

Strategic Directions for the Middle East Petrochemical Industry – Outlook for Development

Prospectus

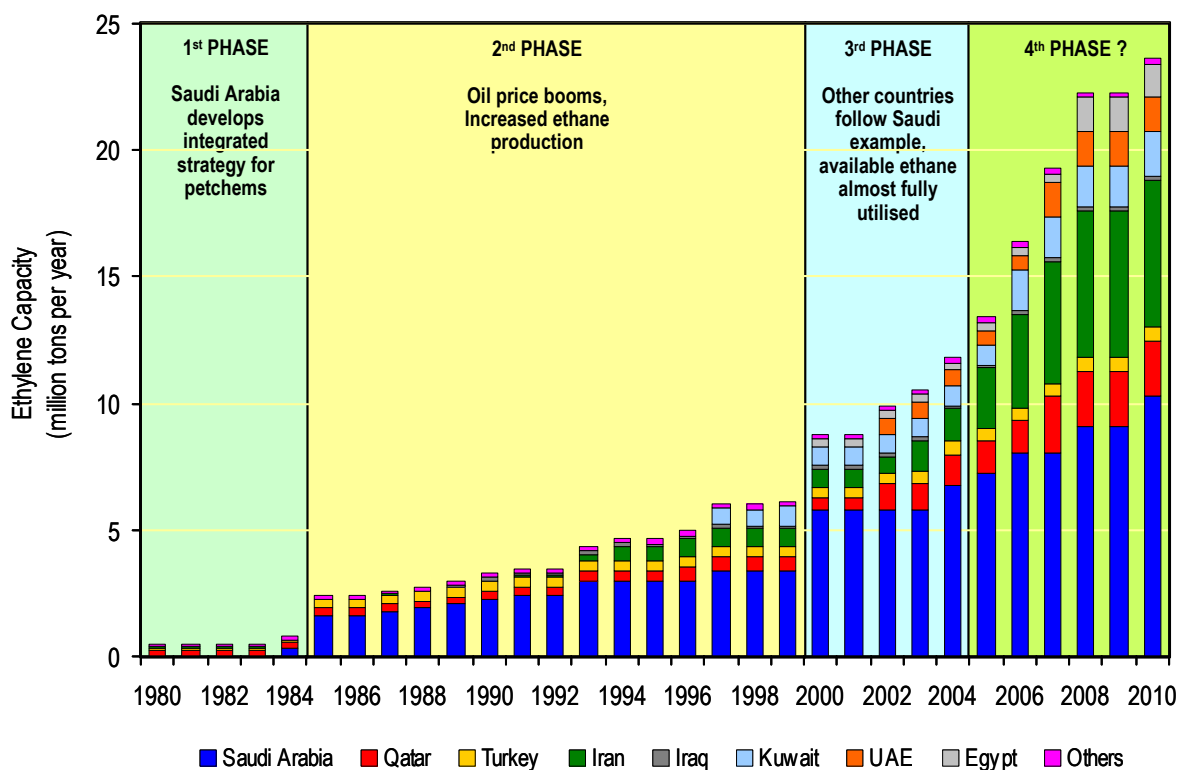


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INTRODUCTION

The initiative that began in the late 1970s to add value to the gas flared at the crude oil well head in Saudi Arabia, became the cornerstone of the extremely competitive and robust Middle Eastern petrochemical industry we see today. After witnessing this success story, other countries in the region followed suit, promoting projects based on ethane extracted from associated gases. The availability and cost of this ethane, therefore, formed the main driver for developing petrochemical projects in the region as shown below.

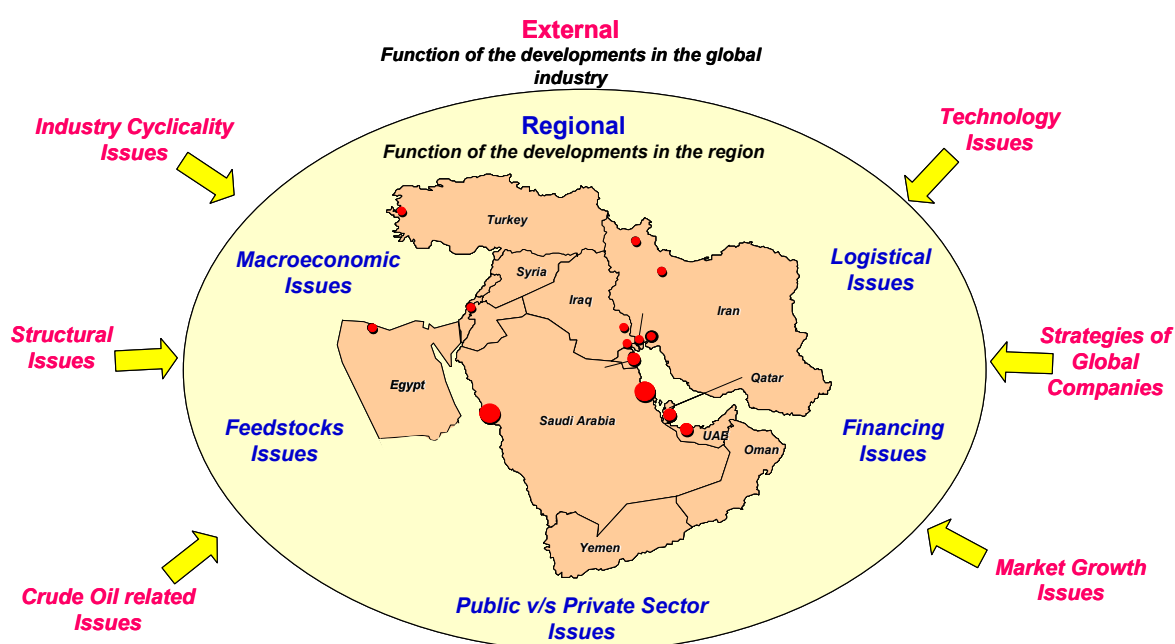
ETHYLENE CAPACITY GROWTH IN THE MIDDLE EAST



The region has already embarked on what can be termed as the 4th Phase, however, a number of fundamental changes have occurred in the overall industry structure. Going forwards the industry faces a number of challenges:

- Almost all the ethane available from current sources is fully utilised. The availability of ethane for the almost 9 million tons per year of planned/announced capacity is questionable.
- The pressure on the governments for social reforms is increasing the pressure on State resources in almost all the countries. In order to tackle this issue, the States are attempting to promote/enhance private sector involvement.

- The bulk of the developments being witnessed in the region focus around enhancing production of natural gas (Gas Initiative (Saudi Arabia), North Field Development (Qatar), South Pars field Development (Iran), Mediterranean Sea area Development (Egypt) etc.) essentially to provide gas for the substantial increase in power demands
- Are there any synergies between this enhanced gas production and potential petrochemical plants? In addition to these regional factors, external factors will continue to influence the overall profitability of the industry as shown below:



With this as a backdrop, it is pertinent to ask:

- What is the likely direction of development of the Middle East petrochemical industry?
- What steps should be taken to ensure that a robust industry continues to develop in the 21st century?
- Is there a need to re-structure the industry to reflect likely future developments?
- What are the key factors that will impact local production in the region, and what are the “critical success factors” for the regional producers in the future?
- Will commodity petrochemicals continue to remain the key to the regions dominance?

The region will represent a **significant investment opportunity** for many, and a **potential threat** to others. How this region develops and how it takes advantage of its sources of competitive advantage, should be of prime importance to planners globally. The changes and evolution of the Middle East petrochemical industry created the need for this strategic analysis.



This study, which was concluded in April 2002, has been designed to be of benefit to all such organisations in meeting the challenges they face in participating or dealing with this fast-developing industry. It provides the necessary insight required by existing producers to plan for the future; by global companies intending to invest in the region, for companies considering the region's global impact and for planners; which may include Banks, Financial Institutions, and Agencies responsible for addressing regional policy issues.

In this environment of change and opportunity, Chem Systems (based in London, UK) and Gulf Organization for Industrial Consulting (GOIC, based in Doha, Qatar) are offering this recently concluded, in-depth study of the Middle Eastern Petrochemical Industry. This synergistic teaming of Chem Systems and GOIC has ensured that both regional "on the ground" issues, and their impact on the overall global industry have been examined



COST OF THE STUDY

The cost of the study, “**Strategic Directions for the Middle East Petrochemical Industry – Outlook for Development**” is £17 000, and one (1) copy of the report will be delivered within two weeks of receiving a confirmation of the order. Each copy of the report will be accompanied with a Compact Disc (CD-ROM) also, with all the sections of the report presented in a PDF format. Additional copies of the report can also be ordered for an additional cost of £300 per copy, which represents the costs associated with printing and compiling the report.

The Table of Contents, along with a brief description of the Sections in the report, is also presented to highlight the coverage of the report.

COVERAGE OF THE REPORT & TABLE OF CONTENTS

1. COVERAGE

The structure of the report was determined by exhaustive brainstorming sessions, both within the organisations and also with outside companies to determine what are the broader areas of concerns regarding the future of the petrochemical industry in the Middle East. The following were the shortlisted, high level issues:

- **Macroeconomics** - covering economic growth, structure of GDP, broad investment policies including financing etc.
- **Feedstocks** - covering availability and pricing (current and future) of ethane, LPG and natural gasoline/naphtha.
- **Capacity Growth** - covering supply and demand of ethylene, propylene, aromatics and methanol and their major respective derivatives.
- **Potential Petrochemical-Refinery Integration Opportunities** - covering categorisation of various refineries in the region to assess their suitability for integration with petrochemical production.
- **Global Markets Development** - covering demand growth in the major import markets to assess whether exports from the region would be able to find a home.
- **Emerging Technologies** - covering various new technologies that could be suitable for the Middle East considering the nature of feedstocks available in the region.
- **Competitiveness** - covering the current and future competitiveness of production in the region to assess the impact of the various developments on the cost of production and profitability.

This is the sequence in which the sections of the report have been arranged. The sections provide in-depth analysis of the individual issues based on interviews with the key players and the available in-house expertise and data. Countries covered in this study are:

- | | |
|------------------------|-----------|
| - Saudi Arabia | - Iran |
| - Qatar | - Kuwait |
| - Turkey | - Egypt |
| - United Arab Emirates | - Oman |
| - Iraq | - Bahrain |
| - Syria | |

Historical data has been provided for the years 1990, 1995-2000, estimates for 2001, and forecasts for the period 2002-2010.

The report concludes with summaries of the key issues identified as a result of the above analysis, and recommendations to ensure that the current developments result in an even more robust petrochemical industry in the future.

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