M/s Raazy Motor Industries (Pvt) Ltd and D. S. Motors, Hyderabad on December 17. It was first ever visit of the city by any CEO of EDB since 2002. He was warmly welcomed by Mr. Zahid Ali Chishti, MD of the company.

Mr. Niazi appreciated the role of motorcycle industry of Hyderabad in the economic development of the country in



Mr. Aitazaz A. Niazi, CEO EDB is greeted by chairman of the company



Female workers at assembly line

general and engineering sector in particular. CEO, EDB also visited the plant and showed keen interest in manufacturing process. He was delighted to observe that a large number of female workers were working on assembly line. Mr. Niazi said that it will help in building soft image of Pakistan.

## Engine Assembly at M/s Raazy - providing equal opportunity to women



Continued....

# D. S. Motors



CEO EDB Mr. Aitazaz A. Niazi visting various sections of the plant

# What really impedes Pakistan's auto sector growth?

The local car assemblers have once again raised their voice against imports as major factor eating into the small Pakistan's car market. The three Japanese car assemblers, who share a market of 130,000 cars between them, regularly blame low volumes as main stumbling block impeding further indigenization of critical parts and their efforts to give relief to the helpless consumers by way of rationalizing cars prices. Engineering Development Board takes exception to the standpoint of car assemblers on multiple grounds.

Presently, a buyer deposits full amount for the car in a company's account (inclusive of all taxes, duties, levies and even the duties to be paid for import of CKD) at the time of booking but he is made to wait for three to six months to get a new car. Statistics supposed to be available with the OEMs would indicate increasing number of buyers waiting in line to get their cars on priority, but usually end up paying a premium called 'on money' ranging from Rs 30,000 to 100,000 to the dealers. If such is the demand position of cars in Pakistan then why the cars assemblers make the buyers wait for such long periods leaving them no choice but to resort to imported cars. This is despite the fact that sufficient capacities exist with the OEMs to cater to consumer needs well within justifiable time. A careful look at the profits of OEMs would show a sizable amount that fattens their account books comes from interest income. This profit is generated and probably invested by the OEMs from the money of helpless buyers who are made to wait for months for their cars to be delivered. Having low volumes means non-viability of indigenizing critical parts thus making transfer of technology a far cry, paving way for import of CKD and parts thereby enabling vendor industries of the exporting countries to

flourish and making a huge dent on the ability of local vendor industries to indigenize and grow.

Another factor that hurts Pakistan's auto sector in general and the vendor industry in particular is that cars declared unfit in Japan coupled with cut and welded vehicles (scrapped) find their way into Pakistan's market thus making it a junkyard of unwanted and environmentally hazardous vehicles. It is essential that these vehicles are scrapped and not allowed to be exported to country like Pakistan where its budding vendor industry is already bearing the brunt of low volumes. It is important to clarify here that Pakistan's government has allowed import of used cars up to five years old only under the gift and baggage transfer schemes in its bid to make cheaper cars available to some extent.

Lastly, instead of visualizing the energy situation in Pakistan and defining a roadmap for developing fuel efficient cars for consumers, the world renowned OEMs operating in Pakistan resorted to CNG fitted cars which actually are not technically designed for CNG in the first place thereby making the already expensive cars costlier by at least Rs 60,000 for the consumers and making the engines of their cars prone to rapid deterioration.

The Pakistan's automobiles market has great potential to grow by all counts only if the OEMs wholeheartedly strive to make cost effective and fuel efficient cars for a growing middle class segment. It is high time for the OEMs to sense the pulse of Pakistan's market by offering different variants and a right of choice to the consumers, if they are sincere to Pakistan's auto sector development and growth, otherwise the market forces will not wait for too long to take their own natural course.

# Lower tariffs will increase trade volumes

Dr. Manzoor Ahmed, Ex-Ambassador of Pakistan to WTO and Ex-Member Customs visited Engineering Development Board (EDB) on 4th January 2012. A detailed presentation regarding functions of EDB was made by CEO, EDB Mr. Aitazaz A. Niazi. He welcomed the worthy guest and thanked him for taking time out to his busy schedule in Pakistan to visit EDB.

CEO, EDB highlighted the importance of engineering sector in the economy of a country. He emphasized that the newly industrialized countries including China, South Korea, Malaysia, and India are relying more and more on their engineering sectors for their economic growth. He also quoted the success stories of Brazil, Turkey and Vietnam which have progressed in the recent past and their success is attributed to industry friendly policies.

Dr. Manzoor Ahmad appreciated the efforts being made by EDB for promoting engineering sector of Pakistan. Dr. Manzoor Ahmad also recalled his close association with Engineering Development Board while working in FBR and admired EDB's effective role in the Tariff Rationalization Exercise carried out during the period 2000-01 to 2004-05.

It was highlighted that Pakistan had lower tariffs as compared to India during late nineties and start of the twentieth century. After that period, India started lowering the tariffs significantly whereas the import tariffs in Pakistan were either kept constant or increased in some cases. The need to reduce reliance on tariffs for protection to the industry was stressed upon as this was considered to make the industry to rely on Tariff protection and promoting inefficiencies. The need to develop Standards and Testing Laboratories was considered an important instrument in making the local industry not only in competing with imports but also increasing its exports.

He further elaborated that the tariffs have been minimized in most of the countries around the world. He quoted examples of various countries which have benefitted



A view of brain storming session

from the enhancement of trade volumes as a result of minimizing the tariff rates. Example of Turkey was given which in the beginning was reluctant to sign Customs Union agreement with European Union and lowering of tariffs. But the time has proven that it ended up in substantial growth of the industrial sector and the enhancement of exports from US\$ 11 billion to US\$ 61 Billion in 2010-11. Similarly, exports of Mexico quadrupled from US\$ 60 billion to US\$ 280 billion after its joining the NAFTA.

On the Trade side, enhancing of regional trade was stressed upon as presently Pakistan is relying heavily on few international markets like USA, Europe and Afghanistan for its exports. Pakistan should consider diversifying its trade by targeting more international markets like the ASEAN countries, Africa and Central Asian Republics. He was of the view that giving MFN status to India would open up new markets for our products although it may affect some of the industries in the beginning.

Dr. Manzoor assured his availability and continuous support to EDB for its future endeavors and thanked CEO EDB for inviting him for the interactive brainstorming session for improvement of local industry. CEO EDB In his concluding remarks again thanked Dr. Manzoor Ahmed for sparing time to visit EDB and sharing his thought and visions.

# Incentives for new entrants in automobile sector

The government has notified incentives for new entrants in automobile sector under the Auto Industry Development Program (AIDP) to create a competitive environment and availability of vehicles at affordable price. An amended SRO issued recently by FBR says that additional customs-duty leviable under earlier SRO issued in 2006 shall not be charged on sub-components, imported in any kit form by an assembler or manufacturer declared to be a new entrant by the Engineering Development Board (EDB), for a period of three years from the start of assembly or manufacturing of respective vehicles, subject to certain conditions.

To safeguard against non-serious players/briefcase assemblers, it has been made imperative for the new entrants that they shall chalk out a plan for progressive manufacturing of the vehicles spreading over a maximum period of three years within which they shall catch up with the localization or indigenization level of respective vehicles, as approved by Auto Industry Development Committee (AIDC) of the EDB; and continued non-levy of additional customs duty shall be contingent upon the achievement of progressive annual indigenization as determined by the committee.

Earlier in another notification issued by the Ministry of Industries entitled 'Auto Industry Investment Policy' (AIIP) of the Auto Industry Development Program (AIDP), it was said that potential entrants with a global presence of 100,000 units per year production in case of cars, 25000 trucks and buses separately, and 5000 agriculture tractors shall be entitled to import 100 percent CKD kits, whether or not locally manufactured, at the leviable customs duty for a period of 3 years for the start of assembly or manufacturing.

The notification is valid from the date of approval of AIIP of AIDP by the Economic Co-ordination Committee (ECC) of

the Cabinet through a decision taken on November 13, 2007. The government has set the following conditions for the new entrants: (i) have a plan for the progressive manufacturing for vehicles; (ii) have serious and demonstrable intention to develop parts locally; (iii) clearly identify the destinations in its plan or in agreement with its partners for export of vehicles and parts manufactured in Pakistan; (iv) produce road worthy vehicles complying to environment standards, with the EDB and the Ministry of Industries; (v) have proof of land acquisition in the ease of green field project or an agreement with the owner, in the case of existing assembly facilities; (vi) be required to submit a detailed business plan to EDB, which shall verify the complete in-house assembly or manufacturing facilities; and (vii) AIDC, constituted vide Ministry of Industries, Production and Special Initiative's Notification No 2-4/2006/Tech-I dated 18.12.2007, shall assess the business plan and other relevant documents to determine the eligibility criterion and to qualify the potential new entrant for the entitlement of benefits under AIIP or otherwise.

The AIIP (AIDC) clause 9.2 of the AIDP Investment chapter 9, the clause 9.3 automatically will come into force as per AIDP and this is being vetted by Ministry of Law. The EDB while approving the list of new entrants will make the CD applicable for PRAL. The clause 9.3 states that "new entrants will be allowed to import 100 percent CKD kit, at the leviable customs duty for a period of three years from the start of assembly/manufacturing".

Under clause 9.3 of AIDP, there will be two regimes in the absence of SRO 693. ie (i) existing OEMs on which SRO 693 and Customs General Order (CGO) 11 & 12 are applicable and (ii) new entrant which imports all the CKD on the basis of SROs 655 & 656.

# PUM

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## EXPERTS AVAILABLE IN VARIOUS SECTORS

### 1. Metal Industry

- Metal Processing
- Machine Engineering & Construction
- Aircraft & Shipbuilding
- Metal Construction
- Metal Maintenance & Repair

### 2. Electro Technical Industry & Engineering

- Electronics
- Domestic Appliances (Equipment)
- Lighting
- Telecommunication & Information Technology

### 3. Energy/ Water & Environment

- Energy
- Water Supply and Waste Water
- Waste Management
- Environmental Matters

### 4. Chemical & Synthetic Materials

- Pharmaceutical Products
- Paints & Lacquer
- Polymers, Composites and MMF (man made fibres)
- Chemical Technology & Fine Chemicals
- Inorganic Materials and Precious metals

### 5. Transport & Logistics

- Transport (Public)
- Logistics

### 6. Building & Construction Trade

- Building Materials and Suppliers
- Building Design and Architecture
- Contracting and Management
- Glass & Ceramics (fine)

### 7. Paper/ Cardboard & Packaging

- Paper/ Cardboard & Packaging

### 8. Business Support & Management

- Accountancy & Financial Administration
- ICT
- Financial Management
- Business Management Consultancy
- Human Resources & Organization
- Marketing
- Legal Affairs
- Public Affairs & Advertising

### 9. Trade

- Retail Trade (Business to Consumer)
- Whole Sale Trade (Business to Business)
- Personal Services & Crafts

### 10. Training & Education

- Vocational and General Education

### 11. Food & Beverages Production

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- Meat Processing
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- Bakery & Bread Factory

### 12. Financial Institutes

- Banking & Finance
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### 13. Agriculture & Horticulture

- Horticulture- Vegetables & Fruits
- Green & Glasshouses
- Horticulture Vegetables and Fruits

- Arable Farming
- Starch & Starch Products
- Tropical Products & Plantations
- Horticulture Flowers & Ornamental Plants
- Agriculture & Horticulture Technique

### 14. Stockbreeding & Fisheries

- Cattle Breeding
- Dairy Processing & Products
- Poultry Farming
- Fisheries & Fish Processing
- Beekeeping

### 15. Textile & Leather

- Spinning, Weaving and Knitting
- Textile Consumer Products
- Leather Industry

### 16. Wood Trade & Processing

- Timber Processing
- Furniture Manufacture

### 17. Tourism/ Hotels & Catering

- Hotels
- Catering, Restaurants and Events
- Tourism

### 18. Healthcare

- Healthcare Management & Business Administration
- Healthcare Cure and Care Processing
- Healthcare Technical Medical Technology

### 19. Publishing & Printing

- Printing
- Publishing

EDB had entered into an agreement for extending free PUM expert services to the Engineering Industry and now plans to diversify its activities.

PUM only provides help in response to specified requests and works directly and cost effectively without any consultancy fee for short and intensive projects.

## Make A Request ?

If you are interested in making a request, contact the PUM representative at EDB.

**Mrs. Raazia Shakir, Dy. General Manager (BDG),**

**Ph # 051-9204817, 9205595/31, email:**

**raaziashakir@gmail.com**. All your questions will be answered and help will be provided for completing the request forms.

**Due to limited projects, the requests shall be entertained on first come, first served basis.**

# “BE AWARE” OF YOUR TYRES

By Mr. Khalid Latif Malik, General Manager , EDB

**W**hen we buy the tyres for our vehicle, we mostly rely on brand of the tyre or the country of import. Some time the price tag changes our preference. After installation of new tyres, we are satisfied that our vehicle is now safe for driving. No; this is not enough, we need to learn lot many important things for safe driving. Do you know that when you buy duly wrapped new tyres, these may the expired ones! In fact, the tyres expire four years after the date of manufacture. The date of manufacture is stamped on the side of tyre. If you check the side of the tyre as shown in the image, you will see 4 digit number stamped on it. If 07-07 is stamped on tyre, this indicates that tyre was manufactured on 7th week of year 2007. This means that the tyre will expire on 7th week of year 2011, i.e. February, 2011. The expired tyres are likely to burst and result in a very serious or even a fatal accident.



## Allowable Pressure

The second very important thing to observe is the maximum allowable pressure for a specific tyre. The maximum pressure allowed can be seen next to the rim on the side of tyre. Never exceed this pressure. If a number is stamped as “(44 PSI) Max.Press”, this means maximum allowable pressure for the tyre is 44 pounds per square inch . It is an acceptable practice to have the tyres few pound below maximum allowable pressure i.e. 3-5 pounds less than the allowed pressure. Please note that too much lower pressure, for example 20PSI instead of 30PSI increases tyre heat and damages the tyre. Observe the following guidelines while inflating your tyre:

Max Press	Acceptable
32 PSI	28 PSI
44 PSI	35 PSI
50 PSI	44 PSI

## Maximum Load Carrying Capacity Of Tyre:

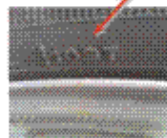
Every tyre has a load carrying capacity in pounds and kilograms.

The figure “109T” stamped on side of the tyre means the tyre is allowed a maximum load capacity of 2271 pounds and 103 kg as per load index shown at table-A. This important

instruction should be strictly adhered to for safety of life.

**Table-A**  
**Maximum Load-Carrying Capacity Per Tire**

Load Index	Pounds	Kilograms	Load Index	Pounds	Kilograms
71	761	345	99	1739	775
72	783	355	100	1764	800
73	805	365	101	1819	825
74	827	375	102	1874	850
75	853	387	103	1929	875
76	882	400	104	1984	900
77	908	412	105	2039	925
78	937	425	106	2094	950
79	963	437	107	2149	975
80	990	450	108	2205	1000
81	1019	462	109	2271	1030
82	1047	475	110	2327	1055
83	1074	487	111	2409	1095
84	1102	500	112	2484	1129
85	1135	515	113	2561	1164
86	1168	530	114	2640	1200
87	1201	545	115	2721	1237
88	1235	560	116	2804	1275
89	1279	580	117	2890	1315
90	1323	600	118	2982	1355
91	1355	615	119	3074	1397
92	1389	630	120	3169	1440
93	1433	650	121	3267	1485
94	1477	670	122	3368	1531
95	1521	690	123	3472	1579
96	1565	710	124	3580	1627
97	1609	730	125	3690	1677
98	1653	750			

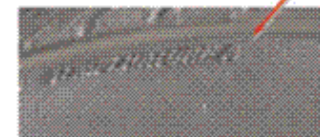


the vehicle. The symbol stamped as "TEMPERATURE A", means the highest resistance to heat. This table tells the temperature resistance rating of a tyre.

**Traction**

Traction is a tyre's ability to stop on wet pavement. A higher graded tyre should allow to stop the vehicle on a wet road in a shorter distance than a tyre with lower grade. Traction is graded from higher to lowest as "AA", "A", "B" and "C". TRACTION AA is the highest grading. The higher is the grading, the shorter is the distance to stop the vehicle.

Symbol	Area
A	Hot Area
B	Normal Area
C	Cold Area



**Speed Rating**

The speed rating for which a tyre is designed is indicated by a letter next to load index. Table-B shows the speed rating in Km/h&mph. If speed symbol "R" is stamped on the side of tyre, it allows a maximum speed of 170 km/h&106mph to your tyre.

**Table-B**

Speed Symbol	Maximum Speed (km/h)	Maximum Speed (mph)
Q	160	100
R	170	106
S	180	112
T	190	118
U	200	124
H	210	130
V*	Above 210	Above 130
V	240	149
W	270	168
Y	300	186
Z	Above 300	Above 186

**Temperature resistance**

The "Glossary" on the tyres also let you know the temperature resistance of tyres being used in

**Treadwear**

This number indicates the rate at which the tyres wear out. The number is stamped as: "TREADWEAR 180". The higher the treadwear grading the longer it should take for tyre to wear out. A tyre graded at 400 should last twice as a tyre graded at 200.

Please keep the above factors in mind while buying the new tyres and using them in your vehicle.

# Processes introducing a swift idea for the economical production of electricity without burning natural gas

By Mr. Muhammad Shakeel Ahmad and Prof. Dr. Taqi Zahid Butt  
Department of Metallurgy & Materials Engineering, College of  
Engineering and Emerging Technologies, University of the Punjab, Lahore

## ABSTRACT

Non conventional indigenous energy resources are substantially contributing to fulfill the world energy demand of the future. Researchers are merely emphasizing upon the introduction of new and versatile non conventional energy sources, which may effectively reduce the worst power crisis prevailing among third world countries, including Pakistan. This proposal encapsulates a potential methodology of generating power by utilizing a swift idea of using gas pressures present at gas distribution stations and lurgi gasifiers without burning natural gas. The pressure can be used to run the turbine blades in a complete assembly of generator, piping, storage vessels and available compressors. This process is highly economical and easily maintainable. The main components of modal 1 and modal 2 are gas distribution stations (GDS) and lurgi gasifier respectively.

## INTRODUCTION

Most versatile and swift examples of non conventional

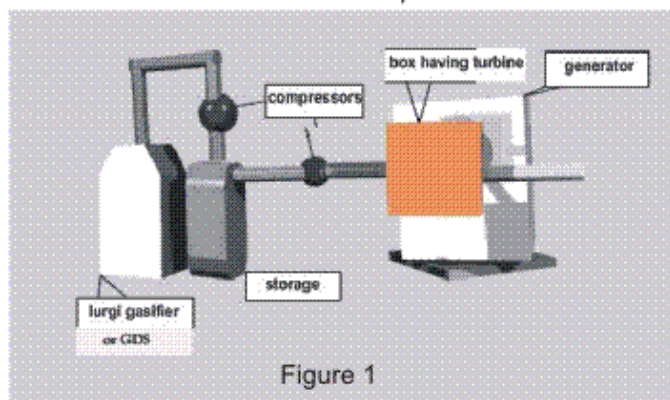


Figure 1

energy resources used for power generation are nuclear, biomass, tidal energy and solar. The basic practice in these techniques is to produce enough energy to run the generator and turbines for production of electricity. The following two processes have the same principle.

These are shown in figures 1 and 2, consisting of three main parts. 1) Gas distribution stations or lurgi gasifier. 2) Turbine and 3) generator along with storage tank and compressor if required. The concept of producing electricity in this method is based on the use of high pressure in a gas distribution stations (GDS) and lurgi gasifier. In this technique, gas distribution station or lurgi gasifier will supply pressurized gas, which is used for domestic and industrial heating purposes. This pressurized gas will drive turbine (radial or gas turbine), which is enclosed in a box so as to avoid any gas wastage, which will further drive the generator. After deriving the turbine this gas will travel in pipes and used for domestic purposes as usual.

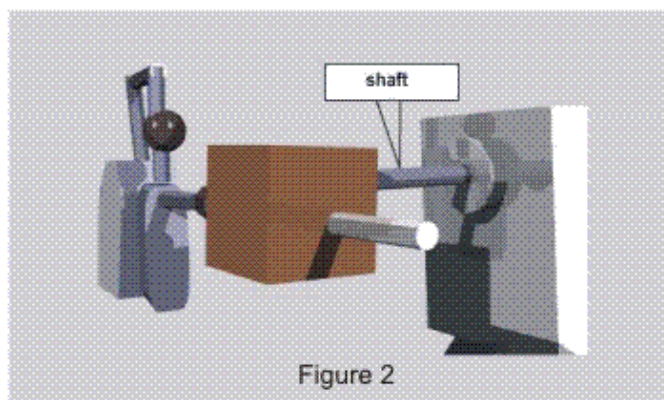


Figure 2

Main parts of the processes.

## Modal 1:

Every country has its own setup and requirements in the cities to provide natural gas for domestic as well as for industrial supply. In Pakistan, Gas Distribution Stations (GDS) as shown in figure 3, have been working at 500 psi pressure at the inlet where as the required pressure at the outlet is 160 psi for domestic functioning [1]. Therefore the pressure has to be reduced from 500 psi to 160 psi at the GDS. So this

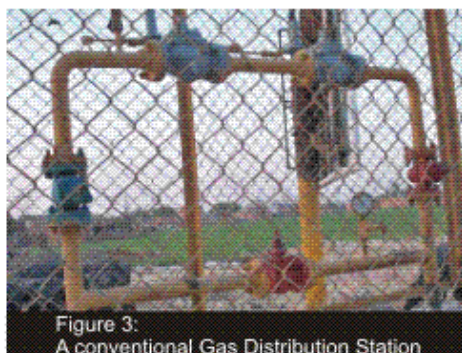
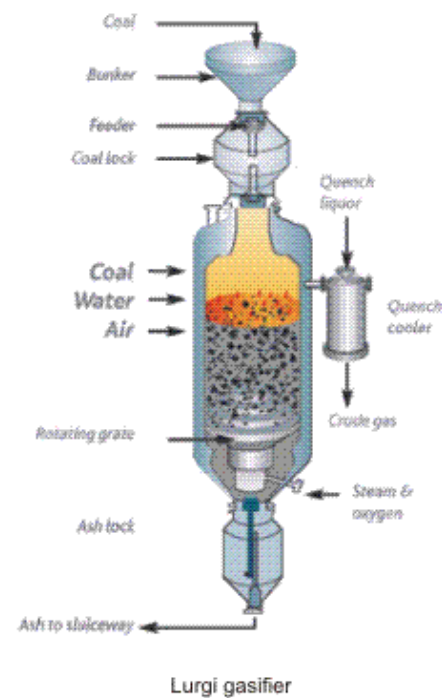


Figure 3:  
A conventional Gas Distribution Station

required drop in pressure can be exploited. If a turbine i.e. radial turbine with Compressor (not necessary, only used when inlet pressure decreased for some reason) is installed to reduce the pressure instead of regulators and valves etc. Then, this drop in pressure will drive the turbine, which in turn, will produce energy. This rotational energy of turbine can be thus converted into electrical energy by generator.

**Modal 2:**

The main components of this process are Lurgi gasifier, radial or steam turbine, generator, piping etc. Major parts of Lurgi gasifier are shown in the figure 4.



These are coal burning vessel, feeding system, ash discharge assembly, components to introduce steam in the gasifier and gas purification system etc. It is worth mentioned that for 1 Nm<sup>3</sup> gas production 0.85 kg coal, 1.4 kg steam and 0.21 oxygen is required [2]. These kind of gasifiers have been working at or above 20 atm pressure. One can build Lurgi gasifier according to the demand of town gas and electricity requirements. In this case steam or

radial turbine may be used. But steam turbine is preferred. This process has two out puts, one is coal gas used for burning purposes and other is electricity. That is why this is most economical process.

**Discussion:**

Lurgi gasifiers are being used in Great Britain to produce town gas for household and commercial purposes having capacities 10-15 tons/hr coal or more. These gasifiers work upto 20 atm pressure. And every country has its own setup of Gas Distribution Station in each city to provide natural gas for domestic as well as industrial supply. These stations work on 500psi pressure as described earlier. Installing turbines (radial, gas or steam turbines) can also produce electricity which will be virtually free of cost i-e; running cost is nearly zero. Working diagram is shown in fig 5.

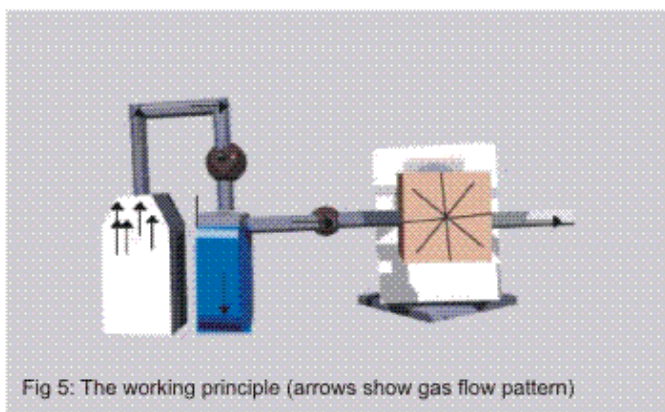


Fig 5: The working principle (arrows show gas flow pattern)

For unexpected circumstances storage tank should have enough gas in it to provide gas for at least 1-2 hrs. Although pressure drop at the turbine is inevitable yet it can be controlled by properly designing the turbine. Another way to cop with this situation is to install a propeller in the pipe located at the outlet of the turbine and by using gear system power can be given from the rotating shaft of turbine. At the expense of couple of horse powers this state of affair in pressure drop can be handled.

**Calculations:  
Assuming [2]**

Efficiency of radial turbine from enthalpy entropy curve( $\eta_e$ ) = 90%  
 Mass flow rate (w) = 25 lb/s.  
 Inlet pressure = 500psi.  
 Isentropic change in energy (theoretical) ( $\Delta h$ )= 40 Btu/lb  
 $HP = (778 / 550) \times \Delta h \times w \times \eta_e$   
 $HP = 1.4145 \times 40 \times 25 \times 0.90$   
 $HP = 1273.325 \approx 1$  mega watt

**For modal 1,** radial turbine or combination of radial turbine and centrifugal compressor (or turbo expander) can be used. As far as the gas distribution stations are concerned compressors are not necessarily be used, however, for critical situations compressor should be attached to avoid any unforeseen state of drop in pressure.

On the other hand, using modal 2 if we use steam turbine which is preferable as mentioned earlier.

**Assuming [3]**

Inlet pressure= 100psia  
 Inlet temperature = 4280F  
 Exit pressure = 2.5psia  
 Thermal efficiency= 75%  
 External efficiency= 98%  
 Gas flow = 500,000 lb/hr

**Outputs**

**Shaft power = 28401.22 kW**  
 Shaft power = 37,689.72 hp  
 Exit enthalpy = 1046.6 Btu/lb  
 Exit superheat = 0 oF  
 Exit temperature = 134.4 F  
 Exit entropy = 1.7784 Btu/lb-oF  
 Actual steam rate = 17.79 lb/KWh

Using these processes electricity can be produced economically. Modal 2 is preferable where coal is in abundance like Thar coal. Low grade coal can also be used without compromising on efficiency and production.

**References:**

- [1] Private communication Sui Northern Gas Company. Head office sui northern gas, Lahore, Pakistan.
- [2] Book FUNDAMENTALS OF THE TURBOEXPANDER "BASIC THEORY AND DESIGN" PRESENTED BY: MR. JAMES SIMMS
- [3] software steam turbine for windows version 1.1 WIN.copyright © 1998. thermal analysis systems

# Provisional Figures of Exports/Imports & Balance of Trade for October, 2011

(Rupees in Million)  
(U.S. Dollars in Million)

Series	* October, 2011		* September, 2011		% Change in October, 2011 over September, 2011	
	Rs.	\$	Rs.	\$	Rs.	\$
Exports	164,872	1,896	160,629	1,836	2.64	3.27
Imports	313,653	3,607	316,797	3,622	-0.99	-0.41
Balance of Trade	-148,781	-1,711	-156,168	-1,786	-4.73	-4.20

Series	* October, 2011		October, 2010		% Change in October, 2011 over October, 2010	
	Rs.	\$	Rs.	\$	Rs.	\$
Exports	164,872	1,896	166,562	1,938	-1.01	-2.17
Imports	313,653	3,607	274,698	3,196	14.18	12.86
Balance of Trade	-148,781	-1,711	-108,136	-1,258	37.59	36.01

Series	* July– October 2011		July– October 2010		% Change in July- October 2011 over July- October 2010	
	Rs.	\$	Rs.	\$	Rs.	\$
Exports	681,199	7,853	599,600	6,996	13.61	12.25
Imports	1,277,494	14,724	1,047,774	12,226	21.92	20.43
Balance of Trade	-596,295	-6,871	-448,174	-5,230	33.05	31.38

*Source: Federal Bureau of Statistics*

\* Provisional figures based on figures provided by the Director (R&S) FBR, Islamabad.

NOTE:-

- Rupee Value converted into US Dollar on average monthly exchange rate provided by S.B.P. October, 2011(1\$ = Rs. 86.965485), September, 2011 (1\$=RS.87.474433) and October, 2010(1\$=Rs. 85.941634)
- After finalization of Imports/Exports of July, 2011 the cumulative figures for July-October, 2011 have been revised.  
Final figure of July, 2011 Export Rs. 185,587 million & US \$ 2,157 in million  
Final figure of July, 2011 Import Rs. 317,340 million & US \$ 3,689 in million
- Due to rounding some totals may not tally

# EXPORTS

## TOP 15 COUNTRIES OF ENGINEERING SECTOR

(Based on Commulative Figures Jul-Aug 2011-12 )

Million US \$

COUNTRY	EXPORTS	
	Jul-Aug 2010-11	Jul-Aug 2011-12
Afghanistan	33.93	44.17
U.S.America	16.29	23.54
China	7.09	14.30
United Arab Emirates	7.67	11.47
Germany	7.94	11.00
Netherlands	2.67	10.84
United Kingdom	7.01	9.98
Saudi Arabia	5.94	8.04
India	4.46	5.39
Bangladesh	4.06	4.91
France	2.55	4.69
Belgium	1.23	4.62
Italy	3.23	4.44
Sri Lanka	2.04	3.21
Sudan	3.62	2.80

Source: Federal Bureau of Statistics

Year : 2011-12 1 USD = 86.62 PKR

Year : 2010-11 1 USD = 85.60 PKR

# EXPORTS

## TOP 15 ITEMS OF ENGINEERING SECTOR

(Based on Cumulative Figures Jul-Aug 2011-12 )

Million US \$

ITEMS	EXPORTS	
	Jul-Aug 2010-11	Jul-Aug 2011-12
OPTICAL, PHOTOGRAPHIC, CINEMATOGRAPHIC, MEASURING, MEDICAL OR SURGICAL INSTRUMENTS AND APPARATUS, PARTS AND ACCESSORIES	40.34	54.20
ARTICLES OF IRON AND STEEL	27.56	35.07
MACHINERY/ COMPONENTS	19.81	32.78
COPPER AND ARTICLES THEREOF	12.38	25.74
TOOLS, IMPLEMENTS, CUTLERY, PARTS THEREOF	15.45	15.81
VEHICLES OTHER THAN RAILWAY, ROLLING STOCK	7.47	12.27
IRON AND STEEL	4.42	7.19
ELECTRICAL MACHINERY, EQUIP, PARTS	7.21	6.82
ALUMINIUM AND ARTICLE THEREOF	6.16	5.49
LEAD AND ARTICLES THEREOF	1.78	2.80
FURNITURE, BEDDING, MATTRESSES, LAMPS AND LIGHT FITTINGS, ILLUMINATED NAME-PLATES, PREFABRICATED BUILDINGS	0.57	0.91
MUSICAL INSTRUMENTS, PARTS AND ACCESSORIES	0.53	0.62
ARMS & AMMUNITION, PARTS AND ACCESSORIES	0.10	0.44
MISC. ARTICLES OF BASE METALS	0.13	0.14
OTHER BASE METALS, CERAMICS, ARTICLES	0.13	0.03

Source: Federal Bureau of Statistics

Year : 2011-12 1 USD = 86.62 PKR  
Year : 2010-11 1 USD = 85.60 PKR

# EXPORTS

## Region Wise Exports of Engineering Sector ( Summary )

Million US\$

REGION	Jul-Aug 2010-11 VALUE	Jul-Aug 2011-12 VALUE
AFRICA	9	8
AMERICA (Continent)	23	31
ASIA	80	106
ASIA-PACIFIC ECONOMIC COOPERATION (APEC)	34	52
ASIA-PACIFIC TRADE AGREEMENT (APTA)	19	29
ASSOCIATION OF SOUTH-EAST ASIAN NATIONS (ASEAN)	3	5
CENTRAL ASIAN REPUBLICS	0	0
COMMONWEALTH OF INDEPENDENT STATES (CIS)	1	2
DEVELOPED MARKET ECONOMIES	48	77
DEVELOPING MARKET ECONOMIES	94	119
ECONOMIC COOPERATION ORGANIZATION (ECO)	36	47
EUROPE	31	52
EUROPEAN UNION (EU 25)	29	49
G7 (Group of Seven Countries)	38	56
MIDDLE EAST	22	24
NORTH AMERICAN FREE TRADE AGREEMENT (NAFTA)	18	25
ORGANIZATION OF PETROLEUM EXPORTING COUNTRIES (OPEC)	20	24
ORGANIZATION OF THE ISLAMIC CONFERENCE (OIC)	68	81
SOUTH ASIAN ASSOCIATION FOR REGIONAL COOPERATION (SAARC)	11	14

Source: Federal Bureau of Statistics

Year: 2011-12 1 USD = 86.62 PKR

Year: 2010-11 1 USD = 85.60 PKR

# LSM INDUSTRIAL PRODUCTION DATA

Product Description	Measurement Unit	July-September		Percentage Change July-Sept 11-12/July-Sept 2010-11
		2010-11	2011-12	
<b>Automobile</b>				
1 Motorcycles	Nos	352,743	414,597	17.54
2 Cars & Jeeps	Nos	32,006	33,344	4.18
3 LCVs	Nos	4,167	4,618	10.82
4 Buses	Nos	133	86	(35.34)
5 Trucks	Nos	800	524	(34.50)
6 Tractors	Nos	14,441	4,460	(69.12)
<b>Iron &amp; Steel Products</b>				
7 Coke (Pakistan Steel)	Tonnes	82,674	53,996	(34.69)
8 Pig Iron	Tonnes	94,312	75,353	(20.10)
9 Billets/Ingots	Tonnes	383,204	364,302	(4.93)
10 H/C.R Sheets/Strips/Coils/Plates	Tonnes	742,057	373,762	(49.63)
<b>Electrical Goods &amp; Electronics</b>				
11 Refrigerators	Nos	256,320	279,855	9.18
12 Deep Freezers	Nos	31,156	15,669	(49.71)
13 Air Conditioners	Nos	52,605	50,756	(3.51)
14 TV Sets (PEMA)	Nos	89,391	82,525	(7.68)
15 Electric Bulbs	000' Nos	14,171	16,813	18.64
16 Electric Tubes	000' Nos	240	296	23.33
17 Electric Fans	Nos	411,546	528,934	28.52
18 Electric Motors	Nos	2,852	2,730	(4.28)
19 Electric Meters	Nos	345,981	392,215	13.36
20 Switch Gears	Nos	2,964	1,161	(60.83)
21 Electric Transformers	Nos	6,881	4,997	(27.38)
<b>Chemicals</b>				
22 Soda Ash	Tonnes	99,872	96,671	(3.21)
23 Caustic Soda	Tonnes	43,090	38,573	(10.48)
24 Hydrochloric Acid	Tonnes	66,375	67,742	2.06
25 Sulphuric Acid	Tonnes	21,507	22,858	6.28
26 Chlorine	Tonnes	4,121	4,567	10.82
27 Synthetic Resins/M.M Yarn	Tonnes	106,122	97,923	(7.73)
28 Glass Plates & Sheets	000 Sq Mtrs	3,418	2,703	(20.92)
<b>Fertilizers</b>				
29 Nitrogen Fertilizers	N.Tonnes	602,567	645,950	7.20
30 Phosphate Fertilizers	N.Tonnes	139,343	149,895	7.57
<b>Paper &amp; Wood</b>				
31 Paper & Board	Tonnes	109,671	116,158	5.91
32 Plywood	000 sq feet	10,622	8,930	(15.93)
<b>Ruber Tyres &amp; Tubes</b>				
33 Cycle Tyres	000' Nos	830	795	(4.22)
34 Cycle Tubes	000' Nos	1,908	1,949	2.15
35 Motor Tyres	000' Nos	2,268	2,350	3.65
36 Motor Tubes	000' Nos	4,960	5,137	3.57
<b>Other Engineering Products</b>				
37 Safety Razor Blades	000' Nos	363,429	391,543	7.74
38 Diesel Engines	Nos	4,321	2,414	(44.13)
39 Bicycles	Nos	76,306	51,027	(33.13)
40 Sewing Machines	Nos	11,742	10,957	(6.69)
41 Wheat Thrashers	Nos	76	91	19.74

Source: FBS