

GUJARAT'S MARCH TOWARDS GAS BASED ECONOMY THEME PAPER

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Presentation structure

- What is gas based economy?
- Why gas based economy for Gujarat?
- How to achieve gas based economy?
- Risk perceptions and uncertainties
- Recommendations (to be modified based on deliberations at workshop)

What is gas based economy?

- Gas as main commercial energy source in energy-mix of an economy
- Gas usage to be an integral part of one's day-to-day life
- Widespread use in industries, commercial, domestic and transportation sectors

What is gas based economy?

Broad objectives of vision:

- (1) Improved quality of life and health for people
- (2) Energy available on demand, on tap at competitive price
- (3) Attract new investments- increased job opportunities and per capita income
- (4) Make existing industry globally competitive
- (5) Improved financial position for the State

Thus, lead to **‘SUSTAINABLE DEVELOPMENT’**

Why gas based economy for Gujarat?

(1) ADVANTAGES OF GAS

- Very clean-least environmental impact
- High efficiency of usage-less consumption so cost effective and further reduction in environmental impact

Why gas based economy for Gujarat?

(2) International trend and need for sustainable development:

- Increased gas consumption-an international trend-22-23 % share in world energy-mix
- Concern and care for environment growing rapidly- economies need to respond
- Reduction in carbon emissions-Kyoto Protocol and future implications
- Opportunity in 'Carbon credit' trade

Why gas based economy for Gujarat?

(3) Gujarat economy manufacturing and service sector driven-energy intensity high

SECTOR	% in GSDP (Gujarat)	% in GDP (India)
Agriculture	17.3	22.1
Industry	41.2	27.1
Services	41.5	50.80

Why gas based economy for Gujarat?

(4) Availability of natural resources and geographical location:

- Except Lignite and small/medium sized oil and gas fields no other natural resource
- Indigenous coal- bad quality and long transportation- high cost
- Gujarat with 1600 kms coastline located very near gulf countries having large gas reserves-an attractive import option for LNG

Why gas based economy for Gujarat?

(5) Potential of gas availability:

- Petronet LNG –2.5 MMTPA-next year
- Shell-2.5 MMTPA-next year
- Petronet and Shell-2.5 MMTPA each additional in next 2-4 years
- KG gas from Reliance-12 mmscmd to NTPC-60 mmscmd potential?
- Possible discovery of GSPC in KG block- similar to Reliance discovery?
- Increased Tapti gas

How to achieve gas based economy?

-Strategy

- Flood the markets with gas supplies
- Create a credit-worthy and sustainable user base
- Create infrastructure for promotion of gas usage
- Through policy initiatives create a true free and matured gas market so as to ensure global competitiveness and sustainability

How to achieve gas based economy?

- Target 70-75% share of gas in energy-mix
- Monitor daily gas consumption rate

Year	Target Gas cons., mmscmd
Present	25
2005	40
2006	60
2008	80
2010	100

How to achieve gas based economy?-Initiatives

- Sales tax on gas @4% - 'vatable'
- Gas price to be market determined
- Aim for gas to major customers @\$4/mmbtu
- Establish 'gas exchange' for transparent price discovery and develop Hazira hub concept
- Need for a demand and supply aggregator
- Bring KG gas to Gujarat
- GSPL to lay pipelines to GEB thermal plants by 2005. 1500-2000 kms. gas lines in next 5 years

How to achieve gas based economy?-Initiatives

- All GIDC estates should develop internal gas distribution network immediately
- Simultaneous development of 20-30 distribution projects in cities/towns-State nodal agency to take lead and involve local entrepreneurs
- LNG transport by road should be promoted
- Use of CNG/LNG in vehicles to be encouraged and enabling law to be passed for use of clean fuels in automobiles-use new technologies and convert GSRTC and municipal buses on LNG

How to achieve gas based economy? - Initiatives

- New gas based power projects should be on Saurashtra coast alongwith desalination
- Develop CBM resource rapidly
- Invest in technology development for underground coal gasification-huge resource potential and future technology for migration to 'Hydrogen economy'
- Improve road,rail and port infrastructure with help of private sector and encourage investors in gas sector

How to achieve gas based economy?-Initiatives

GAS REGULATION:

Lobby for two-tier regulatory regime

- High pressure interstate lines –central regulation
- Intrastate transmission and distribution to be looked after by state regulator
- Regulation principles-open access, exclusivity for distribution and published distance based tariff system.No need to regulate tariff ,per se, at this stage.
- Avoid over-regulation

How to achieve gas based economy?-Initiatives

GEB restructuring:

- Need to improve GEB's credit rating and make it profitable
- Present problems of GEB are low PLF of thermal plants and IPPs resulting in high costs and power shortages, high T&D losses and increasing costs of coal and F.O.
- Reasons for low PLF are high maintenance downtimes of coal plants, non-availability of gas for IPPs, high auxiliary cons. in coal plants(10%)
- Conversion of existing plants to gas can overcome these limitations. Need to evolve proper scheme.

How to achieve gas based economy? - Initiatives

OUTLINE OF SCHEME FOR GEB RESTRUCTURING

- Sell coal and FO based generating assets by inviting competitive bids
- Asset buyer must convert to gas in specified time and arrange gas supply for conversion as well as existing IPPs
- Asset buyer to guarantee minimum supplies to GEB at predetermined tariff for 10 years. Balance power can be traded by asset buyer
- GEB to use sale proceeds to payoff outstanding liabilities, invest in reducing T&D losses and prepay part of high cost debt. Open L/Cs for power purchase.

How to achieve gas based economy?-Initiatives

Major benefits of such GEB restructuring would be:

1. Increase in power generation capacity by almost 1000 MW without any additional investment in creation of new assets
2. Gujarat will be power surplus and there would be continuous, reliable and quality power supply
3. No change in tariff and yet reduced subsidy requirement from State Government
4. Motivate private players to bring more gas to Gujarat markets
5. Massive investments by private players in gas and power sector in Gujarat.

How to achieve gas based economy?-High priority steps

- S.T.on gas 4% - 'vatable'
- Convert coal/FO plants of GEB to gas
- Convert GSRTC/municipal buses to LNG
- Develop 1500-2000 kms. gas pipelines
- Develop 'gas exchange' for transparent price discovery and risk mitigation
- Lobby for appropriate regulatory regime
- Simultaneous development of gas distribution projects in 20-30 cities

RISKS & UNCERTAINTIES

- Not a balanced portfolio of energy –mix
 1. Conscious decision. Hence need not be perceived as risk based on conventional analysis
 2. Would lead to sustainable development
 3. Geo-political risk not enhanced by this mix

RISKS & UNCERTAINTIES

- Gas price risk
 1. Gas prices generally linked to oil-no disproportionate movement possibility
 2. Coal price may not move in tandem but environment management cost for coal too high.Hence coal price risk naturally hedged
 3. Large quantity consumption would help in better price negotiations and reduce gas costs
 4. Development of gas exchange will help in transparent price discovery

RISKS & UNCERTAINTIES

- Implementation of GEB restructuring:
 1. No change in agriculture tariff. In fact possibility of reduction in tariff for all other consumers. Hence likely to be politically acceptable and possible to carry people along
 2. Needs commitment and bold initiatives from bureaucracy and politicians

RISKS & UNCERTAINTIES

- Need for co-ordination in state Govt. :
 1. Large number of policy initiatives and steps need to be sequenced properly and monitored for timely implementation
 2. Energy & Petrochemicals dept. of the State Govt. should undertake this task and ensure proper co-ordination and synchronisation of various actions

RECOMMENDATIONS

- **GAS/LNG SUPPLIERS:**

1. Make aggressive efforts to bring more gas to Gujarat at competitive price
2. Support and actively participate in 'gas exchange' development
3. Develop LNG transport by road and rail
4. Invest in creation of gas infrastructure like LNG import terminals new or expansion of capacity, CBM and underground gasification projects, pipelines, gas distribution projects, CNG/LNG filling stations etc.

RECOMMENDATIONS

- **OTHER STATE AGENCIES:**
 1. GIDC should develop gas distribution network in all its estates immediately
 2. GSRTC and all Municipal transport corporations should plan to ply LNG based buses
 3. Local municipal authorities of all cities and towns must facilitate quick development of distribution networks by giving necessary permissions under single window

RECOMMENDATIONS

- **GSPL:**
 1. Develop 1500-2000 kms. of gas transmission lines in next 5 years
 2. Involve other investors and stakeholders in equity
 3. Support development of 'gas exchange' by providing necessary physical delivery system for gas
 4. Immediately connect all GEB coal/FO based plants with gas transmission system

RECOMMENDATIONS

- **STATE NODAL AGENCY:**
 1. Perform role of aggregator for gas demand and supply
 2. Bring KG gas to Gujarat
 3. Take initiative in gas distribution projects
 4. Buy gas from suppliers in bulk and aim to reduce gas cost to consumers

RECOMMENDATIONS

- **FOR STATE GOVERNMENT:**
 1. Reduce sales tax on gas to 4 %
 2. Make S.T. on gas 'vatable'
 3. Convert existing GEB thermal plants to gas by evolving a suitable scheme
 4. Make enabling law for compulsory use of clean fuel like CNG/LNG in vehicles
 5. Convert GSRTC and Municipal buses on LNG and take it up as a major project with multilateral agencies
 6. Lobby for two-tier regulatory regime with open access, exclusivity for distribution and published tariff as regulatory principles

RECOMMENDATIONS

- **STATE GOVT.(contd.):**
 6. Encourage CBM development
 7. Invest in development of underground coal gasification technology in N.Gujarat
 8. Initiate gas distribution projects in 20-30 cities/towns simultaneously. Involve local entrepreneurs
 9. New power projects on Saurashtra coast - with thermal desalination
 10. Improve road, rail and port infrastructure with involvement of private sector
 11. Co-ordinate and synchronise all initiatives



THANK YOU