Genesis of indian petroleum industry business essay

[Business]

1. 0INTRODUCTION1. 1BackgroundIn any economy the energy sector plays an important role, the growth of the economy largely depends on the energy sector. In India, history indicates that this sector was largely regulated by the government only. To a great extent this can be determined to be the cause of India's poor share in the world's oil and gas production and petroleum product consumption. Some of the biggest problems associated with the sector include excessive dependence on import of energy products and very little participation of private players in the sector. Realizing these issues, the government has taken steps to improve the status of the country in this field. Policies like Administered Price Mechanism have been dismantled. Moreover, the government has facilitated the entry of private players in the industry, in both upstream and downstream activities. Thus, deregulation of energy sector is supposedly a step forward to improve the Indian Petroleum Industry. 1. 2Genesis of Indian petroleum industryThe story of oil search and exploration in India began in dense jungles of Assam (the extreme northeast corner of India) in the decade of 1880-1890. The first discovery recorded is by Mr. Goodenough of McKillop Stewart Company finding oil near Jaypore in upper Assam. After that, Assam Railway and Trading Company (ARTC) also struck oil at Digboi and marked the beginning of oil production in India. During the same time period, oil was also struck at Makum near Margherita (again in Assam) in 1867 (just nine years after the historical Drake well in Pennsylvania in 1859) and the first commercial oil was discovered in Digboi in 1889. However, exploration and production started in a systematic way in 1899 when the Assam Oil Company (AOC) was formed. It can be said that ' Assam' and the ' decade of 1880' – marked the beginning of Indian

Petroleum Industry. After this decade, Burmah Oil Company, which was considered as a major player in the petroleum market of South Asia dominated this market. It refined crude oil produced from primitive hand dug wells in Upper Burma, which was then a part of India. After independence, Geological Survey of India carried out extensive reconnaissance surveys and mapping initiatives, to locate structures suitable for exploration of oil and gas in the country. However, the real thrust to petroleum exploration in country was achieved only after the setting up of Oil and Natural Gas Commission (ONGC) in 1955. The initial gas and oil pools were discovered in Jwalamukhi (Punjab) and Cambay (Gujarat) in 1958 respectively and in the same year Oil India Limited (OIL) was setup. Since then, these two (ONGC and OIL) have discovered over 260 oil and gas fields. So far, India has struck oil mainly in Assam, Bombay Offshore, Cambay, Cauvery, Krishna-Godavari, Tripura-Cachar, and West Rajasthan basins. The indigenous oil production increased at a modest level during the 1970's. The discovery of giant Bombay High field in 1974 in west coast offshore is the most significant event in India's upstream petroleum sector, providing a big boost to its oil and gas production. It is significant to note that until independence of the country, the petroleum industry was largely dominated by private entities. It was only after independence that the government took control of the sector. Moreover in 1970s Government of India vide its Resolution No. 224 dated 21st November, 1977, dismantled the Administered Price when oil crisis hit the country, nationalisation of international oil majors took place in the country. It was, after this that the Administered Price Mechanism was suggested by the Oil Coordination Committee. This mechanism was aimed to assure stabilisation of petroleum prices across the country. Moreover, through APM producers, refiners and marketers were compensated for operating costs and also procured a fair return on their assets. The dismantling of APM brought with it the freedom of private players to market the transportation of High Speed Diesel (HSD). Thus, private players assuming that they could fix the prices of HSD made large scale investments. However, the government intervention in the area continues as the government is still regulating the HSD price and is issuing oil bonds to the Public Sector Undertakings. The recent moves of the government to gradually deregulate the Petroleum, Oil and Lubricants (POL) sector has generated discontent among the people. In the run-up to complete deregulation, there are instances of increase in the domestic price of POL products that are proportionately more than the rise in their international prices. In the most recent instance (of 13th September, 2012), the diesel price was raised by Rs. 5 per litre at one go, even without any rise in international prices. These steps are being taken to eliminate the government subsidy on these products in a step-by-step manner. 1. 3DeregulationDeregulation of the POL sector is bound to eliminate the direct or indirect subsidies completely. And reduction in subsidy, according to the government, is the need of the hour in order to reduce the fiscal deficit as proportion to GDP. Deregulation is also necessitated in the current environment because if the government keeps subsidizing the public sector owned oil marketing companies (OMCs) like Indian Oil, Hindustan Petroleum and Bharat Petroleum, then the private companies like Reliance and others would not get a ‘ level playing field’ and they would not be able to compete in price. In this way, the present subsidy regime indirectly restricts the private players from entering the oil marketing sector. Hence, if the priorities of the government in power are the reduction of subsidies and ensuring a ' level playing field' for private players rather than containing inflation and generating employment and growth, it would opt for a policy of deregulation. " A market-determined pricing system for petrol and diesel can be sustained in the long-run by providing level playing field and promoting competition among all players, public and private, in the oil and gas sector" (Kirti Parikh Committee Report, 2010). 1. 4Govt. strategy for Petroleum Sector1. 4. 1Key ObjectivesTwo key objectives motivate the GoI's policy in India's downstream petroleum sector: (a) ensuring India's growing refined product demand is met at affordable prices over time; and (b) establishing India as a major global refined product exporter. Aside from its fiscal implications, India's current petroleum product pricing regime has implications for the achievement of these goals, and for the emergence of timely refining investments that are crucial to their achievement. To begin with, current pricing practices have made public-sector OMCs reliant on the GoI for working capital from period-to-period. Despite this, this paper finds that OMCs have invested strongly in refinery capacity in recent years. Between 2007 and 2012 – the years of India's 11th Five Year Plan – OMCs will have added over 600 000 barrels per day (bbl/d) in Greenfield refining capacity and close to 300 000 bbl/d in brownfield capacity. These will more than match India's rapidly growing refined product demand in this period. The OMC sector is therefore defined by heavy-handed regulation and lackluster commercial performance, yet robust investment, capacity addition and growth. 1. 4. 2India – a Global Refining HubPrivate-sector refinery investment in India, too, is shown to be robust in both the recent past and in the near future. From the commissioning of Reliance Industry Limited’s (RIL) Jamnagar II refinery in late 2008 to the scheduled commissioning of Essar Oil’s Vadinar II refinery in 2012, private-sector refiners will have added around 1. 2 million barrels per day (mb/d) of new refining capacity. This has been driven by: (a) private-sector refiners’ scope to profitably supply domestic Indian markets by selling wholesale to OMCs, thus avoiding exposure to managed prices; and (b) India’s significant comparative advantages as a base for export-oriented refining operations. As a combined result of public-sector and private-sector refinery investments in the recent past, India will emerge by 2012 as Asia’s largest refined product exporter, surpassing Singapore. India will remain one of Asia’s two largest refined product exporters for the foreseeable future. India’s sudden emergence as a global petroleum producing hub is likely to have far-reaching implications for regional product markets, increasing the depth of product flows and strengthening supply chains, especially for high-end industrial product and clean transport fuels. The establishment of India’s large-scale export-oriented refining sector marks the acceleration of a fundamental shift in the configuration of global refining in which mature economies increasingly look to production hubs in Asia and the Middle East to supply incremental refined product demand. 1. 5Marketing of petrol: an introductionMarketing has always been considered as a tool for markets with imperfect competition, where many sellers fight for consumers, they have differentiated products and lots of advertising and sales promotion various prices might also prevail in these markets (Palmer A.

2004. " Introduction to Marketing: Theory and Practice". India. Oxford University Press). On basis of these characteristics, it is intricate to comment that selling of petrol in India was anything but not about marketing. Since, none of the characteristics of Indian Petroleum Market of that time coincides with the characteristics of markets with imperfect competition. For example – during that time, the petrol selling companies need not fight for consumers and they (petrol selling companies) offered exactly the same product to the consumers (characteristic of a commodity) and that too at the same price. In other words, the history of marketing of petrol in India was defined and characterized by extreme government control and protectionism. Not only the marketing function, but all aspects of petroleum business, (exploration, refining, distribution or selling) were strictly regulated and protected. But, recently a big paradigm shift is taking place in the way petrol is being marketed. With deregulation, one of the largest markets, which was ' protected' and dominated by government regulated petroleum companies, is now open for private players, and hence, for the first time in Indian history, this market will witness the forces of marketing and competition in operation. For Indian consumers, petrol has been a ' commodity with a same price' for more than fifty-five years. Indian consumers have never seen ' brands of petrol' and different brands (of petrol) being sold at different prices. Hence, there was no question of brand loyalty to exist and for them ' petrol brands' are a new thing altogether as is differentiated pricing of petrol. Now the petrol selling companies will initiate the process to ' change the mind-set' of a nation with second largest population in the world; and simultaneously, the evolution and conversion of a ' very low involvement commodity' into ' high involvement brands'. For Indian Petrol Selling companies, because of protected environment, ' marketing' was never an issue, and its role was confined to ' selling' and ' distribution'. They enjoyed a monopoly like situation with demand always exceeding the supply. Petrol selling companies were doing business with social objectives (set by the government) and the word ' competition' was not allowed to exist and interfere. The scenario has suddenly changed with government declaring that it will be opting out of regulating the petrol companies and the petrol market. Old players found themselves amidst cut throat competition. Now, the Indian petrol market is having two categories of players based on their strengths. ' The new entrants' – (the private players), who are more professional and aggressive in approach and have a flair for marketing, and ' The old players' – (the Government regulated organizations) for whom ' marketing' has never been a strength but their strength is their enormous experience, understanding and knowledge of the Indian petrol market and its operations and most importantly, the extremely strong and set distribution network covering the most important locations in the market. Both types of players know that the market is huge and yet to be tapped and as with branding the early mover has an obvious advantage, so everyone is moving fast to grab the opportunity, as a result a sense of urgency and restlessness can be felt in the market as companies try to establish their brands as quickly as possible and to attract the customers with their brands and differentiating services. 1. 6In the wake of all of this the report presents a descriptive analysis of the downstream Indian petroleum sector, development and implementation of marketing strategies by the Petrol

Selling companies in the Indian market. The marketing strategy developed in this document will help service companies to: take a systematic look at their customers and markets, assess their own situation and capabilities and develop distinct actions to market their services. 2. 0LITERATURE REVIEWMarketing strategies and tactics are connected with taking decisions on different variables to influence mutually-satisfying exchange dealings and relationships. Characteristically, marketers have different tools they can use; these include mega marketing (Kotler, 1997) and also called 4Ps of marketing (McCarthy, 2002), among others. Marketing appears simple to describe, but very difficult to practice (Kotler and Connor, 1997). Organizational leaders in many firms have applied the so-called marketing concept, which may be easy or complex. The marketing idea and variants like the total quality management concept for example, are fundamentally concerned with satisfying customers' needs and wants beneficially. Creating and implementing efficient and effective marketing strategies which incorporate relevant dimensions of the marketing concept, engage the organic tasks of selecting a target market (customers or clients) in which to operate and implementing an efficient and effective marketing ingredient combination. 2. 1 Marketing StrategiesAccording to Woodward (2004) a marketing strategy for Petroleum Marketing Company comprises of five parts. 2. 1. 1Market Analysis and SegmentationThis market analysis considers both customers of oil and gas services (demand side) and providers of such services (supply side), mainly in the upstream part of the industry. 2. 1. 2Market SegmentsThe objective of market segmentation is to identify meaningful segments so that marketing activities directed at these segments are more effective than if they had been directed to all customers alike. Market segmentation tries to identify distinct behavior in customer groups. 2. 1. 3TargetingHaving appraised dissimilar segments, the company will make a decision which and how many segments to serve up. In further words, it has to decide which segments to target on. There are normally five blueprints of target selection. For solitary segment concentration, this is the simplest case; the business selects a single segment. For selective specialization, the company selects a number of segments, every objectively attractive and appropriate, given the firm's objectives and resources. There may be modest or no synergy among the segments, but every segment promises to be a moneymaker. It is becoming quite popular in radio broadcasting in which they want to appeal both younger and older listeners. For product specialization, the firm concentrates on producing a certain product that it sells to several segments. For marketing specialization, the firm concentrates on serving many needs of a particular customer group. For full market coverage, the firm attempts to serve all customer groups with the products that might need. 2. 1. 4DifferentiationFor the sake of obtaining a comparative advantage, developers try to identify the specific ways to differentiate its product. Differentiation is the act of designing a set of meaningful differences to distinguish the company's offering from other competitors' offerings. Market offering can be differentiated along five dimensions: products (features, performance quality, conformance quality, durability, reliability, reparability, style, and design), services (ordering ease, delivery, installation, customer training, customer consulting, maintenance and repair, and miscellaneous services), personal (competence, courtesy, credibility, reliability, responsiveness, and communication), channel (coverage, expertise, and performance) and image (symbol, written and audiovisual media, atmosphere, and events). 2. 1. 5PositioningPositioning is the act of designing the company's offering and image so as to occupy a meaningful and distinct competitive position in the target customers' minds. The factors for positioning include as follows:•Attribute•Benefit•User•Competitor2. 2Selling of Petrol – Marketing of ServicesThe word " service" is used to describe an organization or industry that " does something" for someone, and does not " make something" for someone (Silvestro and Johnston, 1990). " Service" is used of companies or firms that meet the needs and want of society such organizations are essentially bureaucratic (Johns 1990; Osuagwu, 1999). " Service" may also be described as intangible its outcome being perceived as an activity rather than as a tangible offering. Services include a wide range of activities and form some of the growing sectors of the economies of developed and developing countries. Services include professional services (legal, accounting, medical, management consulting, etc), general services (insurance, postal, telephone, transportation, internet, tourism, etc), maintenance and repair services, and services from marketing researchers and product manufacturers, among others. Oil and gas service is not a tangible thing like food, clothing and car. The main factor that affects a person’s demand for oil and gas service is that person’s attitude towards risks. The peculiarities of oil and gas services may create marketing programs that are different from those found in the marketing of tangible products. Sound and robust marketing strategies are important to the survival and growth of any business, including oil and gas business, considering the increasingly subtle, unstable and seemingly hostile business environments in which contemporary business organizations operate (McDonald, 2004 and Creveling, 2005). Therefore, in order to formulate and implement efficient and effective marketing strategies, business organizations should have a thorough and continuous understanding of the relevant environment that impacts on their marketing strategies. According to (Schnars, 1991), marketing strategy has been a salient focus of academic inquiry since the 1980s. There are numerous definitions of marketing strategy in the literature and such definitions reflect different perspectives (Li et al., 2000). However, the consensus is that marketing strategy provides the avenue for utilizing the resources of an organization in order to achieve its set goals and objectives. Generally, marketing strategy deals with the adapting of markeing-mix elements to environmental forces. It evolves from the interplay of the marketing mix elements and the environmental factors (Li et al., 2000). Therefore, the function of marketing strategy is to determine the nature, strength, direction, and interaction between the marketing mix- elements and the environmental factors in a particular situation (Jain and Punj 1997). According to (McDonald, 1992), the aim of the development of an organization’s marketing strategy development is to establish, build, defend and maintain its competitive advantage. Managerial judgment is important in coping with environmental ambiguity and uncertainty in strategic marketing (Brownie and Spender, 1995). Marketing strategy development has the following peculiarities: 1. It requires managerial experience, intuition and judgment (Little 1990; Mintzberg

1994a; 1994b; 1996; Brownlie, and Spender, 1995; McIntyre, 1992; Alpar 1991). 2. It carries a high level of uncertainty and ambiguity (Brownlie and Spender 1995). 3. It is business sphere knowledge- intensive (McDonald and Wilson 1990; Duberlaar et al 1991). 4. It entails a broad spectrum of strategic information (Mintzberg 1994b ; Berry 1997). 5. It is a process which usually involves subtle decision making by organizational managers based on exhaustive examination of relevant environments and a synthesis of essential and useful pieces of information (Mintzberg, 1994a and 1994b)2. 3Definition of Strategic MarketingAlthough same studies employed diverse methodologies and measures, they shared a common interest in exploring the financial performance consequences of the basic tools, techniques, and activities of formal strategic marketing i. e. systematic intelligence-gathering, market research, SWOT analysis, portfolio analysis, mathematical and computer model of formal planning meetings and written long- range plans. According to Allison and Kaye (2005), strategic marketing is making choices. It is a process designed to support leaders in being intentional about their goals and methods. Bryson (2004; Anderson 2004) observes that strategic marketing is a disciplined effort to produce fundamental decisions and actions that shape and guide what an organization is, what it does, and why it does it, with a focus on the future. Woodward (2004), argues that strategic marketing is a process by which one can envision the future and develop the necessary procedures and operations to influence and achieve the future. Strategic marketing, according to (Ulrich and Barnet , 1984; Ansoff, 1988; Berry, 1997; Gup and Whitehead 2000; Bradford and Duncan, 2000), is the process of determining (i) what your organization intends to accomplish and (ii) how you will direct the organization and its resources towards attaining the goals set over the coming months and years. In other words, strategic marketing is a tool for finding the best future for your organization and the best path to reach the desired destination. Higgins and Vincze (1993); Mintzberg (1994); Pearce and Robinson (1994) are of the opinion that strategic marketing can be defined as the process of using systematic criteria and rigorous investigation to formulate, implement, and control strategy, and formally document organizational expectations. Kudler (1996), views strategic marketing as the systematic process of determining the firm's goals and objectives for at least three years into the future and developing the strategies that will guide the acquisition and use of resources to achieve the set objectives.. Hunsaker (2001) observes that strategic plans apply to the entire organization. Strateic marketing on the other hand does not necessarily expect an improved future or extrapolatable past. (Hinterhuber 1992; Steiner, 1997; Ginsberg, 1997; Wing, 1997; Paley, 2004), argued that a manager is not necessarily a strategist and that a manager's vision is also not an entrepreneurial vision. Realizing however that strategic marketing process does not specify how plans should be translated into action, the issue of strategic marketing implementation led to the evolution of strategic marketing management. 2. 4Gist of Major Research Paper Studied2. 4. 1Marketing Strategy in Oil Sector, Dr. Ahmad Assaf Alfadly, Assistant Professor, Faculty of Business Administration, Arab Open University, (AOU), KuwaitThis article evaluates the marketing challenges faced by the Kuwait National Petroleum Company (KNPC). When global companies such as KNPC experience extreme criticism, they usually are tasked with identifying optimum solutions to reverse the negativity. This analysis provides some potential marketing strategies that can be implemented to resolve the issues within this article. 2. 4. 2Strategic Marketing Strategies on the Performance of Firms in Nigerian, Oil and Gas Industry, Akinyele, Samuel Taiwo, School of Business Studies, Covenant University, Ota - Nigeria. The purpose of this paper is to investigate the impact of strategic marketing strategies on the performance of firms in the downstream sector of the Nigerian oil and gas industry. The specific objectives of the study include determining how the industry environmental performance indices can affect the various strategies and factors of Nigerian oil and gas marketing companies; determining how inter-industry marketing commitment and company goal actualization can affect the performance of Nigerian oil and gas marketing companies. This study adopted a survey research methodology to examine the strategic marketing strategies of Nigerian oil and gas marketing companies in an attempt to attain their desired level of performance. Three hundred and forty one (341) respondents were chosen from the target population of two thousand three hundred (2300) through stratified random sampling. Out of the 341 copies of the questionnaire given out, two hundred and eighty six (286) copies representing 83. 87% responses were received for analysis. Two hypotheses were formulated from the research questions. Analysis of Variance, Pearson Moment Correlation Analysis, Factor Analysis among other statistical tools were used in testing the hypotheses. The overall results suggest that strategic marketing strategies are a driver of organizational positioning in a dynamic environment, and that it helps to enhance the development of new product/service for existing markets. These findings, along with other interesting findings of the study, are discussed. From the empirical and anecdotal managerial evidence as well as from the literature implications are drawn for the efficient and effective strategic marketing strategies in the igerian oil and gas industry. Based on the findings of the study, the concepts and principles of total quality management within a holistic framework it is recommended that (i) efforts should be made by organizational marketers towards understanding the relevant economic factors that affect both clients' behaviour and the strategic options that may be adopted to cope with such behaviours; (ii) in a constantly changing business environment, firms can adopt different strategic marketing strategies since the yardstick is the enhancement of business performance. 2. 4. 3The Oil and Gas Sector Overview in India, Jai Mavani, Executive Director, KPMG India Private Ltd. KPMG IN INDIAThis document provides an overview of the various segments comprising the oil and gas sector in India. It aims at providing the reader a basic understanding of the players, size, major developments and dynamics of the sector across the value chain. Accordingly, this document comprises chapters overviewing the Indian economy and the Energy Sector, the Upstream sector, Coal Bed Methane, Refining, Gas Transportation and Distribution, LNG, Petroleum Product Pipelines, Retailing of Fuels and the Taxation Regime applicable to the oil and gas sector. Finally, it sets out how KPMG can assist you in achieving your business goals in the oil and gas sector. The oil and gas sector in India presents a significant opportunity for investors and is exhibited to demonstrate robust growth in line with the growth of the Indian economy. The New Exploration Licensing Policy (NELP), conceived to address the increasing demand supply gap of energy in India, has proved to be successful in attracting the interest of both domestic and some foreign players. The success of Cairn India and Reliance Industries Limited in their Indian operations has underscored this. Other segments such as Refining, LNG, City Gas Distribution etc. are also seeing some action. India is now surplus in refining capacity and aims to establish itself as a refining hub. The Petroleum and Natural Gas Regulatory Board aims to make available Piped Natural Gas (PNG) and Compressed Natural Gas (CNG) in new cities across the country, besides facilitating the construction of infrastructure to transport natural gas to demand centres. The lack of available supplies has so far hindered the growth of this segment. In addition, some gas-based power plants have been operating at low load factors, owing to the shortage of fuel. The increased availability of hydrocarbons from domestic sources is thus perceived as necessary to sustain the rapid growth of the Indian economy. I hope that this document shall provide you with a broad understanding of the oil and gas sector in India across various segments. The oil and gas sector in India has been instrumental in fuelling the growth of the Indian economy, hence presenting a significant opportunity for investors in the years to come. The government has also been doing its bit in recent times to to deregulate the industry and encourage greater foreign participation. The New Exploration Licensing Policy (NELP), conceived to address the increasing demand supply gap of energy in India, has proved to be successful in attracting the interest of both domestic private sector players and some foreign players with eight rounds of bidding, with Reliance Industries and Cairn being particularly active in this arena . Other segments such as Refining, LNG, City Gas Distribution etc. are also seeing some action. India is now surplus in refining capacity and aims to establish itself as a refining hub due to various geographical aspects in its favour as well. New refineries may eventually be built by domestic companies and in partnerships as well, with Reliance Industries doubling the size of its already dominant refinery in order to meet future products demand. Moreover, the government is planning its first ever offer of shale gas exploration in 2011, a potential game-changer with regard to the price economics of the oil and gas sector. This document intends to provide the reader with a concise overview of the various segments comprising the oil and gas sector in India and a basic understanding of the players, size, major developments and dynamics of the sector across the value chain. An attempt has been made to summarize all these aspects in the document giving facts and our views and analysis regarding this space. Keeping with this, the document apprise us about the Energy Market, the Upstream sector, Coal Bed Methane, Refining, Gas Transmission and Distribution, LNG, Shale Gas, Retailing of Fuels and the Taxation Regime specific to the Indian oil and gas sector2. 4. 4Deregulation of the Indian Petroleum Sector- Legal Issues and Challenges, Sachin Datta, Advocate and Partner, ALG India Law OfficesThe attempt in India and the experience so far of deregulating its Petroleum sector offers some interesting insights. It is also throwing up challenges that will have to be met in times ahead. A successful deregulation policy requires not only a reduction in the area of executive control and policies but also a regulatory regime to take its place such as through the proposed Petroleum Regulatory Board Bill, 2002. In such a scenario, there is scope for Legal services in " delivering" this regulation to the industry. This article examines the scope of such legal services and the issues involved. 2. 4. 5What Are The Challenges And Future Prospects Of India's Petroleum Products Refineries?, Ruqayah Olowonirejuaro, MSc candidate in Energy Studies specialising in Oil and Gas Economics at the CEPMLP, University of Dundee, UKThe petroleum refining industry is a vital link in the energy chain in many developing and industrialised countries as it plays a key role in providing energy for all sectors of any economy. The structure, economic conditions, and developments in the industry are therefore important matters of national interest. In recent times, significant changes have taken place in India's refining industry with resultant challenges. This paper seeks to evaluate the challenges faced by India's petroleum refining industry in view of its recent performance and discuss the industry's future outlook. Pricing is identified as a most important challenge which if addressed and combined with other complementary remedies could help maximize the industry's potentials. The oil refining industry is the cornerstone of a modern economy (Seneviratne, 2006)1. Refined Petroleum products remain fundamental to our economic life – in everybody's daily life and economic activities of the nation (Wauquier and Favennec, 2001)2 ranging from domestic cooking to transportation, employment, etc. Rapid economic growth in many developing countries has led to increased demand for oil products (Tang, 1994)3. As such, the refining industry has grown rapidly in such countries whether or not there is crude oil production in the domestic scene. Asian developing nations have experienced significant growth in petroleum product demand and refinery expansion over the years (Tang, 1994). Between 1976 and 1993 for instance, oil product demand and refinery capacity expansion recorded average annual increases of 5. 2% and 4. 3% respectively. Though in comparison with world figures, there was in effect no change recorded for the same period, the considerable gains in the region's crude oil production in the 1970s are believed to have also facilitated refinery expansion. This trend of rising demand for petroleum products coupled with the concentration of petroleum reserves in few geographical areas as well as the difference in crude quality and environmental legislations amongst other factors pose challenges as well as opportunities for the global petroleum refining industry as a whole. The ability of India's refining industry to meets its economic challenges will likely determine, in part, the nature of the energy challenges facing India, taking cognisance of the fact that it is a developing country with growing demands. This paper seeks to describe the recent performance of India's petroleum refining industry, to evaluate the nature and effects of the challenges facing the industry and discuss future outlook for the industry. 3. 0OVERVIEW OF OIL AND GAS INDUSTRY IN INDIAThe Indian oil and gas sector is one of the six core industries in India and has very significant forward linkages with the entire economy. India has been growing at 8-9 per cent annually and is committed to accelerate the growth momentum in the years to come. This would translate into India's energy needs growing many times in the years to come. Hence, there is an emphasized need for wider and more intensive exploration for new finds, more efficient and effective recovery, a more rational and optimally balanced global price regime - as against the rather wide upward fluctuations of recent times, and a spirit of equitable common benefit in global energy cooperation.

3. 1Exploration and Production (E&P)The growing demand for crude oil and gas in the country and policy initiative of Government of India towards increased E&P activity, have given a great impetus to the Indian E&P industry raising hopes of increased exploration. 3. 1. 1Crude Oil & Gas ProductionOil and Natural Gas Corporation Limited (ONGC) and Oil India Ltd. (OIL), the two National Oil Companies (NOCs) and private and joint-venture companies are engaged in the exploration and production (E&P) of oil and natural gas in the country. Consequent upon liberalization in petroleum sector, Govt. of India is encouraging participation of foreign and Indian companies in the exploration and development activities to supplement the efforts of national oil companies to narrow the gap between supply and demand. A number of contracts have been awarded to both foreign and Indian companies for exploration and development of fields on production sharing basis. Exploration and Production (E&P) activities in the country have been intensified with the New Exploration Licensing Policy (NELP). Six bidding rounds have been successfully undertaken. A total of 162 blocks have been awarded. Under the NELP-VII Round, the Ministry had received 181 bids for 45 exploration blocks. On 20th November 2008, the government decided to award 44 blocks to the winning bidders. With this, the total number of blocks brought under exploration exceeded 200. 3. 2Crude Oil RefiningIndia, with its current capacity of around 180 million tonnes per annum (mtpa) is poised to emerge as a major refining hub, with considerable capacity additions planned over the next few years. Of a total of 20 refineries in India, public sector units have a capacity of 107. 5 MMTPA while private sector players comprising of RIL and Essar have a capacity of close to 72

MMTPA. Refinery-wise Current and Proposed CapacityAs on March 31, 2010 Proposed as on March 31, 2013IOC 51. 2 70. 7BPCL 21. 5 23. 5HPCL 13. 8 18. 3MRPL 11. 82 14. 82CPCL 10. 5 10. 5NRL 3. 0 3. 0RIL 62. 0 62. 0Source: Company Annual Reports; IndustryThe country has further large expansions planned and is aiming to emerge as a refining hub even as global refining markets have tightened with the closure of small refineries in North America and Europe mainly due to challenges in investing in cleaner fuels and high compliance costs. In addition, permits for Greenfield refineries are hard to obtain in these countries due to the environmental concerns. Therefore, capacity addition is primarily coming from emerging economies like India, China and some Middle Eastern countries. Many of the private sector refineries are focusing on the export market. 3. 3Land DevelopmentCutting, filling, leveling, etc. of the land at the proposed project site has to be done as per requirement. Land development has to be carried out along with construction of roads, culverts, drains, sewers, etc. for proposed plants area according to the layout. 3. 4Plot PlanThe preliminary plot plan has been prepared and attached here as Drg No: 4449-PNPL-01. 3. 5Storm Water Disposal & Effluent DisposalIt is proposed to connect the storm water drainage from the complex to nearest drainage. The liquid effluent shall be treated in Effluent Treatment Plant and treated effluent meeting MINAS standards shall be used for Green belt irrigation and back up for fire water. 3. 6Locational ConsiderationsThe proposed site is located in proximity to the Essar Oil Limited’s CBM Block. It is easily accessible due to its proximity to the national road and rail network. The site can be reached by road as it is situated on the National highway NH2. The electrified Broad Gauge railway line between Howrah and Delhi also passes close to the site. The nearest railway station is Panagarh, which is about 5 kms from the site. After development of suitable Railway Siding with connectivity from nearby railway station, all major equipment required for the project can be transported to the site with ease. Distinct location considerations:☔The proposed project is located in acute Urea deficit area☔There is ready market of ~ 4 MMTPA of Urea in the Eastern States☔There is no other operating plant in radius of 800 km from Burdwan☔There will be advantages of freight on Product distribution☔MFCL shall be able to supply Urea within shorter lead time. 4. 0THE DOWNSTREAM PETROLEUM SECTOR: POLICY GOALS AND REGULATORY ENVIRONMENT4. 1ObjectiveBefore growth, trade and investment dynamics of India’s downstream petroleum sector can be analysed, it is necessary to outline the policy goals defined by the GoI for the sector. Similarly, the regulatory framework that is in place, both governing the sector and assisting in the achievement of these policy goals, needs to be outlined. 4. 2Key policy goals in Indian petroleum refining and retail4. 2. 1 The government of India’s 12th Five-Year Plan (covering the years 2013-18) builds on the IEP of 2006 to outline the key policy goals for India’s refining and retail sector. These policy goals are fourfold: 1. Market-based pricing throughout the downstream value-chain. 2. Significantly enhanced refining capacity to:(a)meet growing Indian demand, in order to allow economic growth and standard of living appreciation; and(b)Establish India as a competitive liquid fuels exporter to take advantage of expanding fuels demand in East- and South-East Asia. 3. Ensuring Indian refineries are equipped to process cheap, sour and heavy crudes while still producing internationally-recognised clean-product grades. 4. Maintaining a streamlined, enabling sectoral regulatory framework that stimulates private sector and joint-venture investment in order to meet goal (2) above. 4. 2. 2 Creating an Indian liquid fuels exporting hubWithout doubt, the most pervasive issue in the Petroleum and Natural Gas chapter of India's 11th Five-Year Plan is the proposed establishment of India as a world-competitive exporter of refined products – as articulated in Policy Goal 2(b) above. One of the few thrust areas for the petroleum and natural gas sector as a whole is the " promotion of India as a competitive and economically viable refining destination, to service both the domestic and export markets", a project that rests on the emergence of excess refining capacity in India in the medium-term. The Plan states that, " the Ministry of Petroleum and Natural Gas and companies are taking the initiative to explore the potential for an export hub in India, based on the export opportunities available in Europe and Asia". The Plan includes a cost-benefit analysis for emerging export refining capacity in India, and concludes that " it is an opportune moment for the domestic refining industry to take on the challenge and to make India a major global refining destination". India's emergence as a world-competitive liquid fuels export hub depends on large-scale refinery investments by both OMCs and private-sector refiners. Of course, the achievement of high levels of investment in export-oriented refinery capacity is, in turn, partly reliant on the regulatory conditions facing India's downstream sector. The regulatory framework governing the downstream sector is outlined below. 4. 3An institutional framework for policy achievement and sectoral growth? The key day-to-day role of the GoI in the downstream petroleum sector (outside of its arm’s length control of OMCs) is to provide an enabling regulatory framework that fosters certainty, timely investment and growth in the sector. In this way, Policy Goal 4 is critical to achieving the other major Policy Goals, and especially the objective to establish India as a refining hub. As the 11th Five-Year plan notes, " actual capacity additions depend on several factors including … regulatory conditions, duty structure and refining margins". This section will briefly outline the regulatory framework governing India’s downstream sector. It asks: to what extent has the GoI put in place structures and institutions to meet its key policy goals? What is the nature of the regulatory framework governing the downstream petroleum sector? 4. 3. 1Downstream regulationsThe Petroleum and Natural Gas Regulatory Board (PNGRB) was established in 2007 as the downstream sector regulator, tasked with regulating the refining, processing, storage, transportation, distribution, marketing and sales of petroleum products and natural gas. It does not, however, authorise refinery infrastructure construction, which is controlled by MPNG, and has no role in market pricing, or pricing policy. The key practical function of the Board relates to (a) its role as court of arbitration in disputes within the downstream sector; and (b) its powers to release tenders for, and grant of authorisation to lay, build, operate and expand cities natural gas distribution networks. PNGRB has powers to investigate and litigate against downstream operators for monopolistic behaviour; register entities to market and retail petroleum products, and monitor these entities for cases of adulteration; authorise operators to lay product pipelines, and determine whether pipelines are private- or common-carrier (based on specific criteria); and regulate access to pipelines and pipeline transportation rates. PNGRB also monitors prices through the downstream value-chain, including the adherence to maximum prices set by the GoI; and determines and enforces technical standards and specifications relating to downstream activities. The establishment of PNGRB is clearly a necessary step in the evolution and maturation of India's downstream sector, providing investors with greater legal certainty and more transparent regulatory oversight and arbitration. Some critics, however, have accused the GoI of establishing a " toothless" PNGRB, without authority over the two key areas of product pricing and refinery investment. 4. 3. 2Downstream business environmentThe key aspects of India's business environment are examined below: a)Foreign investment policy: India's foreign investment regime has been liberalized significantly since the late-1990s. All private-sector refining projects have automatic foreign investment approval and may be 100% foreign-owned. In the case of Public-Sector Undertakings, however, foreign equity has to be approved by India's Foreign Investment Promotion Board (FIPB), and cannot exceed 49% of total ownership. Transactions on the current account are fully convertible, though India retains several controls on capital account convertibility. While India has considerably increased the access of foreign investors to India's downstream sector through liberalisation of foreign investments approval process, there remain significant " behind-the-border" barriers to investment. While foreign capital projects may be approved fairly simplistically, once approved, projects are required to meet a significant number of changeable, opaque, complex and slow-moving state and GoI authorisations and procedures, for insurance purposes, demographic and environmental impacts, tax compliance, labour standards, etc. This considerable red-tape acts as the key barrier to investment in India. India's Special Economic Zones (SEZs) and Export-Oriented Units (EOUs) (see below) were established largely to assist businesses investing in key industries to skirt this extensive red-tape. b)Tax policy: India maintains a relatively cumbersome tax regime compared to similar economies (see, for example, China, and Indonesia). The standard corporate tax rate is high, at 42%, and the maximum personal tax rate is also high, at over 33%. Capital gains on assets held for less than three years are taxed as income. Long-term gains are taxed at 20%. Most significant however, is the myriad of taxes and duties levied on various products, and imports and exports of products. At the level of the central government, domestically produced petroleum products are subject to a central excise tax, additional excise tax and a special additional excise tax – each of which is different from product to product. At the state level, products are then subject to a VAT, the rate of which is different from state-to-state and from product-to-product. Products are also subject to a variety of other taxes at the discretion of states – such as, for example, " entry tax" in Uttar Pradesh and Madhya Pradesh, and " Development Tax" in Haryana. Product is also subject to city taxes and levies, in some locations, e. g., Chennai and Hyderabad. Finally, imported petroleum products are subject to various rates of customs duty, additional customs duty and special additional customs duty, each of which is different from product-to-product. This complex, changeable and highly-differentiated tangle of taxes and duties reduces margins for downstream marketers and retailers (assuming that all additional taxes cannot be passed onto consumers). More importantly, as the

11th Five-Year Plan acknowledges, the tax system " creates a business environment fraught with uncertainties, anomalies and geographic complexities". One of the key components of regulatory reform under Policy Goal 4 in the 11th Five-Year Plan is to streamline, simplify and standardise the petroleum product tax regime to ensure universal tax structures between jurisdictions and products. Thus far, little progress has been made on this issue given the interest of states in protecting their revenue raising autonomy. c)Legal environment: India's downstream legal framework is extremely complex, with a variety of often conflicting regulations still in place. India's court system in general is prone to lengthy delays, with most courts lumbered with numerous unsettled dispute cases. In ordinary cases, foreign downstream investors have to manoeuvre through a myriad of rules and certifications to obtain the estimated seventy separate approvals needed for setting up business in India (unless it is operating within a SEZ or EOU). 30 Meanwhile, delays in hearings and judgements are routine. There is a perception within the international business community that, in general, India lacks effective respect for the sanctity of contract. However, there are an increasing number of agreements that provide for arbitration, such as through the International Centre for Alternative Dispute Resolution or, in serious cases, through multilateral conventions like the Geneva Convention. The establishment of the PNGRB, in particular, has added a degree of certainty and oversight to downstream business practice. On the whole, the legal system governing India's downstream sector is in a state of transition, with the end goal of being more responsive to the needs of foreign businesses and the private sector. Currently, however, several shortcomings, primarily in terms of efficiency of procedure, exist in the legal system. 4. 4Assessing India’s downstream sector regulatory frameworkThe regulatory framework and business environment in India’s downstream sector is evolving to increasingly cater to the needs of private -sector investors (e. g., in the relaxation of foreign investment controls), however there remain considerable weaknesses. As mentioned, these weaknesses stem largely from the institutionalised red tape cluttering India’s legal, regulatory and financial systems. The establishment of single - window project and investment clearance through SEZ and EOUs has remedied this condition to some extent. However, the very process of establishing SEZs and EOUs is itself quite complex, expensive and time -consuming. Further, SEZs have, in their principle, received a great deal of criticism in India and externally:•A concerted grass-roots movement by various groups in India has called loudly for a moratorium on the establishment of new SEZs, which effectively cede land away from India. This has placed the future of the SEZ policy in doubt.•The World Bank has criticised the GoI’s practice of locating SEZs in underdeveloped regions to foster development, rather than in strategic trade facilitating locations. According to the World Bank, even SEZs established in coastal districts (such as Jamnagar) focus activity away from the coast itself in order to develop inland districts.•SEZ and EOU programmes have been censured for creating perverse incentives in Indian petroleum product markets. Conducting business as an EOU, or within a SEZ (as RIL’s Jamnagar complex does) requires corporations to look to export product as much as possible to meet the conditions of operation. The situation currently exists, therefore, that OMCs are required to import petroleum and diesel to meet domestic product demand (and pay customs duty on theses imports) while these same products are simultaneously exported by private-sector refiners. To this extent, it is increasingly necessary to reform the domestic regulatory environment as a whole, rather than to rely on flawed " exceptionalist" export promoting policies and programmes. This is likely to be a painstaking and drawn-out process. In the downstream sector, however, the GoI can make a handful of key reforms that are likely to significantly improve the business environment. The establishment of the PNGRB, for an example of such strategic reform, has provided investors with added legal certainty, and more transparent regulatory oversight and arbitration. Of most pressing concern on this reform agenda might be the restructuring of the muddled system of taxes, duties and levies on petroleum products. As promised in the 11th Five-Year Plan, the GoI should move beyond scoping studies of downstream tax reform to concretely implement the unification of separated state product markets, to properly standardise the VAT, and to remove the multitude of state tax anomalies and exceptions. This would, of course, have to be undertaken in collaboration with state governments – a significant undertaking. Tax reform is crucial, however, to reduce what the Planning Commission calls " the uncertainties and geographic complexities" faced by investors in India’s downstream sector. Another key institutional pillar for well-functioning product markets, for example, is the establishment of a petroleum product exchange. By substantially reducing transaction costs, increasing competitiveness and efficiency and greatly augmenting market transparency, the creation of such a market exchange is a crucial step in establishing the institutional basis for India to become a refined product trading hub.