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ABIC TAIFER
FERTILIZER
PROJECT

SABIC TAIFER FERTILIZER PROJECT

A JOINT VENTURE BY

SAUDI BASIC INDUSTRIES CORPORATION

AND

TAIWAN FERTILIZER COMPANY

EASIBILITY
STUDY

VOLUME II

FEASIBILITY STUDY
VOLUME II
INTRODUCTION

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SABIC-TAIFER FERTILIZER PROJECT

FEASIBILITY STUDY

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SABIC

TFC

III - Development of the Project

IV - Partners' Undertakings

I. FERTILIZER INDUSTRY IN SAUDI ARABIA

SECTION I

FERTILIZER INDUSTRY IN THE SAUDI ARABIA

A. NITROGENEOUS FERTILIZERS:

The fertilizer industry in the Kingdom of Saudi Arabia started with the establishment of the Saudi Arabia Fertilizer Co. (SAFCO) Plant in Dammam; prior to that the Kingdom's needs of chemical fertilizers were imported from abroad. After SAFCO's establishment the Kingdom became self sufficient in nitrogeneous fertilizers (i.e. urea) and started exporting substantial amounts to various countries in the world.

SAFCO's Fertilizer Complex was completed in 1970 and started production in that year; it included a modern 600 MTD ammonia plant utilizing mainly centrifugal compressors and high pressure steam turbine drivers and 1000 MTD urea plant based on conventional Stamicarbon technology. The complex included also a small sulphuric acid plant and it is self sufficient in utilities.

In the early years of operation of this complex many technical problems were faced which resulted in a loss of production. Later the company's management succeeded in improving the performance of the complex, which resulted in substantial increases in exports of urea from the Kingdom. This established the Saudi fertilizer industry as a viable entity.

During the years 1970 to 1978 the exported urea from the Kingdom totalled about 1.5 million ton, while it is expected that the production of SAFCO's Plant during this year will approach the plant's yearly production capacity of 280,000 MTY (see Table 1).

The exports of fertilizers from the Kingdom - which are handled directly by SAFCO - are shipped to many regions in the world renging from South East Asia to North America (see Table 2). It can be noted from Table 2 that the Saudi fertilizer exports were able to penetrate quite successfully in all parts of the world. The majority of the deliveries were however to countries for which the geographical location of the Kingdom gives the Saudi fertilizer industry a major advantage over other conventional exporters through lower shipping costs.

In the early start up years SAFCO depended to a great extent on the technical help of a foreign company for operating its fertilizer complex and for marketing the product. Later SAFCO with its own staff, which includes a substantial proposition of qualified Saudies, assumed all the responsibilities for operating and managing its plant operations and marketing its product.

B. PHOSPHATES FERTILIZERS:

In the phosphates fertilizers field there were two major discoveries of phosphates deposits in the north and the north west regions of the Kingdom. The General Petroleum and Mineral Organization (PETROMIN) is active with the participation of Granges Co. of Sweden in carrying out advanced assessment studies to determine the recoverable reserve and the recovery plan.

A Saudi Company was also formed with foreign partner for the processing of phosphates fertilizer; its plans which are now in an advanced stage involve the establishment of a 143,000 MTY MAP unit, a 165,000 MTY DAP unit and a 385,000 MTY TAP unit. The phosphates plant is to be built in Haql near the Jordanian border and it is planned to use Jordanian rock until the development of the Saudi Phosphates deposits are completed, while the other process materials (i.e. ammonia and sulphur) are to be supplied from within the Kingdom.

TABLE I

SAFCO YEARLY PRODUCTION

UREA PRODUCTION

YEAR	MT/YEAR
1970	24,437
1971	89,719
1972	75,187
1973	142,806
1974	175,197
1975	217,001
1976	177,438
1977	221,475 1123,2
1978	260,033
1979	290,000 280? Sa P.2

Projection based on the performance of the plant till September, 1979.

TABLE 2

EXPORTS OF FERTILIZERS FROM SAUDI ARABIA

1970 - 1977

India	236,827
Egypt	134,758
Bangladesh	94,843
Iran	91,488
Pakistan	72,285
Vietnam	61,350
Turkey	54,200
Taiwan	43,866
Afghanistan	37,685
Sudan	36,698
Malaysia	30,410
Indonesia	27,450
Zambia	19,500
Mexico	18,900
Srilanka	14,276
Yemen	11,173
Phillipines	7,000
Ethiopia	3,550
Jordan	1,656
Thailand	1,000
	998.8

90% of production

SECTION II

PROFILES OF PARTNERS

PROFILE OF SAUDI BASIC INDUSTRIES CORPORATION (SABIC)

The Saudi Basic Industries Corporation (SABIC) is owned by the Government of Saudi Arabia, having its Head Office in Riyadh and a Branch Office in Dammam.

A Royal Decree was issued in September 1976 declaring the establishment of the Saudi Basic Industries Corporation. This Corporation will make use of the huge hydrocarbon resources existing in the Eastern Province of the Kingdom, and will establish basic industries utilizing the hydrocarbon as raw material for these industries. The Saudi Basic Industries Corporation will work to create, develop and supervise such industries and will engage the maximum number of Saudi Nationals in this work, as its main objective.

According to the By-Laws of Saudi Basic Industries Corpn., the capital is ten thousand (10,000) million Saudi Riyals, divided into ten (10) million shares each having a stated value of one thousand Riyals. All these shares are at present held by the Saudi Government, but within six years from the date of establishment of the Corporation 75% of the shares will be sold to the public.

The organizational structure of the Corporation is shown in Fig. I. The Corporation is managed by a Board of Directors which consist of seven (7) members; two (2) members of the Board represent the Government. The Board has full authority to manage the business and affairs of the Corporation and to establish the general policy for it to conduct its business. A full time Chief Executive Officer has been appointed by the Council of Ministers' decision, at the recommendation of the Minister of Industry and Electricity. The Chief Executive Officer is also the Vice Chairman of the Board. Fig.II shows the Board of Directors.

The Saudi Basic Industries Corporation works closely with a number of other Government Agencies, including Petromin which is responsible for the supply of feedstocks to the projects, the Royal Commission for Jubail and Yanbu which is responsible for construction of all infrastructure and provision of the different facilities to the projects and the residential areas of Jubail and Yanbu, and the Public Investment Fund which provides loan financing for the joint Venture companies.

The Saudi Basic Industries Corporation is currently undertaking the development of suitable joint venture arrangements with international firms for the ownership, design, construction, and operation of selected industries. An overseas company to be accepted as a partner should meet the following criteria:

1. Proven experience.
2. Record of profitable operations.
3. Ability to market products from proposed projects.
4. Possession of the required technology.
5. Willingness and ability to train Saudi manpower.

The Saudi Basic Industries Corpn. has signed interim agreements with different overseas companies to form joint venture companies which will use the gas as feed stock for the manufacture of different products; the projects, other than the fertilizer project, which the Corporation intends to carry out are summarized below:

A. PETROCHEMICAL PROJECTS:

1. Saudi-Pecten Petrochemical is a 50 : 50 joint venture between SABIC and Shell Oil Company, U.S.A. to construct a 656,000 MTPA ethylene-based complex at the Jubail Industrial Site. Of this capacity, 250,000 MTPA of ethylene will be sold to an adjacent plant and the remainder used internally. In these ethylene-based petrochemical plants, ethane will be used as a feedstock. The product mix from this plant will include styrene (295,000 MTPA), ethylene dichloride (454,000 MTPA), crude industrial ethanol (281,000 MTPA), and caustic soda (355,000 MTPA). Benzene required to produce styrene will be provided from a nearby refinery.

2. SABIC-Mobil Petrochemical is a 50 : 50 joint venture between SABIC and Mobil Oil Company, U.S.A. to construct a 450,000 MTPA ethylene-based complex at the Yanbu Industrial Site on the West Coast of Saudi Arabia. The product mix from this project will consist of low density polyethylene (200,000 MTPA), ethylene glycol (200,000 MTPA), etc.. Production of high-density polyethylene is also under consideration.

3. Sabic-Dow Petrochemical is a 50 : 50 joint venture between Sabic and Dow Chemical Company to construct a 450,000 MTPA ethylene-based complex at Jubail Industrial Site. The product mix for this project includes, high and low-density polyethylene (70,000 MTPA & 200,000 MTPA), and ethylene glycol 300,000 MTPA).

4. Sabic-Exxon Petrochemical is a 50 : 50 joint venture between Sabic and the Exxon Corporation to construct a 240,000 MTPA low-density polyethylene plant at Jubail. The ethylene requirements for low-density polyethylene will be supplied from an adjacent petrochemical complex.

5. The Sabic-Japanese Consortium methanol project is a joint venture between Sabic and a Japanese Consortium

consisting of Mitsubishi Gas Chemical Company, C. Itoh, and other Japanese companies. The first phase of this project is the construction of a plant to produce chemical-grade methanol at a rate of 2,000 short tons per day.

6. The Sabic-Celanese/Texas Eastern methanol project is a joint venture between Sabic, Celanese Chemical Company and Texas Eastern Ltd., to construct and operatre a plant starting with 2,100 tons per day of chemical-grade methanol at the Jubail Industrial Site.

B. METALLURGICAL PROJECTS:

1. Sabic and Korf-Stahl have entered into final agreement leading to the construction and operation of an iron and steel complex which will initially produce 800,000 MTPA of direct-reduced iron using the Midrex Process. This iron, together with locally available scrap, will be converted into 880,000 tons per year of steel billets in the same complex.

2. An Aluminium Smelter of 225,000 tons per annum is under consideration, and studies are under way to determine the timing of start-up.

Fig. 1

SABIC ORGANIZATIONAL STRUCTURE

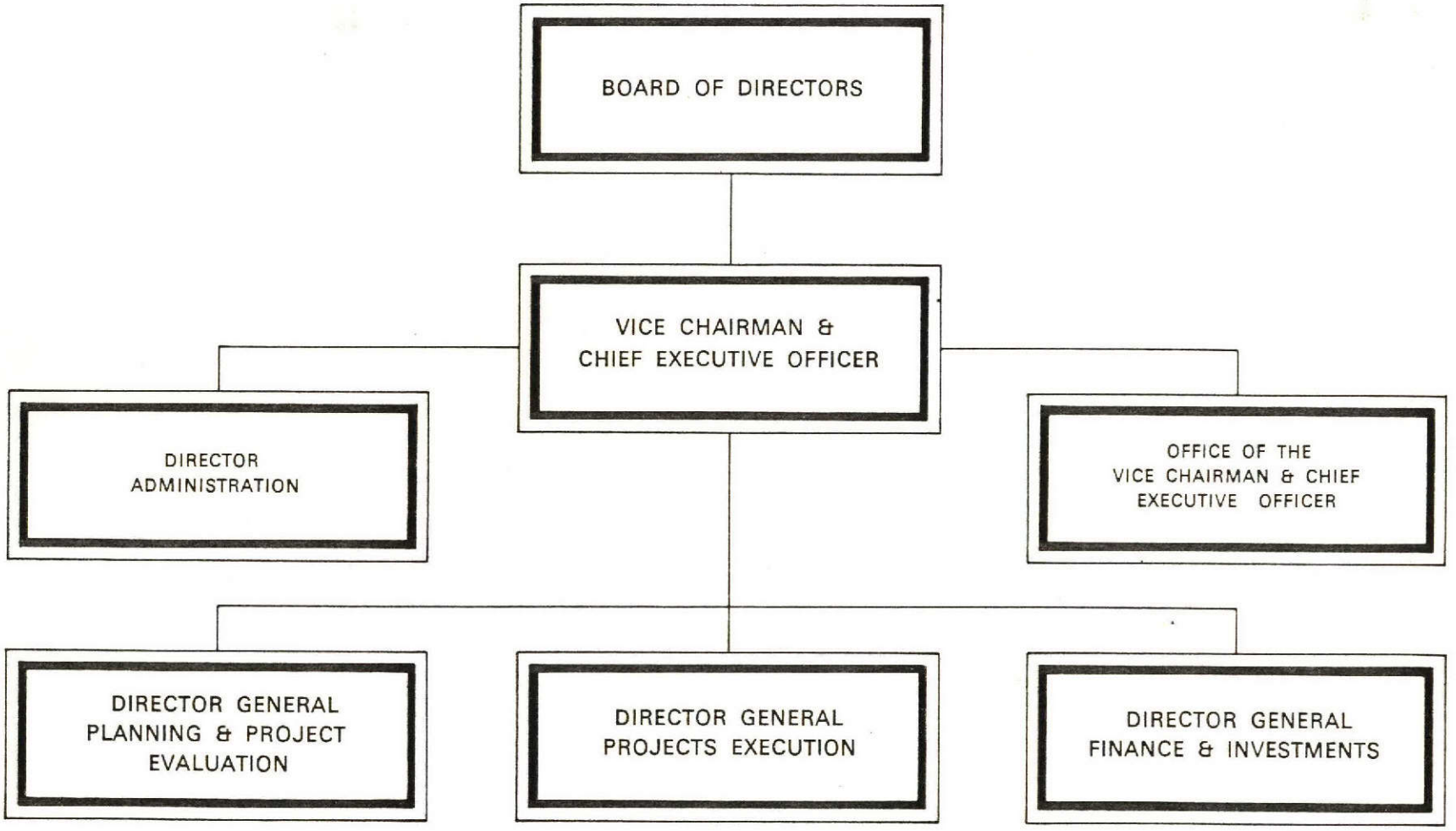


FIG. II

BOARD OF DIRECTORS

GHAZI A. ALGOSAIBI
MINISTER OF INDUSTRY & ELECTRITY
CHAIRMAN

ABDULAZIZ A. ALZAMAL
VICE CHAIRMAN &
CHIEF EXECUTIVE OFFICER

MANSOUR ALTURKI
DEPUTY MINISTER OF FINANCE &
NATIONAL ECONOMY FOR ECONOMIC
AFFAIRS

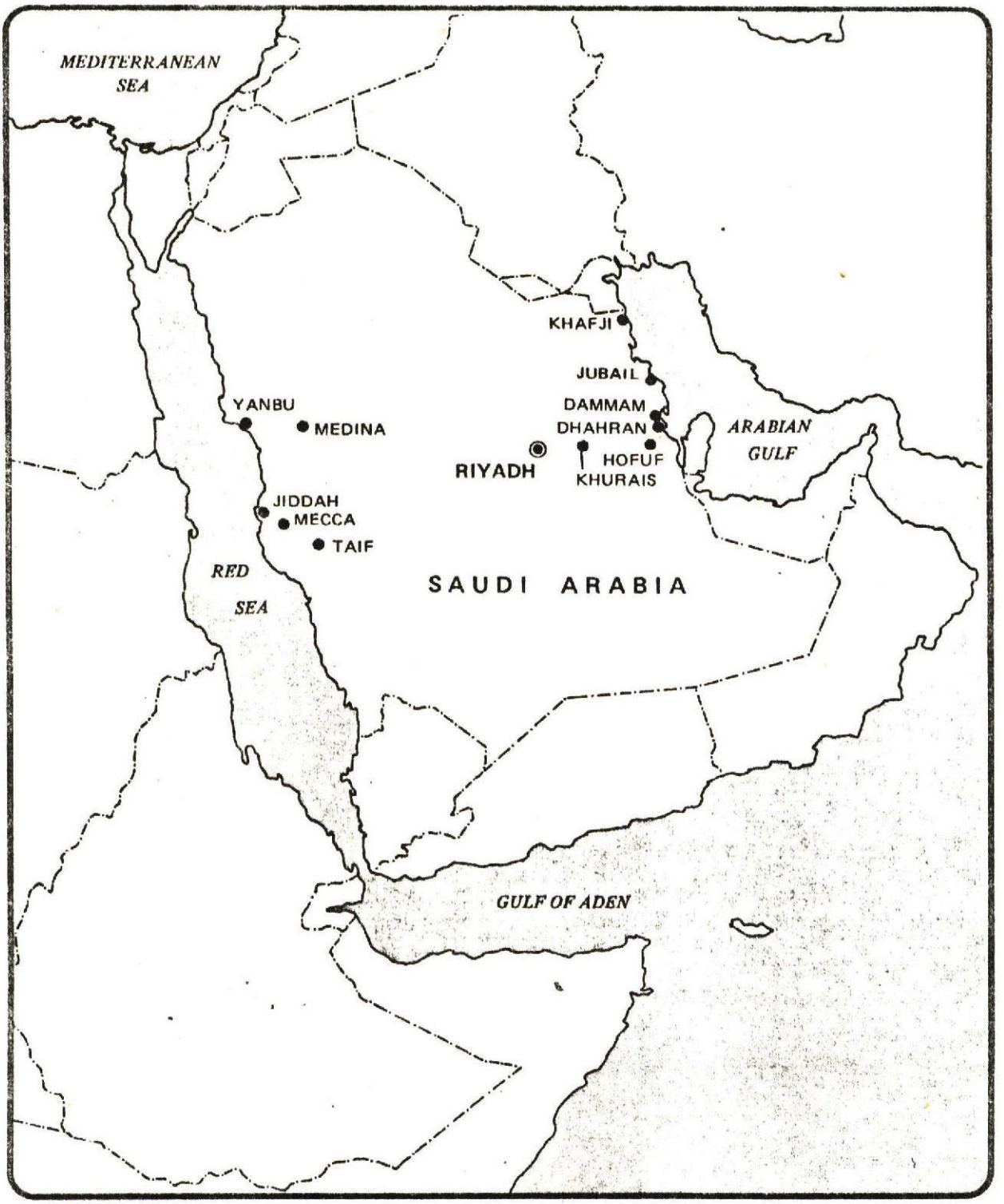
FAISAL BASHEER
DEPUTY MINISTER OF
PLANNING

AHMAD ALTWAIJRI
DEPUTY MINISTER OF
INDUSTRY & ELECTRICITY
(INDUSTRY)

MAHSOUN B. JALAL

YOUSUF M. ALIREZA

FIG.III


MEDITERRANEAN SEA
KHAFJI
JUBAIL
YANBU
MEDINA
DAMMAM
DHAHRAN
ARABIAN GULF
RIYADH
HOFUF
KHURAIS
JIDDAH
MECCA
TAIF
RED SEA
SAUDI ARABIA
GULF OF ADEN

SABIC

SAUDI BASIC INDUSTRIES CORPORATION

GOVERNMENT OWNED

1978

SABIC

INCORPORATED BY A ROYAL DECREE IN SEPTEMBER 1976

AUTHORIZED CAPITAL : TEN BILLION SAUDI RIYALS

P. O. Box 5101 — TELEX. 200492 - SABIC - S.J.

TELEPHONE : 69700, 69828 — RIYADH, SAUDI ARABIA.

DESIGNED AND PRINTED BY AL-MUTAWA PRESS CO. - DAMMAM

His Majesty King Khaled Ibn Abdul Aziz

His Royal Highness Prince Fahd Ibn Abdul Aziz

Crown Prince & Deputy Prime Minister

His Royal Highness Abdullah Ibn Abdul Aziz
Second Deputy Premier & Head of the National Guard

Foreword

While I feel happy to introduce this Annual Review of The Saudi Basic Industries Corporation (SABIC), my happiness will not be complete until we are able to implement and operate these projects with Saudi hands and Management.

The patronage, support and encouragement, bestowed upon industry by His Majesty King Khalid, His Royal Highness The Crown Prince and all Officials and Citizens, underline our duty to exert more efforts to live up to their expectations, and repay part of their good deed to the Saudi Industry.

The Basic Industries Projects are an interpretation of the hopes of this youthful kingdom to utilize its natural resources to convert such resources into products useful to all citizens, and to have them as an additional source of income besides petroleum.

The eagerness of international firms to share in our Basic Industrial Projects is the best proof of the distinct economic advantage which the kingdom has in the field of Petrochemicals, Fertilizers and Basic Mineral Products.

On this occasion, I wish to extend my sincere thanks and gratitude to His Majesty King Khalid, His Royal Highness The Crown Prince, and the Government of Saudi Arabia for the continuous support and encouragement which they have provided to the National Industry.

Also, I would like to express my thanks to my colleagues, the members of the Board of Directors and to all SABIC's employees for their efforts during the past period.

May God guide us towards more success and more achievements in the future.

GHAZI A. ALGOSAIBI

Minister of Industry and Electricity
Chairman of the Board

Introduction

We owe it to our future generations to do all we can in utilizing the natural resources available to us in a way which will increase the value added to them and will help our future generations to discover better ways in utilizing these resources and increasing their value added to a larger degree.

The decision of the government of the Kingdom of Saudi Arabia which was crowned by the Royal Decree No. M/66 dated 13/9/1396 A.H. to establish the Saudi Basic Industries Corporation (SABIC) clearly demonstrates the determination of the Kingdom to utilize its natural resources to the maximum.

This report which is in your hand reflects the most important accomplishments SABIC has achieved since its establishment. In spite of the importance of the tasks accomplished, the real accomplishments have not yet materialized, and will not materialize until the industrial projects have been executed and the Kingdom has started to benefit from them.

SABIC concentrated on achieving the following objectives during the last two years:

1. Taking the steps required for establishing the corporation, staffing it with national and international talents, and setting the rules and regulations required for the operation.
2. Establishing projects execution schedule and taking the necessary steps for its implementation.
3. Conducting detailed economic and engineering studies for SABIC's various projects.

The projects which have been entrusted to SABIC in the field of petrochemical, steel, aluminium, and fertilizers, are considered among the largest of their kind in the world. In view of the importance of these projects to the Kingdom, it is imperative that each project should be studied very carefully and that no effort should be spared to confirm the economic viability of the projects which would be executed by SABIC. Thus, the last two years have witnessed a continuous series of detailed studies the results of which will enable us to take the necessary decisions for the implementation of the basic industries projects.

It gives me great pleasure on this occasion to thank on behalf of myself and on behalf of all the staff of SABIC, His Excellency the Minister of Industry and Electricity and Chairman of the Board, and my colleagues, the members of the Board of Directors, for their continuous support and constructive contribution which has contributed greatly for laying down the foundation on which the future of basic industries in Saudi Arabia will be built.

ABDULAZIZ A. ALZAMIL

Vice Chairman & Managing Director

BOARD OF DIRECTORS

GHAZI A. ALGOSAIBI
Minister of Industry & Electricity
Chairman

ABDULAZIZ A. ALZAMIL
Vice Chairman &
Managing Director

MANSOUR ALTURKI
Deputy Minister of Finance &
National Economy for Economic
Affairs

FAISAL BASHEER
Deputy Minister of Planning

AHMAD ALTWAIJRI
Deputy Minister of Industry &
Electricity (Industry)

MAHSOUN B. JALAL

YOUSUF M. ALIREZA

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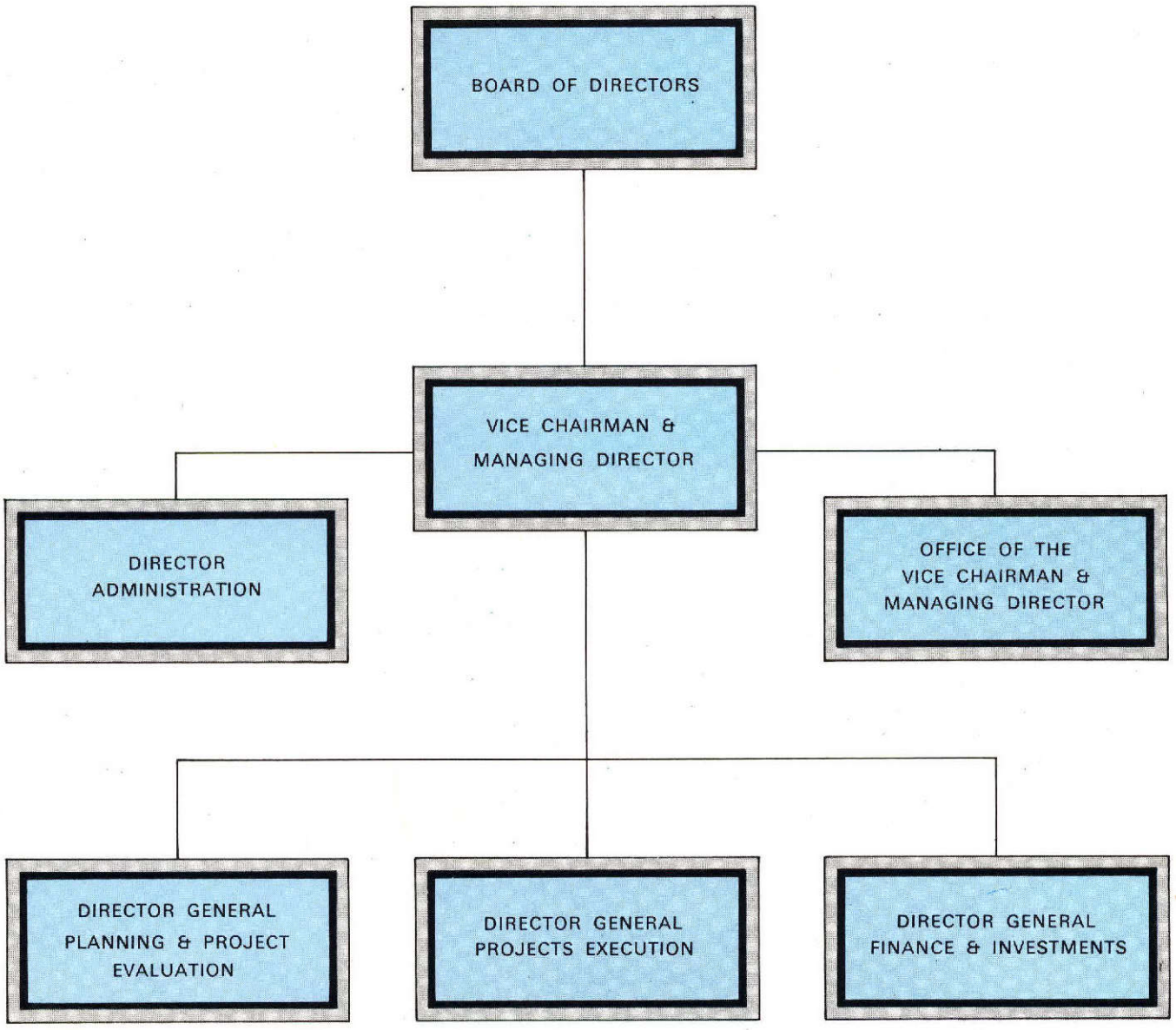


SABIC Organizational Structure

Administration and Finance

- Two office buildings were rented and equipped to become SABIC's Riyadh Headquarters and Dammam Branch.
- The Corporation's organization structure was prepared and approved (Fig. 1)
- Regulations for SABIC's employees have been prepared and implemented.
- Procedures for direct hire of advisors and consultants were prepared and approved.
- The Corporation's financial regulations were prepared and approved.
- SABIC's annual budget for 1977 & 1978 have been prepared and approved.
- Employees were recruited for the Corporation's departments and sections. The number of employees reached 131 at the end of December 1978. (Fig. 2).
- The Saudi employees form more than 90% of SABIC's personnel.
- 69 employees have been sent abroad to work with foreign partners and acquire training in America, Europe and Japan and to participate in the development of the Corporation's different projects.
- Many of the Corporation's employees have participated in training programmes and international conferences and seminars as well as in visits to industrial facilities inside and outside Saudi Arabia.

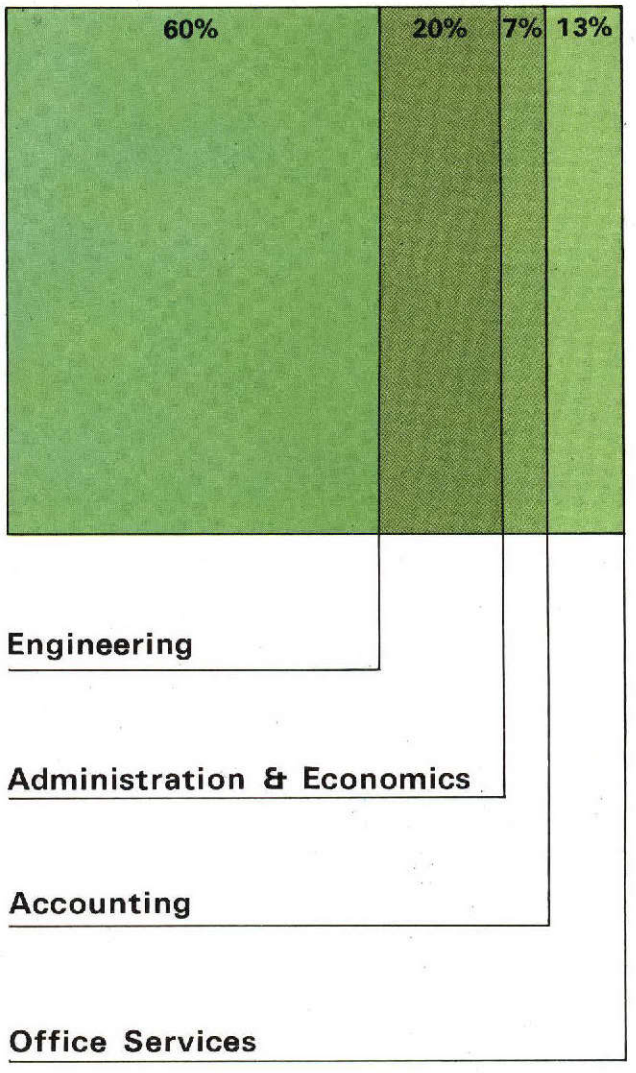


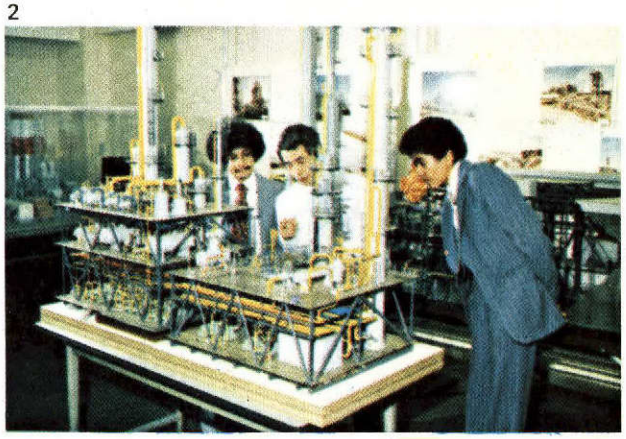
Fig. 2

Manpower Development

- **DOMESTIC TRAINING** — It involves participation in courses, conferences and seminars.
- **TRAINING ABROAD** — It involves work with SABIC's foreign partners in America, Europe and Japan to acquire know-how and training for participating in the development of the different projects of the Corporation.

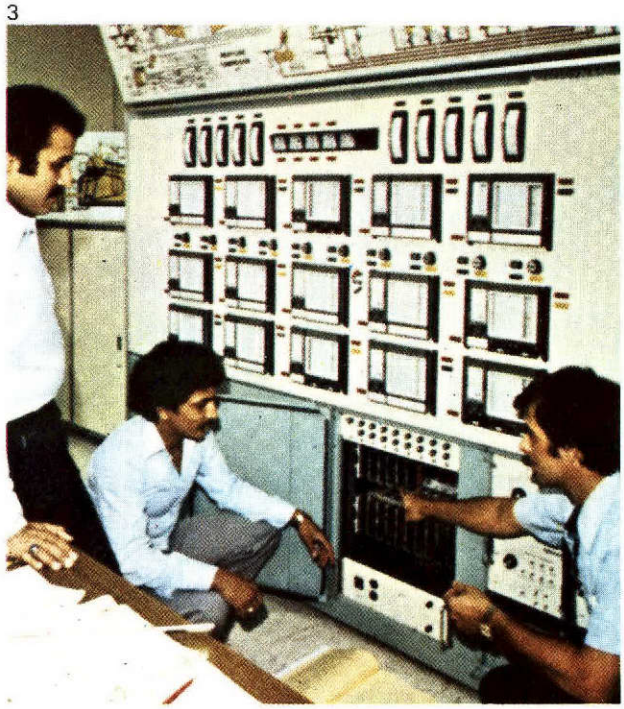
1

2



1. *A Saudi Engineer attached to SABIC/ Shell Project is taking readings from a Process Control Panel.*
2. *Two Saudi Engineers with SABIC/ Japanese Methanol Project in a discussion (Lecture) on how to construct and assemble a pre-installed unit.*

3



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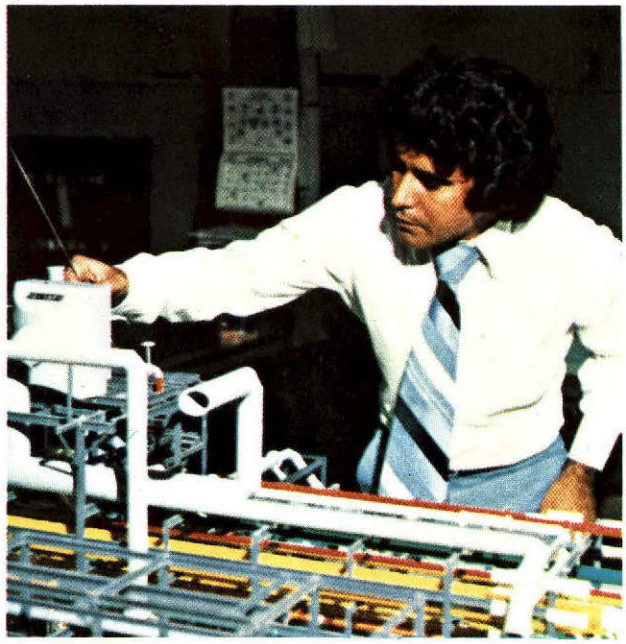


3. *Two Saudi Engineers attached to SABIC/ Mobil Project in a demonstration of the control room of the ethylene unit.*
4. *A Saudi Engineer attached to SABIC/ Celanese-Texas Eastern Project inspecting a model to be installed in Jubail in future.*

A Saudi Engineer with SABIC/Shell Project visually inspecting part of a Process Plant.

SABIC Principles of projects Development:

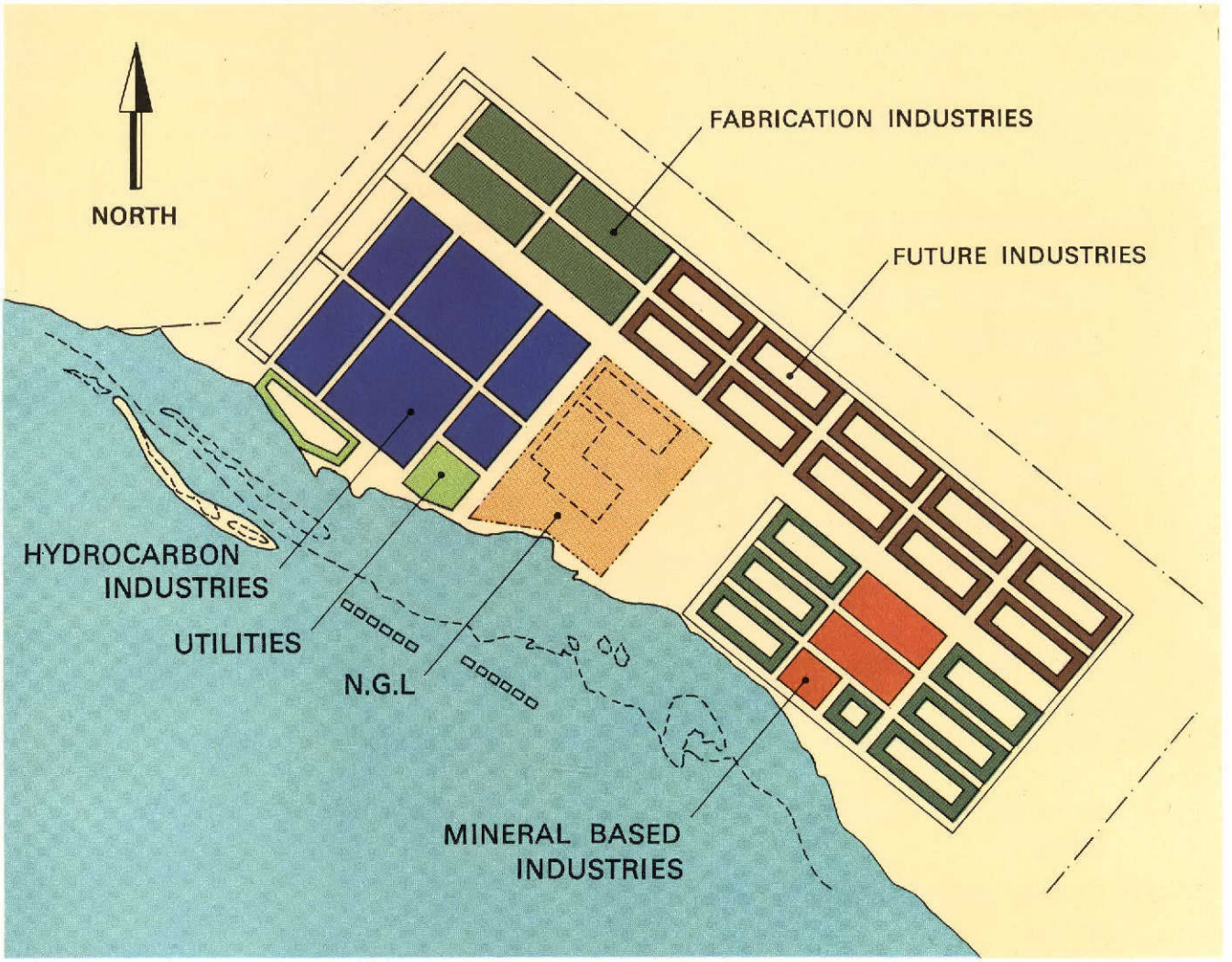
Projects normally pass through the following phases:

1. Initial discussion between SABIC and the prospective partner.
2. Pre-feasibility study.
3. Preparation and signature of interim agreement.
4. Detailed feasibility Study.
5. Detailed Economic Assessment of the Project.
6. Final decision to proceed.
7. Conclusion of formal agreement and formation of a Joint Venture company.
8. Project Execution.
9. Project start-up.
10. Project follow-up.

Director General of Planning and Project Evaluation

PROJECTS

An Aerial View of Jubail Industrial Site



Yanbu Industrial Site Plan

A. PETROCHEMICAL PROJECTS

1. SABIC/Shell Project

LOCATION: JUBAIL

- The purpose of this project is to construct a petrochemical complex jointly owned by SABIC and Shell Oil Co. represented by Saudi Pecten Petrochemical Company.

  The project will produce:

  - ☐ 656,000 MT of ethylene per annum.
  - ☐ 295,000 MT of styrene per annum.
  - ☐ 454,000 MT of ethylene dichloride per annum.
  - ☐ 281,000 MT of crude industrial ethanol per annum.
  - ☐ 355,000 MT of caustic soda per annum.

- In July 1976 an interim agreement was signed between SABIC and Shell Oil Co. for the following purposes:

  - ☐ to conduct a detailed economic study,
  - ☐ to start the preliminary engineering design,
  - ☐ to negotiate the agreements required for the establishment of the joint venture company.

- The technology licensors, as well as the engineering contractors to design and supervise the execution of the project, have been selected.

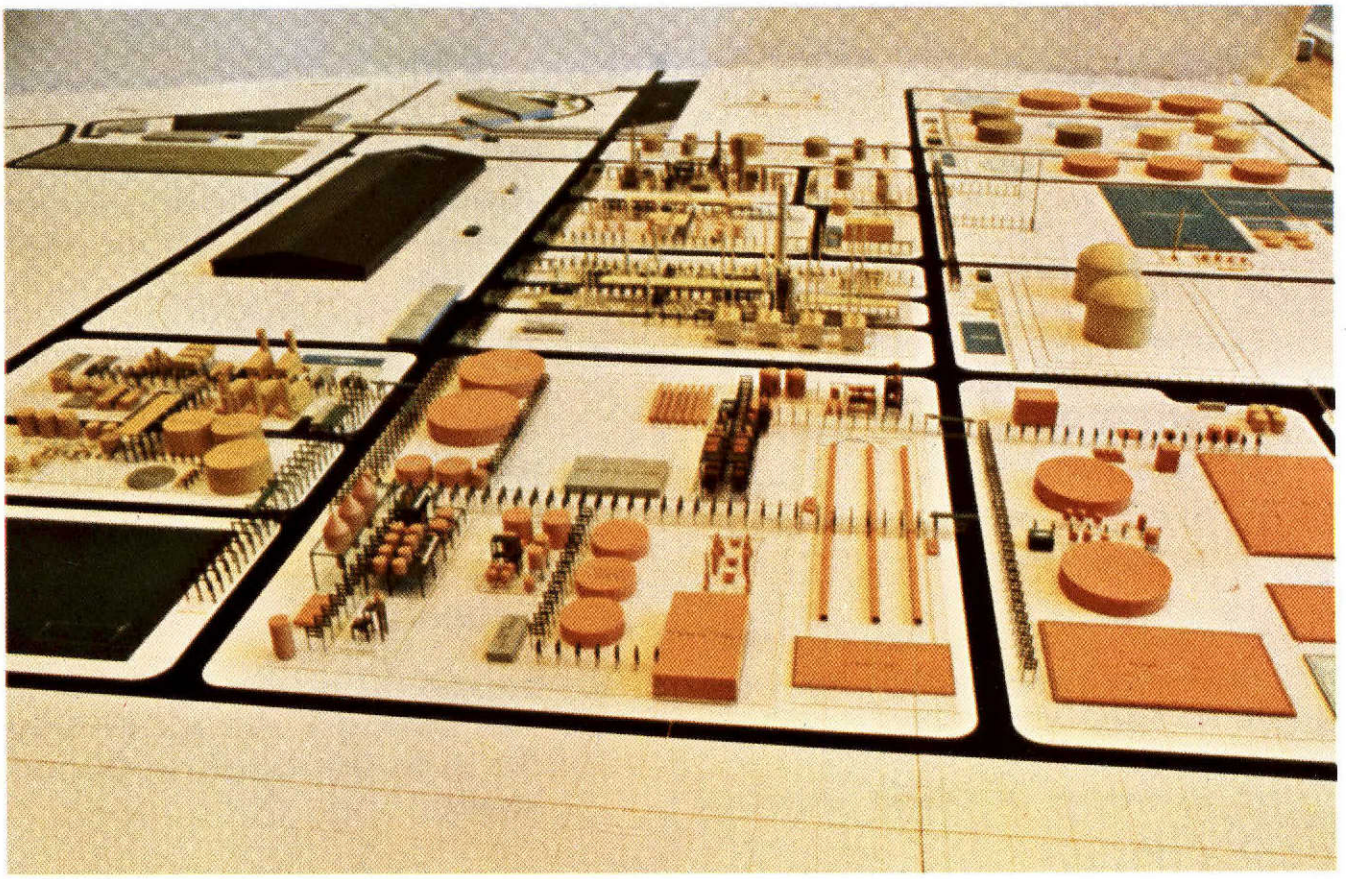
- In September 1977 the economic study was completed and submitted to the partners for approval.

- 14 Saudi personnel have been sent to the United States for training and participating in the development of the project.

- The final feasibility study was presented to SABIC's Board of Directors and the results thereof were approved.

- The Public Investment Fund has approved the loan for the Project.

- Negotiations are continuing between SABIC and Shell on the various joint venture agreements.

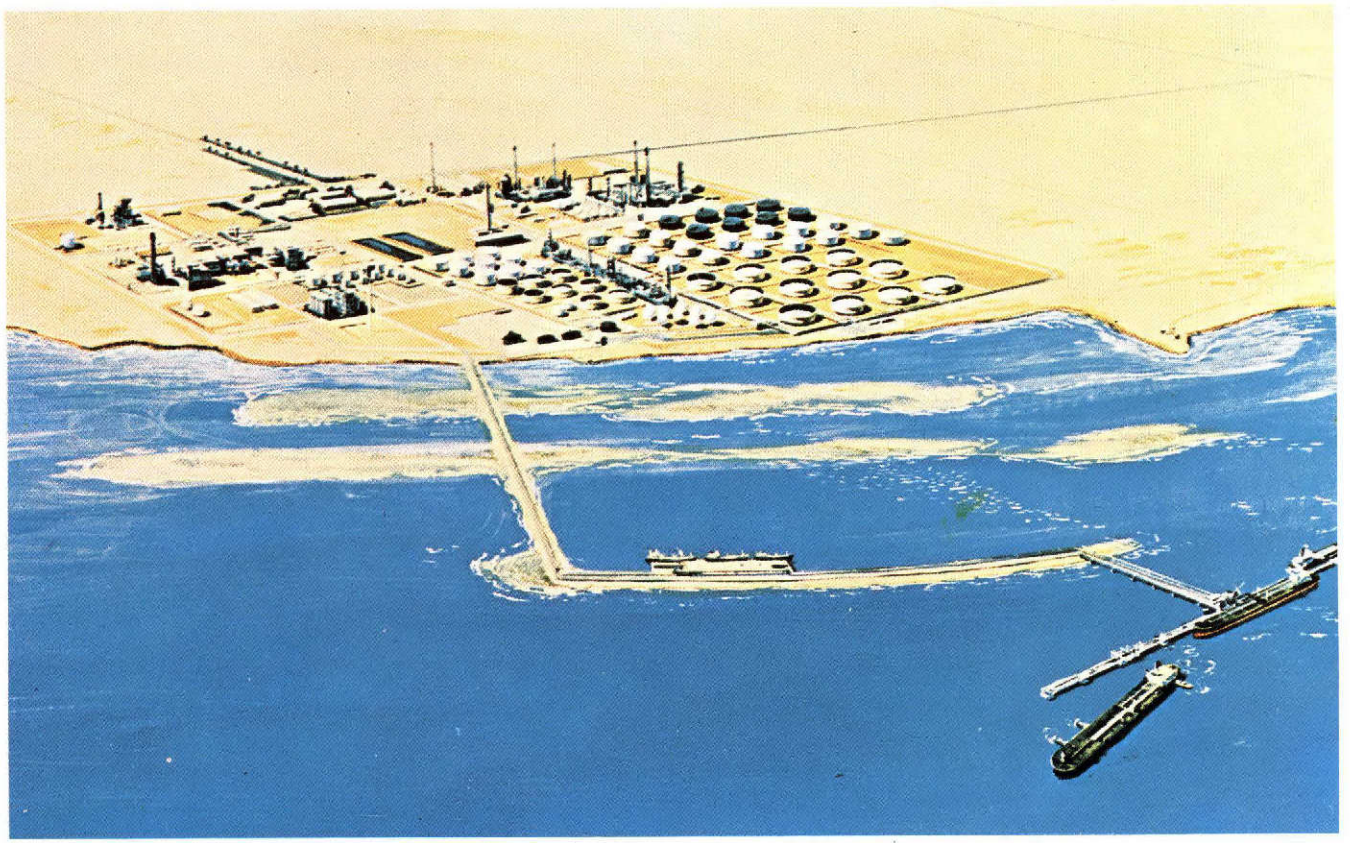


Pictorial View of Petrochemical Complex at Jubail (SABIC/Shell)

2. SABIC/Mobil Project

LOCATION: YANBU

- The purpose of this project is to construct a petrochemical complex in Yanbu jointly owned by SABIC and Mobil Oil Company.
- The project will produce:
  - ☐ 450,000 MT of ethylene per annum.
  - ☐ 200,000 MT of low-density polyethylene per annum.
  - ☐ 200,000 MT of ethylene glycol per annum.
  - ☐ 91,000 MT of High-density polyethylene per annum.
- In August 1976 an interim agreement was signed between SABIC and Mobil for the following purposes:
  - ☐ to conduct a detailed economic study,
  - ☐ to start preliminary engineering design,
  - ☐ to negotiate the agreements required for the establishment of the the joint venture company.
- The technology licensors, as well as the engineering contractors to design and supervise the execution of the project, have been selected.
- 15 Saudi personnel have been sent to the United States for training and participating in the development of the project.
- The detailed feasibility studies have been prepared and are now being evaluated.
- Negotiations regarding some of the main agreements relating to the formation of the joint venture company were started.

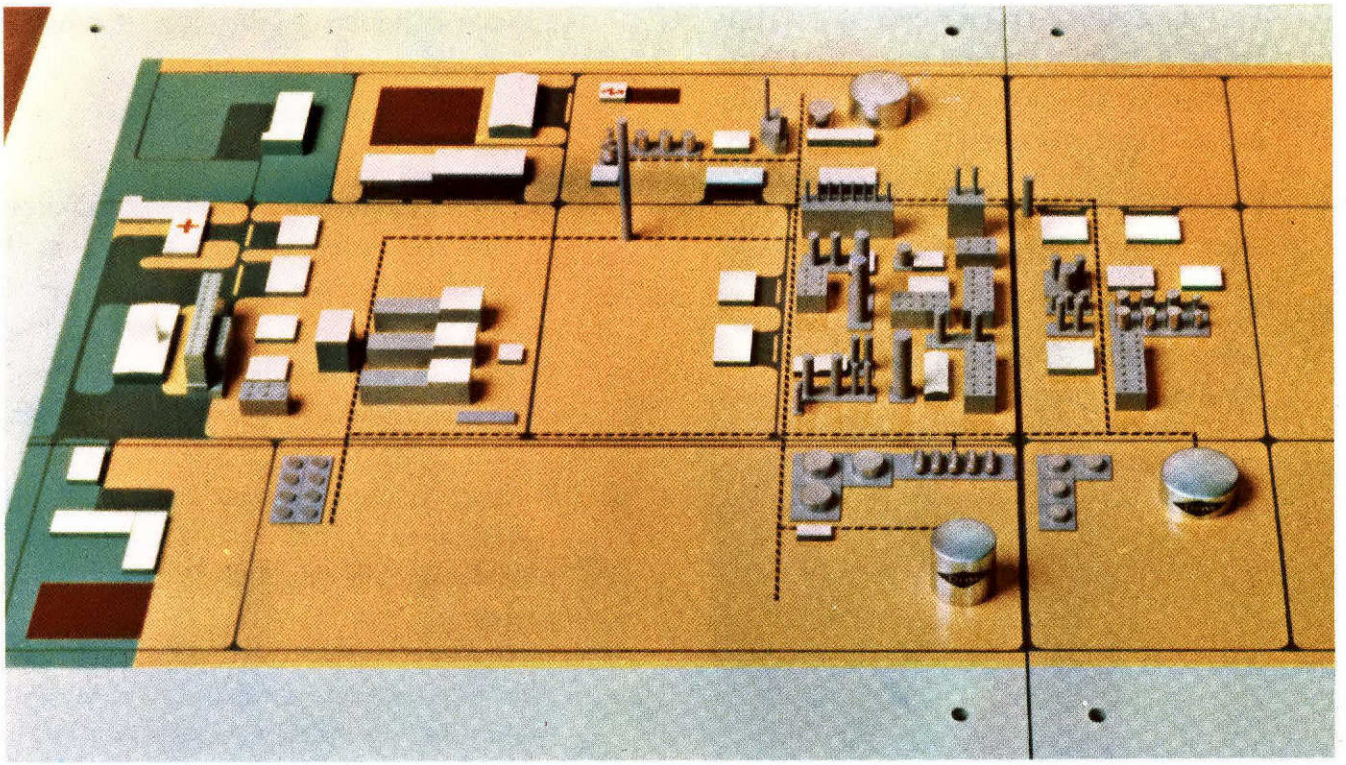


Pictorial View of Petrochemical Complex at Yanbu (SABIC/Mobil)

3. SABIC/Dow Project

LOCATION: JUBAIL

- The purpose of this project is to construct a petrochemical complex jointly owned by SABIC and Dow Chemical Company.
- This project will produce:
  - ☐ 440,000 MT of ethylene per annum
  - ☐ 200,000 MT of low-density polyethylene per annum
  - ☐ 300,000 MT of ethylene glycol per annum.
- In February 1977 an interim agreement was signed between SABIC and Dow for the following purposes:
  - ☐ to conduct a detailed economic study,
  - ☐ to start preliminary engineering design,
  - ☐ to negotiate the agreements required for the establishment of the joint venture company.
- Dow will provide the technology and engineering design required for the project.
- Important meetings were held with Dow's top management after the recent management changes which have taken place at Dow.
- Several meetings were held with some of the responsible officials of Dow during the fourth quarter of 1978. These meetings resulted in the approval by SABIC of the revised interim agreement which expands the scope of activities.
- Five Saudi Engineers have been assigned to SABIC/Dow Project, three were sent to Holland for training.

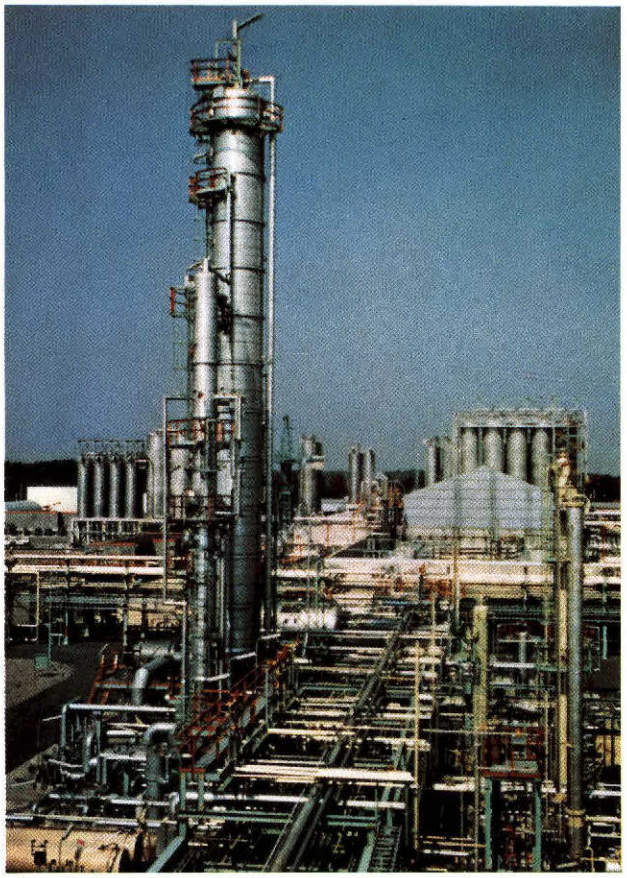


Petrochemical Project at Jubail (SABIC/Dow)

4. SABIC/Exxon Project

LOCATION: JUBAIL

- The purpose of this project is to construct a jointly owned plant in Jubail, producing 240,000 MT of low density polyethylene per annum.
- SABIC/Shell project will provide this plant with its requirements of ethylene.
- In March 1977 an interim agreement between SABIC and Exxon was signed for the following purposes:
  - ☐ to conduct a detailed economic study,
  - ☐ to start preliminary engineering design,
  - ☐ to negotiate the agreements required for the establishment of the joint venture company.
- Exxon will provide the technology and preliminary design required for the plant.
- 9 Saudi personnel have been sent to the United States for training and participating in the development of the project.
- The engineering company which will undertake the design and supervision of the project has been selected.
- Some agreements for setting up the project have been negotiated and are now in their final stages.
- Most parts of the economic feasibility study have been completed.



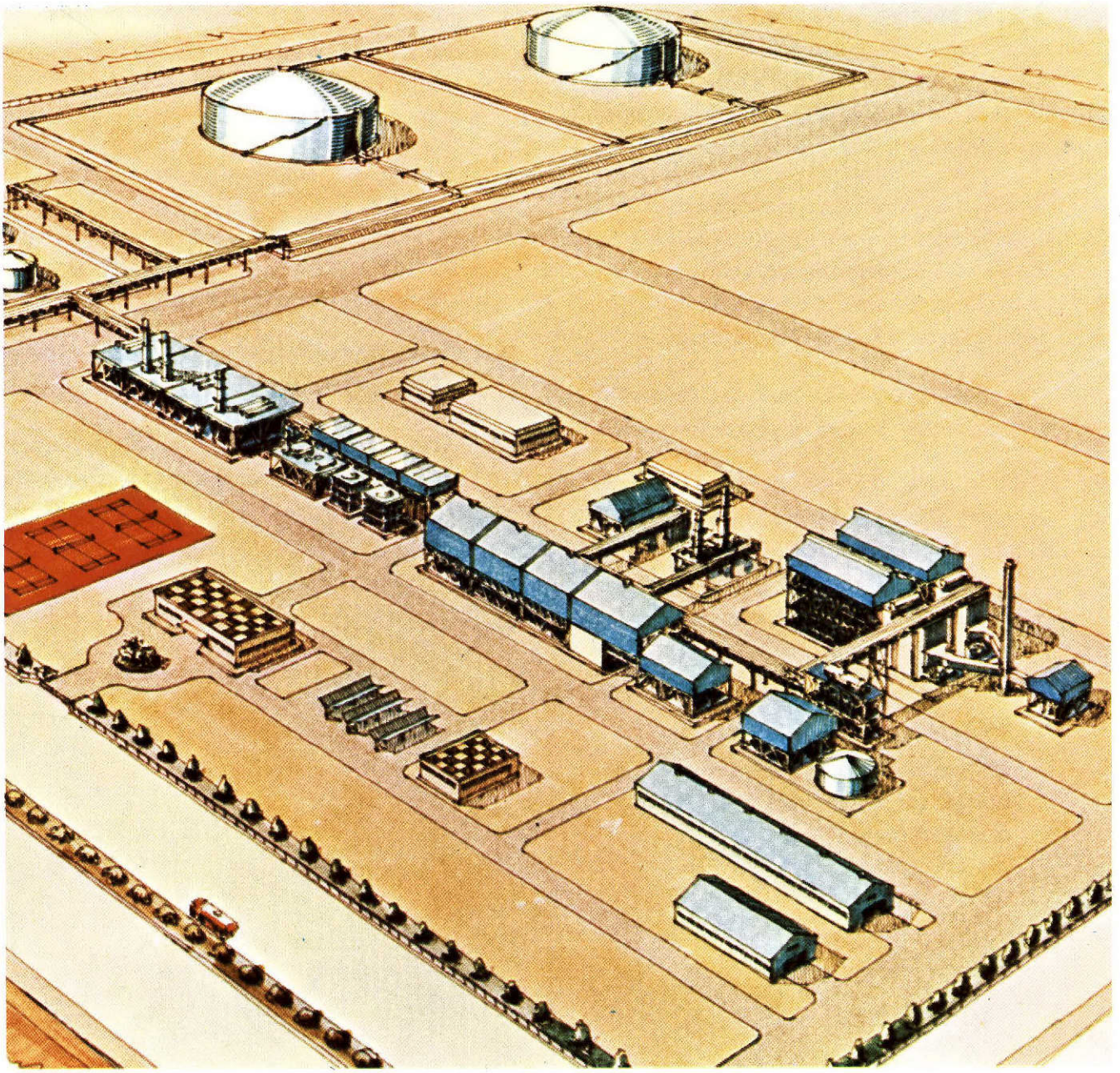
Low-Density Polyethylene Project (SABIC/Exxon)

Silos for Low-Density Polyethylene Project

5. SABIC/Japanese Consortium Project

LOCATION: JUBAIL

- The purpose of this project is to build a methanol plant in Jubail jointly owned by SABIC and a group of Japanese companies including Mitsubishi, C. Itoh, and others as well as W. R. Grace of U.S.A.
- The project will produce 600,000 MT of chemical grade methanol per annum.
- In June 1977 an interim agreement between SABIC and the Japanese Consortium was signed for the following purposes:
  - ☐ to conduct a comprehensive economic study,
  - ☐ to start preliminary engineering design,
  - ☐ to negotiate the agreements required for the establishment of the joint venture company.
- Mitsubishi Heavy Industries Company Ltd. will submit a complete proposal for setting-up the plant including the utilization of Mitsubishi technology.
- 8 Saudi personnel have been sent to Japan for participating in the development of the project and training in Mitsubishi plants.
- The engineering specifications of the project have been received.
- The study of the project location has been completed.
- The first draft of the economic feasibility study was submitted to the partners for consideration.
- Several successful meetings were held for discussing the agreements necessary for setting-up the joint venture company.

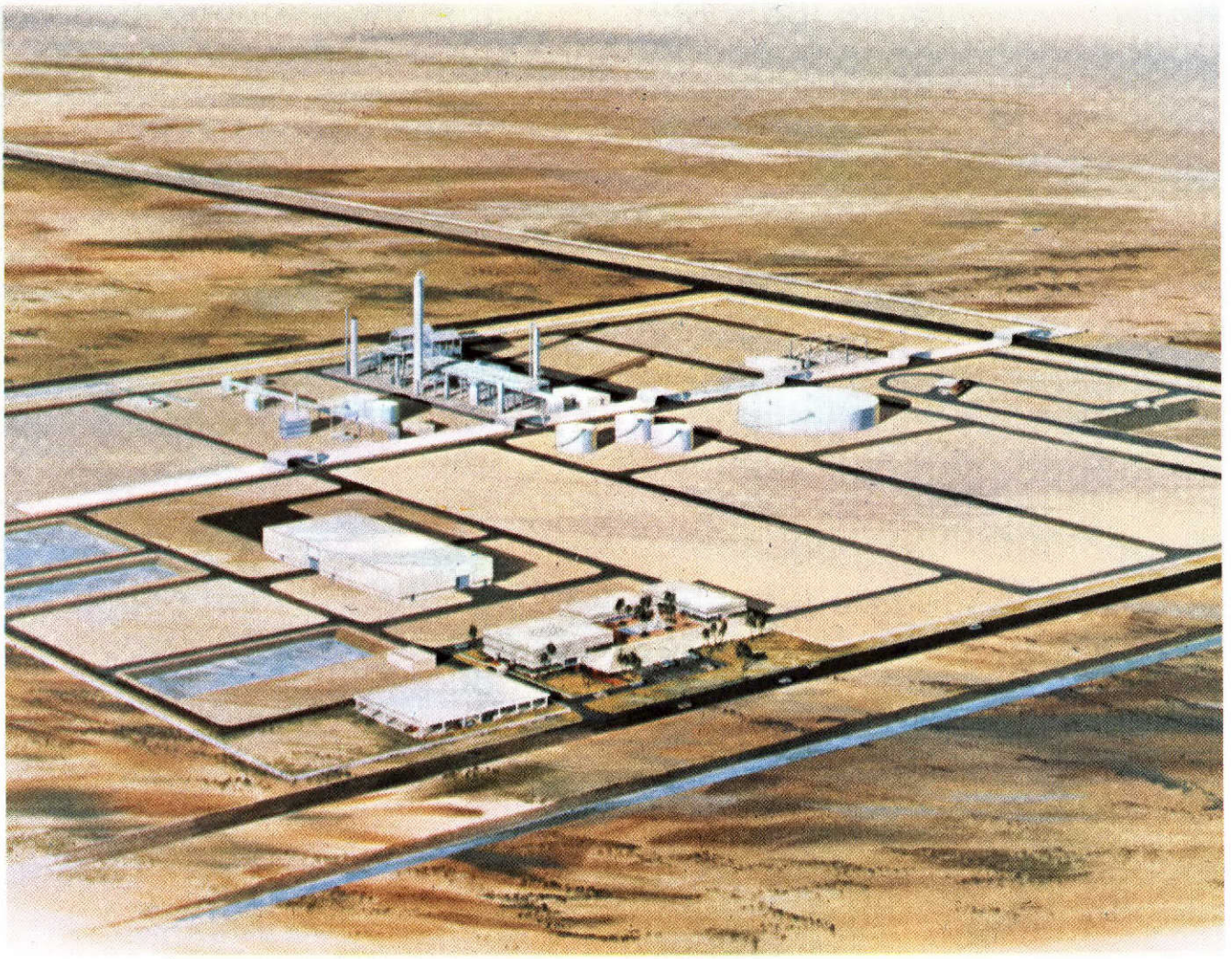


Pictorial View of the Methanol Plant to be Built at Jubail

6. SABIC/Celanese Texas Eastern Project

LOCATION: JUBAIL

- Several studies have been submitted by American companies for establishing a plant jointly owned by SABIC for the production of 600,000 MT of methanol per annum.
- SABIC has evaluated these studies and a decision has been made to enter into an interim agreement with the Celanese and Texas Eastern Companies for conducting a detailed feasibility study.
- The plant production will be marketed in the United States & Western Europe.
- The interim agreement was signed between the two parties on 24-2-1978 for the following purposes:
  - ☐ to conduct a comprehensive techno-economic study.
  - ☐ to start preliminary engineering design.
  - ☐ to negotiate the agreements required for setting-up the joint venture company.
- The work team for the project was formed from SABIC and the two foreign partners.
- I.C.I. have been preliminarily selected as technology licensors for the project.
- 7 Saudi personnel were sent to the United States for training and participating in the development of the project.
- The detailed feasibility study is expected to be completed in the first half of 1979.
- The agreements required for setting-up the joint venture company are being negotiated.



Pictorial View of Another Methanol Plant to be Built at Jubail

B. MINERAL PROJECTS

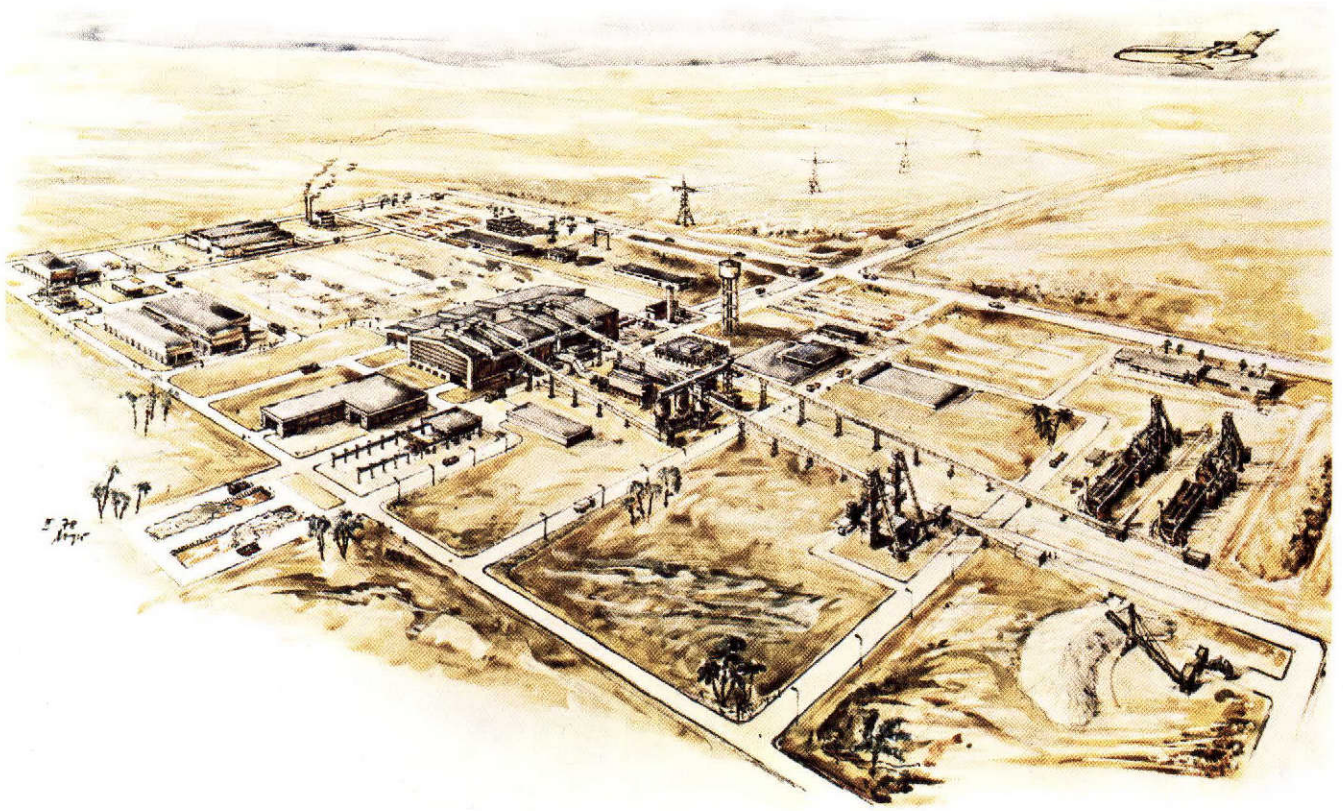
1. Iron and Steel Project

LOCATION: JUBAIL

- The purpose of this project is to build an industrial complex jointly owned by SABIC and Korf-Stahl of Germany for meeting the Kingdom's requirements for iron and steel in the early eighties.
- The project will produce:
  - ☐ 800,000 MT of sponge iron per annum by direct reduction.
  - ☐ 850,000 MT of steel billets per annum.
  - ☐ 850,000 MT of reinforcement iron rods per annum.
- In April 1977 an interim agreement was signed between the two partners for the following purposes:

Sponge Iron-Product of Direct Reduction Plant

  - ☐ to conduct a comprehensive economic study,
  - ☐ to submit turn-key proposals for direct reduction and steel units,
  - ☐ to negotiate the agreements required for the establishment of the joint venture company.
- The Midrex method for direct reduction has been selected for use in the plant.
- Six international companies have been invited to submit a detailed proposal for the steel unit.
- The Lurgi Company of Germany has been invited to submit a detailed proposal for the reduction unit.
- A study of steel scrap availability in the Kingdom has been conducted for the purpose of using the scrap in the production of steel.
- Saudi personnel are taking part in the study required for the project.
- Preparation of the detailed economic feasibility studies has been completed.
- The Board of Directors reviewed the results of the feasibility study and decided to start the implementation of the project.

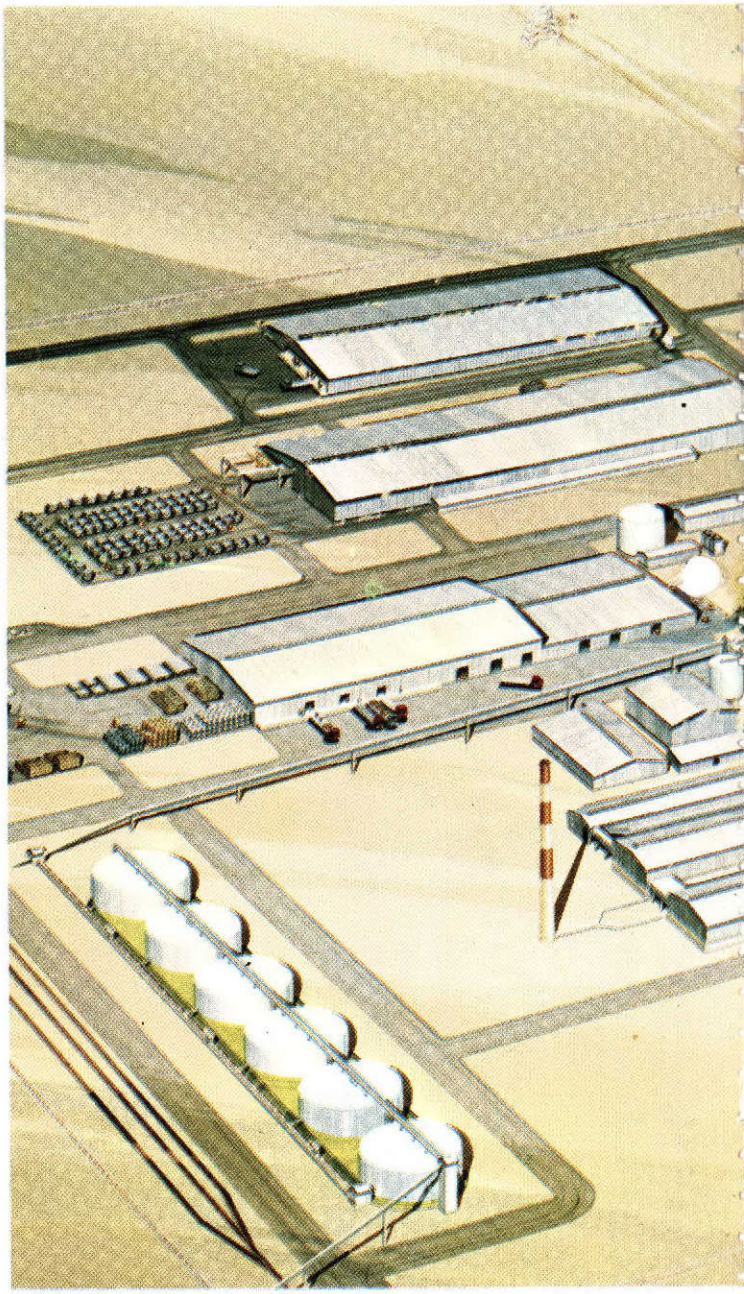


The Iron & Steel Project at Jubail

2. Aluminium Project

LOCATION: JUBAIL

- The purpose of this project is to establish a joint venture for an aluminium smelter in Jubail industrial site.
- The plant will produce 225,000 MT of aluminium ingots per annum and other secondary products.
- Several studies, the latest of which was in January 1977, have been submitted.
- Latest study has been analysed and evaluated by SABIC experts.
- SABIC has commissioned an experienced firm to prepare a comprehensive study on the aluminium industry in the world, to be used for the purpose of evaluating SABIC's aluminium project studies.
- Preparation of the extensive study has been completed. The Board of Directors is evaluating the study so as to take the necessary decision regarding the date when implementation of the project is to be started; taking into consideration the Kingdom's participation which was recently announced in the Bahrain Aluminium Project.



Pictorial View of Aluminium Project

C. FERTILIZER PROJECT

SABIC/Chinese Fertilizers Project

LOCATION: JUBAIL

- The purpose of this project is to produce 500,000 MT of urea for export.
- A preliminary feasibility study of the project, including an undertaking from Taiwan Fertilizer Company (T.F.C) to purchase at least 60% of the plant production for use in Taiwan, was submitted to SABIC.
- The final draft of the interim agreement has been approved, and it is expected to be signed between the two parties in early January 1979. A number of T.F.C. personnel have arrived in Riyadh to participate in the development of the project.

D. Projects Under Study

1. SABIC/Mitsubishi Petrochemical Project

LOCATION: JUBAIL

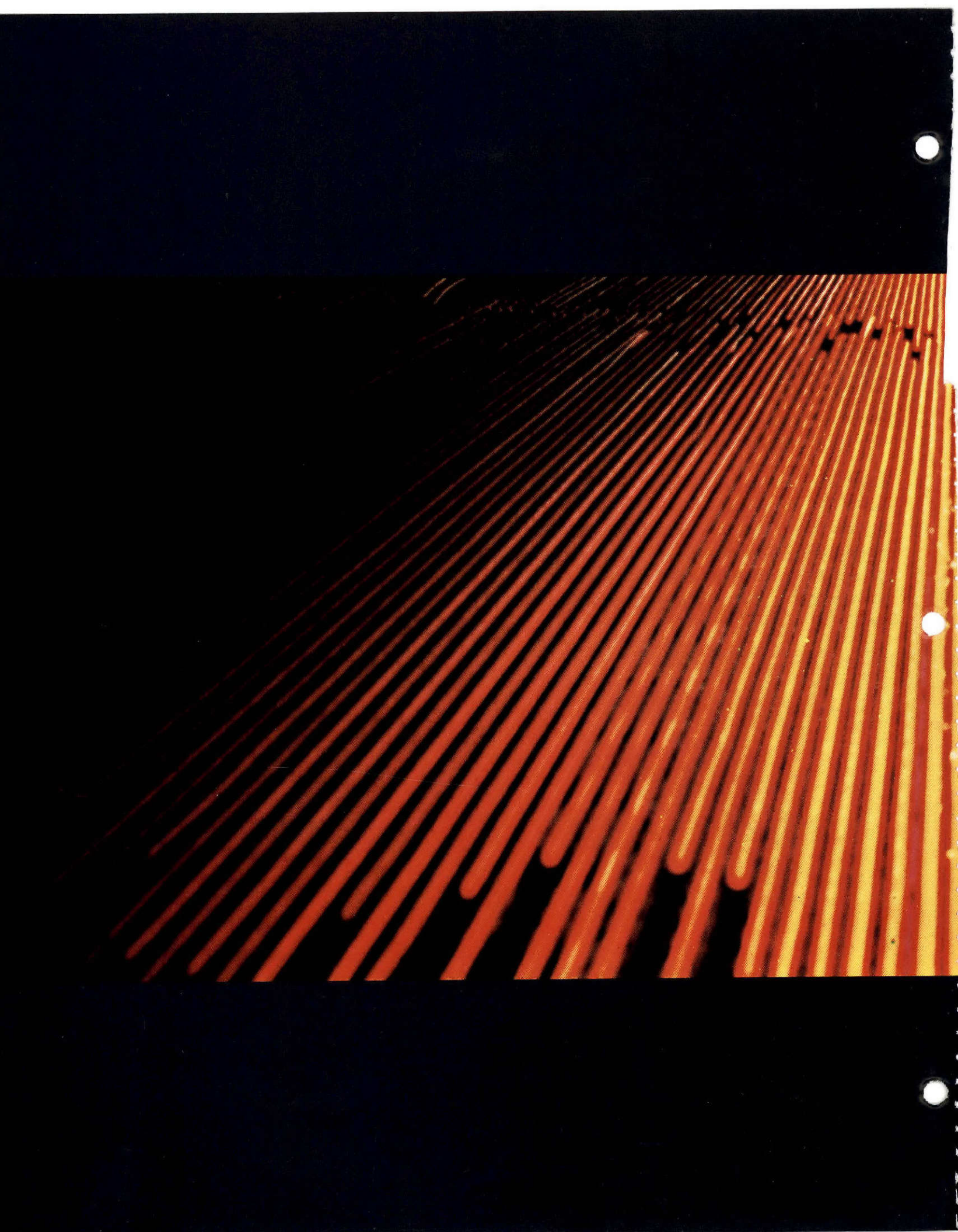
Name of Product	Annual Production Capacity in '000 MT		
	Possibility I		Possibility II
1. Ethylene	310		310
2. Low Density Ethylene	150	or	200
3. Ethylene Glycol	100	or	150
4. High Density Ethylene	80		

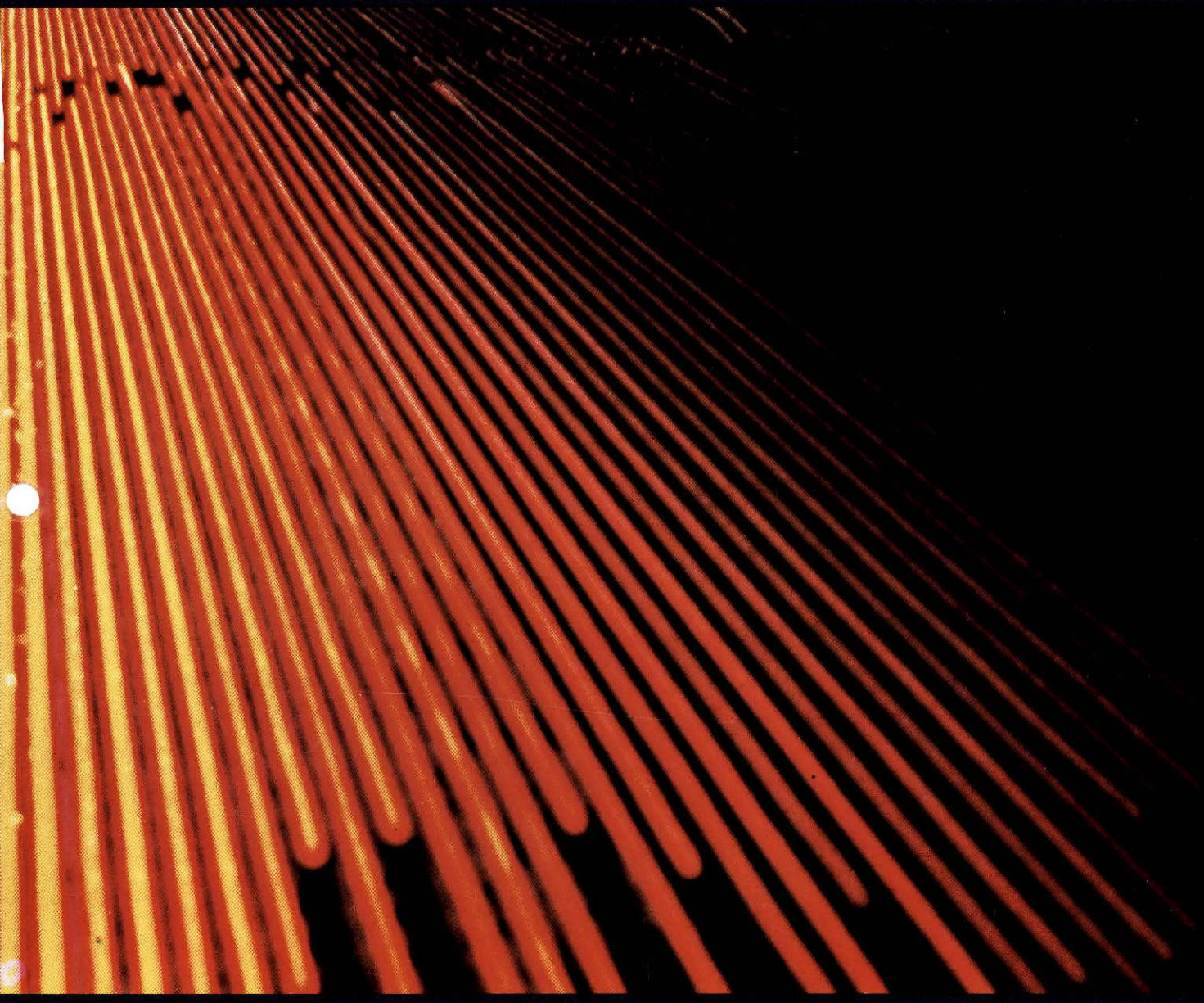
1. Mitsubishi has been provided with the requested information for preparing the preliminary feasibility study.
2. The Japanese government will participate with other Japanese companies in this project.
3. SABIC has received a pre-investment study that was prepared by the Japanese consortium.
4. The Japanese companies participating in the project are still working on the formation of the company that will be SABIC's partner in the project.

2. Other projects

In addition to the projects described previously SABIC has received many proposals from highly reputed international companies offering to enter into partnership with SABIC for the manufacture of various products. Products proposed include artificial rubber, ammonia and various pertrochemical products.

The keen interest shown by the international companies is a recognition of the fact that the availability of the hydrocarbon resources in the Kingdom provides it with a clear comparative advantage in the field of petrochemicals.





٢ ـ مشاريع اخرى

وبالاضافة الى المشاريع التي ألقي عليها الضوء آنفاً فلقد تقدم العديد من الشركات العالمية تقترح الدخول في مشاركة مع (سابك) لتنفيذ مختلف المنتجات ومن بينها المطاط الصناعي والامونيا ومنتجات بتروكيمائية أخرى .

ان الرغبة الكبيرة التي تظهرها الشركات العالمية في المشاركة مع (سابك) لهي أكبر دليل على الميزة الاقتصادية الواضحة التي تتمتع بها المملكة العربية السعودية في مجال صناعة البتروكيمائيات .

ج ـ مشاريع الاسمدة

١ ـ مشروع سابك / الاسمدة الصينية

الموقع : الجبيل

- يهدف المشروع الى انتاج خمسمائة ألف (٥٠٠,٠٠٠) طن من اليوريا للتصدير .
- تم تقديم دراسة مبدئية عن المشروع تتضمن التزام شركة الاسمدة الصينية بشراء ٦٠٪ من انتاج المشروع لاستعماله في الصين الوطنية .
- تمت الموافقة على المسودة النهائية للاتفاقية المرحلية ومن المتوقع توقيعها بين الطرفين في بداية يناير ١٩٧٩ ، وقد وصل الى الرياض عدد من المختصين من شركة تايوان للاسمدة للعمل في المشروع .

د ـ مشاريع تحت الدراسة

١ ـ مشروع سابك / ميتسوبيشي للبتروكيماويات

الموقع : الجبيل

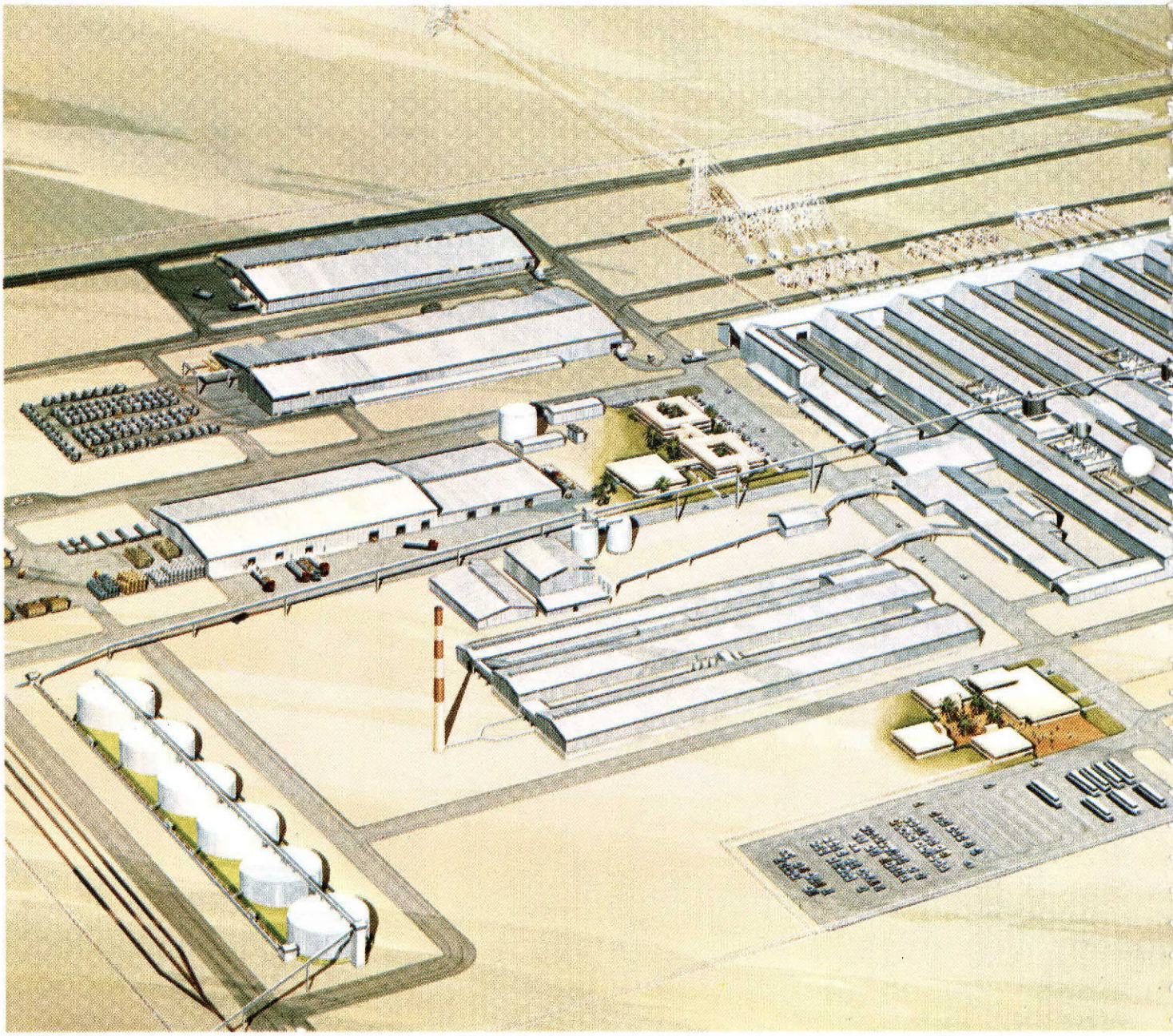
الاسم	الطاقة السنوية بآلاف الاطنان المترية	
	احتمال (١)	احتمال (٢)
١ — ايثلين	٣١٠	٣١٠
٢ — ايثلين منخفض الكثافة	١٥٠	أو ٢٠٠
٣ — ايثلين جلايكول	١٠٠	أو ١٥٠
٤ — ايثلين عالي الكثافة	٨٠	

١ — تم تزويد ميتسوبيشي بالمعلومات المطلوبة لعمل الدراسة الاولية .

٢ — سوف تشارك الحكومة اليابانية مع شركات اخرى يابانية في هذا المشروع .

٣ — استلمت الشركة السعودية للصناعات الاساسية (سابك) دراسة تمهيدية للجدوى أعدت بواسطة مجموعة شركات يابانية .

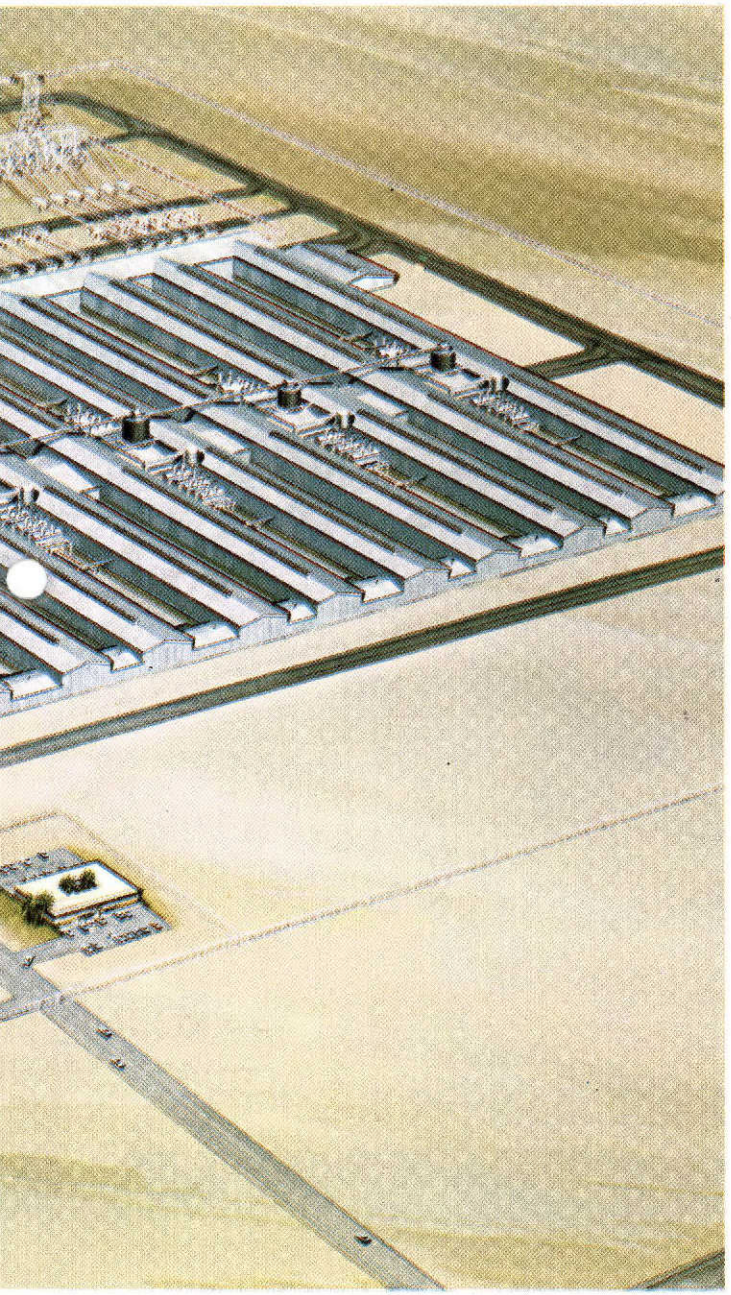
٤ — ما زالت الشركات اليابانية المشتركة في المشروع تقوم بتأليف الشركة التي ستكون شريكة (سابك) في المشروع .



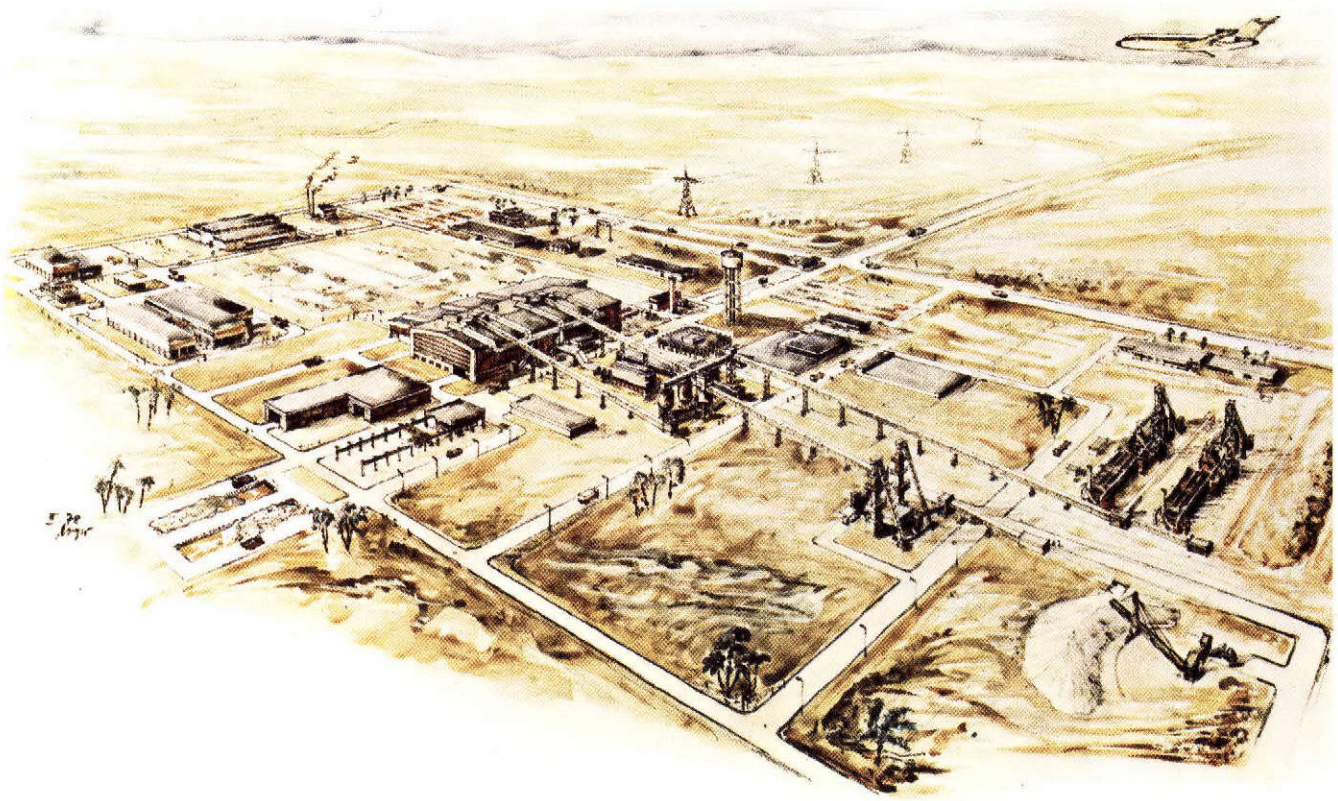
٢ . الالمنيوم

الموقع : الجبيل

- يهدف هذا المشروع الى انشاء مصنع مشترك لصهر الالمنيوم في منطقة الجبيل الصناعية .
- سيقوم المشروع بانتاج ٢٢٥ ألف طن سنوياً من كتل الالمنيوم وبعض المنتجات الثانوية الاخرى .
- قدمت دراسات حول هذا المشروع كان آخرها في يناير ١٩٧٧ م .
- تم تحليل وتقويم آخر دراسة من قبل المختصين في (سابك) .
- كلفت (سابك) أحد بيوت الخبرة لاعداد دراسة شاملة عن صناعة الالمنيوم في العالم لاستخدامها في تقويم الدراسة .
- تم الانتهاء من اعداد الدراسة الشاملة ويقوم مجلس الادارة حالياً بتقييمها تمهيداً لاتخاذ القرار اللازم بخصوص موعد البدء في تنفيذ المشروع ، مع الاخذ بالاعتبار مساهمة المملكة التي أعلنت مؤخراً في مشروع ألمنيوم البحرين .



منظر تصويري لمشروع الالمنيوم



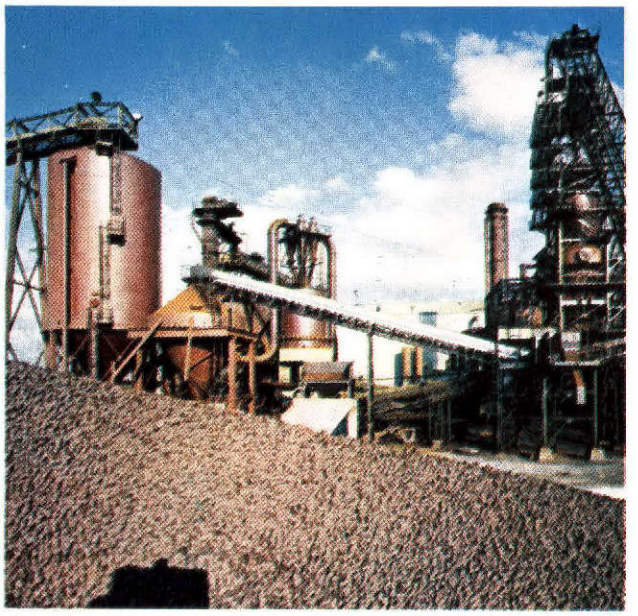
منظر لمصنع الحديد والصلب في الجبيـــل

ب ـ المشاريع المعدنية

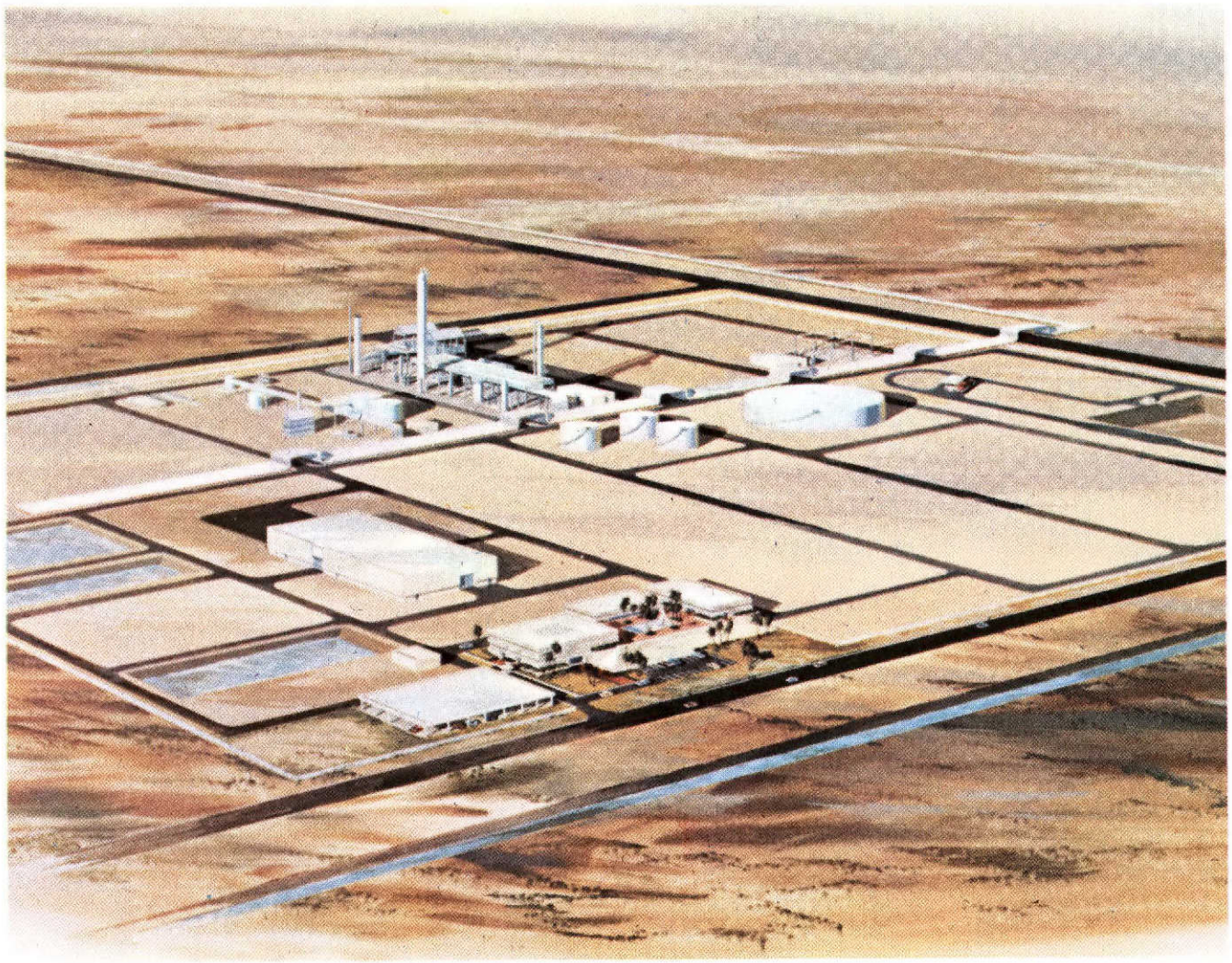
١ ـ الحديد والصلب

الموقع : الجبيل

- يهدف هذا المشروع الى انشاء مجمع صناعي مشترك بين «سابك» وشركة كورف شتال الالمانية لانتاج الحديد والصلب لسد احتياجات المملكة في أوائل الثمانينات .
- سيقوم المشروع بانتاج :
  - ☐ ٨٠٠ ألف طن سنوياً من الحديد الاسفنجي بالاختزال المباشر .
  - ☐ ٨٥٠ ألف طن سنوياً من كتل الصلب .
  - ☐ ٨٥٠ ألف طن سنوياً من قضبان حديد التسليح .
- في شهر ابريل ١٩٧٧ م وقعت اتفاقية مرحلية بين الشريكين للاغراض التالية :
  - ☐ اجراء دراسة اقتصادية شاملة .
  - ☐ تقديم عروض تسليم المفتاح لوحدتي الاختزال المباشر والصلب .
  - ☐ التفاوض على الاتفاقيات اللازمة لاقامة المشروع .
- اختيرت طريقة ميدركس للاختزال المباشر .
- تم اختيار ودعوة ست شركات عالمية لتقديم عروضها لوحدة الصلب .
- كلفت شركة لورجي الالمانية بتقديم عرض تفصيلي لوحدة الاختزال .
- تم اجراء دراسة للخردة الحديد المتوفرة في المملكة لاستعمالها في انتاج الصلب .
- يقوم المختصون السعوديون بالمشاركة في اجراء الدراسات اللازمة للمشروع .
- تم الانتهاء من اعداد الدراسات التفصيلية الاقتصادية.
- استعرض مجلس الادارة نتائج الدراسات وقرر البدء في تنفيذ المشروع .



منظر لانتاج وحدة الاختزال – الحديد الاسفنجي



منظر تصويري لمصنع آخر للميثانول سيتم بناؤه بالجبيـــل

٦ ـ مشروع سابك / سيلانيز- تكساس ايسترن

الموقع : الجبيل

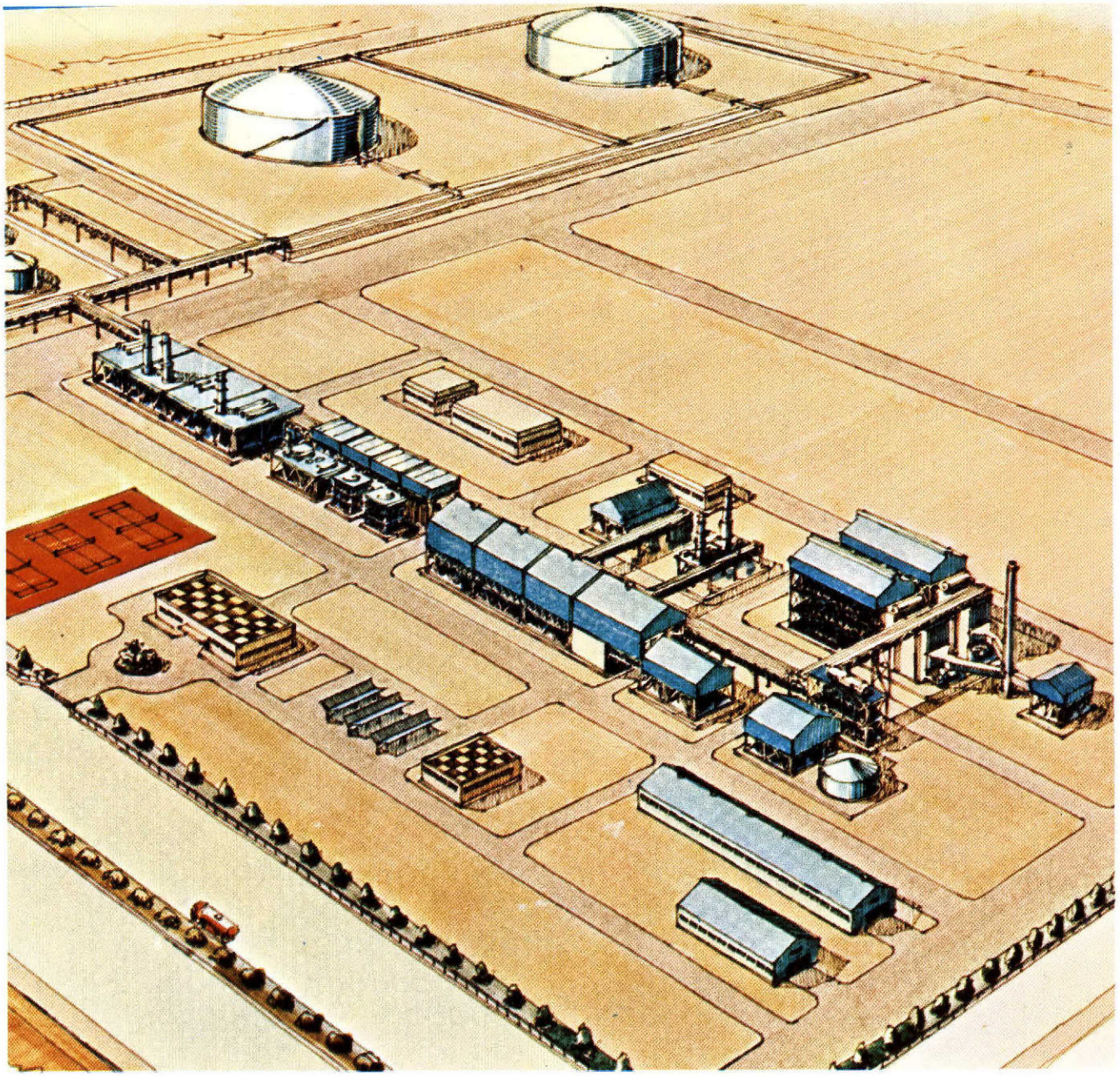
- قدمت عدة دراسات من شركات أمريكية بهدف اقامة مشروع مشترك مع « سابك » لانشاء مصنع للميثانول لانتاج ٦٠٠ ألف طن متري سنوياً .
- قامت « سابك » بتقويم هذه الدراسات وقررت الدخول مع شركتي سيلانيز وتكساس ايسترن الامريكيتين في اتفاقية مرحلية لدراسة المشروع بتوسع .
- سيوجه انتاج المشروع لاسواق امريكا وأوربا الغربية.
- تم توقيع الاتفاقية المرحلية بين الطرفين بتاريخ ٢٤ / ٢ / ١٩٧٨ م لانجاز الاهداف التالية :

□ اجراء دراسة اقتصادية وفنية شاملة .

□ البدء في التصاميم الهندسية الاولية .

□ التفاوض على الاتفاقيات اللازمة لاقامة المشروع .

- شكل فريق العمل للمشروع من (سابك) والشريكين الاجنبيين .
- تم مبدئياً اختيار آي . سي . آي (I.C.I.) كمرخصين لتكنولوجيا المشروع .
- ارسل (٧) من المختصين السعوديين الى الولايات المتحدة للعمل والتدريب في المشروع .
- من المتوقع الانتهاء من الدراسة التفصيلية في النصف الاول من عام ١٩٧٩ م .
- يجري التفاوض حالياً بخصوص الاتفاقيات اللازمة لتكوين الشركة المشتركة .



منظر تصويري لمصنع الميثانول الذي سيتم بناؤه بالجبيـــل

٥ - مشروع سابك / والمجموعة اليابانية

الموقع : الجبيل

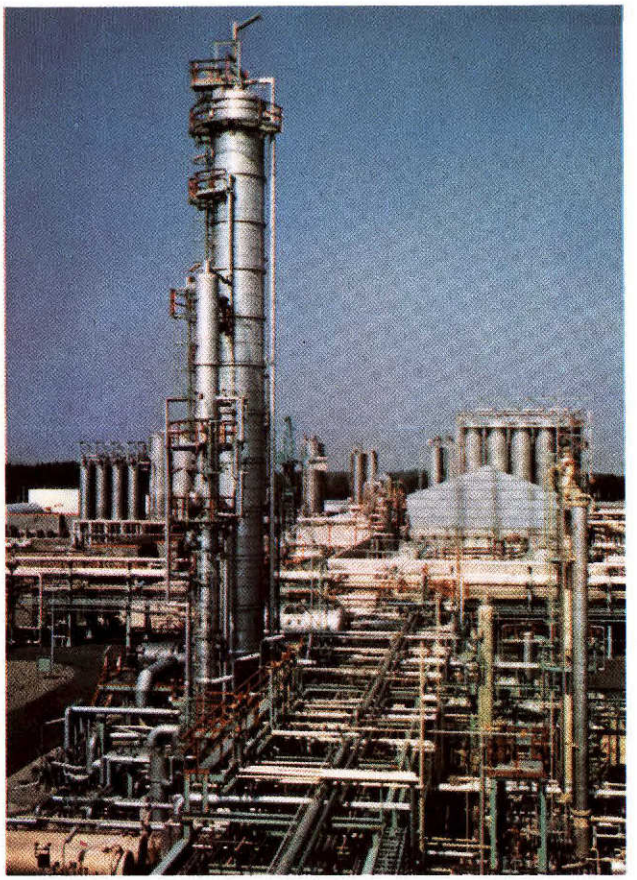
- يستهدف هذا المشروع انشاء مصنع للميثانول في منطقة الجبيل الصناعية مشاركة بين « سابك » ومجموعة من الشركات اليابانية تضم شركتي ميتسوبيشي وسيتوه اليابانيتين .
- سيقوم المشروع بانتاج ٦٠٠ ألف طن متري سنوياً من الميثانول الكيماوي .
- في شهر يونيو ١٩٧٧ م تم توقيع اتفاقية مرحلية بين « سابك » والمجموعة اليابانية للاغراض التالية :
  - ☐ اجراء دراسة اقتصادية شاملة .
  - ☐ البدء في التصاميم الهندسية الاولية .
  - ☐ التفاوض على الاتفاقيات اللازمة لاقامة المشروع .
- ستقوم شركة ميتسوبيشي للصناعات الثقيلة بتقديم عرض كامل لانشاء المصنع يشمل استعمال تكنولوجيا ميتسوبيشي .
- تم ارسال (٨) من المختصين السعوديين للمشاركه في أعمال المشروع والتدريب في مصانع ميتسوبيشي باليابان .
- تم استلام المواصفات الهندسية للمشروع .
- تم الانتهاء من دراسة موقع المشروع .
- قدمت المسودة الاولى لدراسة الجدوى الاقتصادية الى الشركاء لدراستها .
- عقدت عدة اجتماعات ناجحة لمناقشة الاتفاقيات الضرورية الخاصة بتكوين الشركة المشتركة .

منظر لصوامع حفظ البولي ايثيلين المنخفض الكثافة (سابك /إكسون)

٤ ـ مشروع سابك / اكسون

الموقع : الجبيل

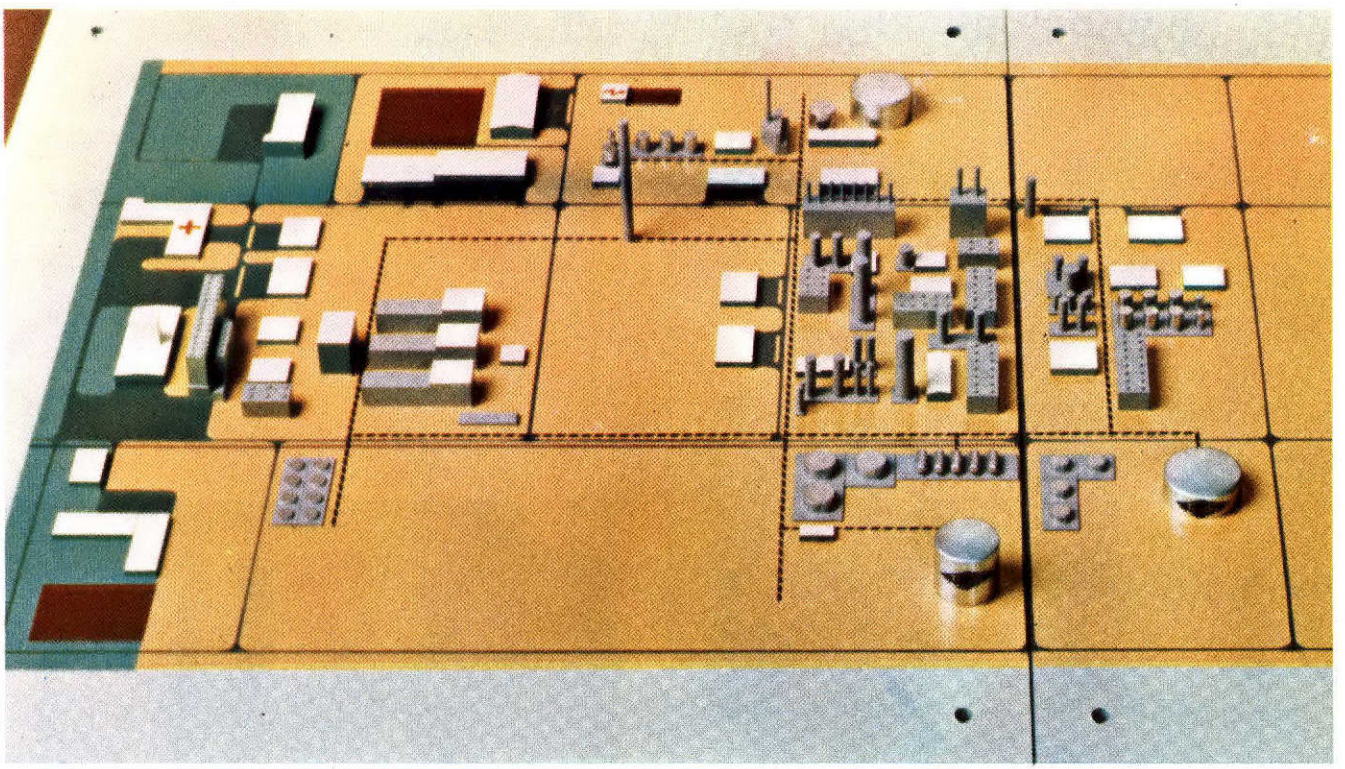
- يهدف هذا المشروع الى انشاء مصنع لانتاج مادة البولي اثيلين منخفض الكثافة في منطقة الجبيل الصناعية بطاقة انتاجية قدرها ٢٤٠ ألف طن متري سنوياً .
- سيقوم مشروع سابك / شل بتزويد هذا المشروع باحتياجاته من مادة الاثيلين .
- في شهر مارس ١٩٧٧ م تم توقيع اتفاقية مرحلية بين « سابك » وشركة اكسون للاغراض التالية :



مشروع لإنتاج البولي ايثيلين المنخفض الكثافة (سابك /إكسون)

- ☐ اجراء دراسة اقتصادية تفصيلية .
- ☐ البدء في التصاميم الهندسية الاولية .
- ☐ التفاوض على الاتفاقيات اللازمة لاقامة المشروع .

- ستقوم شركة اكسون بتقديم التكنولوجيا اللازمة للمشروع كما ستقوم بعمل التصاميم الاولية له .
- تم ارسال (٩) من المختصين السعوديين للمشاركة في أعمال المشروع والتدريب في الولايات المتحدة الامريكية .
- تم اختيار الشركة الهندسية التي ستقوم بتصميم والاشراف على المشروع .
- تم مناقشة بعض الاتفاقيات المتعلقة بتأسيس المشروع وهي الآن في مراحلها النهائية .
- تم الانتهاء من معظم أجزاء الدراسة المتعلقة بالجدوى الاقتصادية .

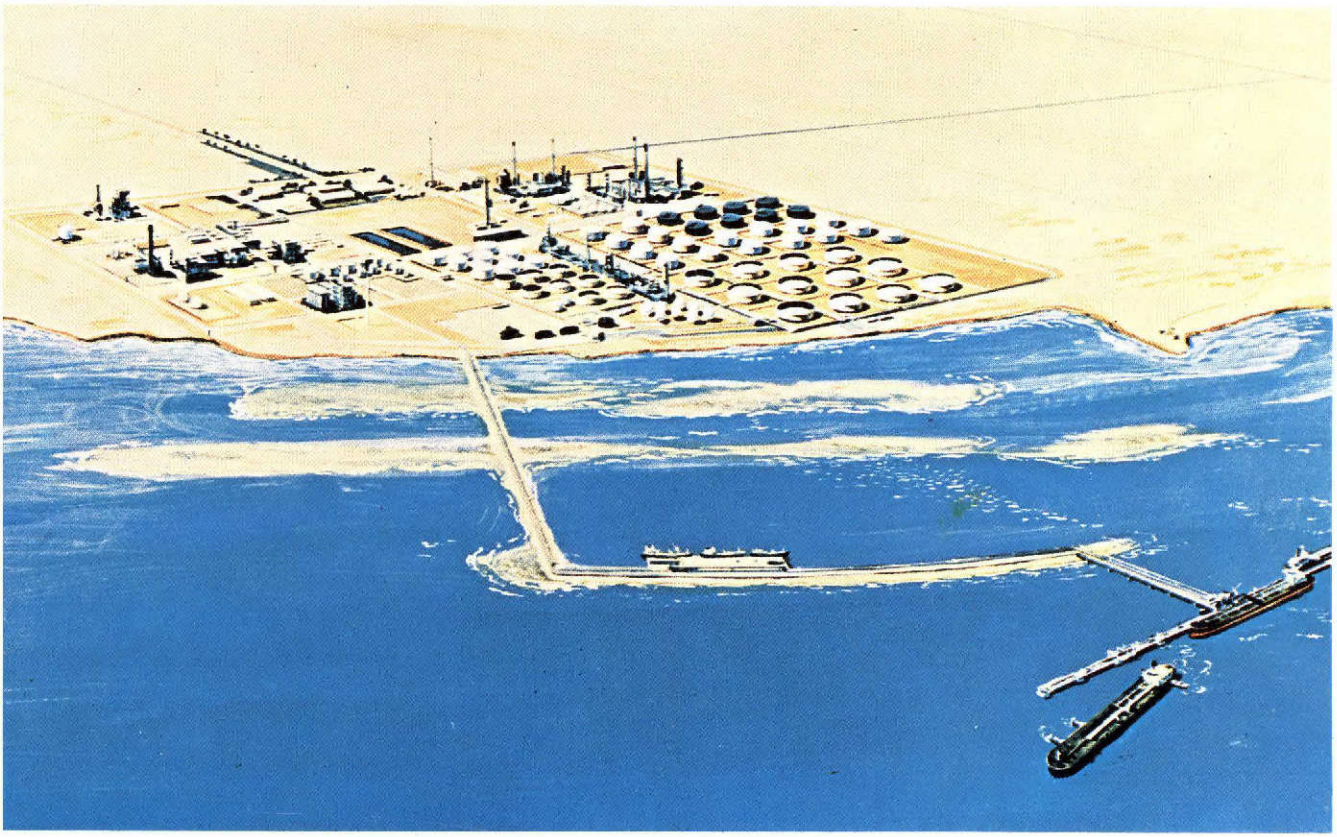


مشروع للبتروكيماويات في الجبيل (سابك /داو)

٣ - مشروع سابك / داو

الموقع : الجبيل

- يهدف هذا المشروع الى انشاء مشروع بتروكيماوي مشترك بين « سابك » وشركة داو .
- سيقوم المشروع بانتاج :
  - ☐ ٤٤٠ ألف طن متري سنوياً من الايثلين .
  - ☐ ٢٠٠ ألف طن متري سنوياً من البولي اثيلين منخفض الكثافة .
  - ☐ ٣٠٠ ألف طن متري سنوياً من الاثيلين جلايكول .
- في شهر فبراير ١٩٧٧ م تم توقيع اتفاقية مرحلية بين « سابك » وداو للاغراض التالية :
  - ☐ اجراء دراسة اقتصادية مفصلة .
  - ☐ البدء في التصاميم الهندسية الاولية .
  - ☐ التفاوض على الاتفاقيات اللازمة لاقامة المشروع .
- ستقوم شركة داو بتقديم التكنولوجيا والتصاميم الهندسية للمشروع .
- عقدت عدة اجتماعات هامة مع الادارة العليا في داو بعد التغيرات الادارية التي طرأت في داو .
- تم عقد عدة اجتماعات مع بعض المسئولين في داو خلال الربع الرابع من عام ١٩٧٨ م نتجت عنه موافقة (سابك) على الاتفاقية المرحلية المعدلة والتي تضمنت زيادة الاعمال المتفق على القيام بها في هذه المرحلة .
- تم تعيين خمسة مهندسين سعوديين على مشروع سابك / داو ثلاثة منهم ابتعثوا للتدريب في مصانع داو بهولندا .

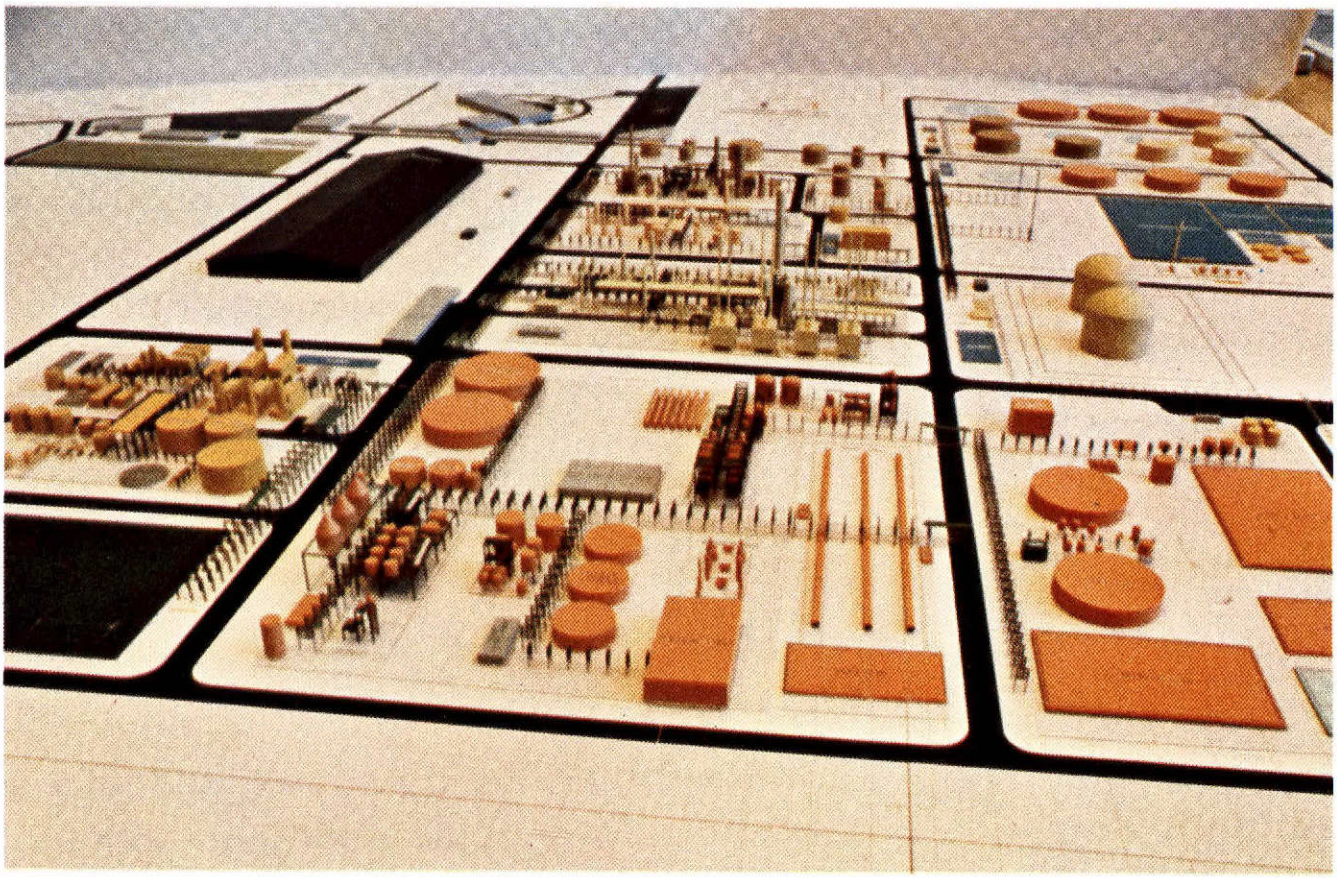


منظر تصويري لمجمع البتروكيماويات في ينبع (سابك/موبيل)

٢ ـ مشروع سابك / موبيل

الموقع : ينبع

- يستهدف هذا المشروع انشاء مجمع بتروكيماوي في مدينة ينبع الصناعية بين « سابك » وشركة موبيل للزيت .
- سيقوم المشروع بانتاج :
  - ☐ ٤٥٠ ألف طن متري سنوياً من الايثلين .
  - ☐ ٢٠٠ ألف طن متري سنوياً من البولي ايثلين المنخفض الكثافة .
  - ☐ ٢٠٠ ألف طن متري سنوياً من الايثلين جلايكول .
  - ☐ ٩١ ألف طن متري سنوياً من البولي اثيلين المرتفع الكثافة .
- في شهر أغسطس ١٩٧٦ م تم ابرام اتفاقية مرحلية بين « سابك » وموبيل للأغراض التالية :
  - ☐ اجراء دراسة اقتصادية مفصلة .
  - ☐ البدء في التصاميم الهندسية الاولية .
  - ☐ التفاوض على الاتفاقيات اللازمة للمشروع .
- تم اختيار الشركات الهندسية التي ستقوم بتصميم والاشراف على تنفيذ المشروع وكذلك مرخصي التكنولوجيا .
- تم ارسال (١٥) من المختصين السعوديين للمشاركة في أعمال المشروع والتدريب في الولايات المتحدة الأمريكية .
- تم الانتهاء من اعداد الدراسات التفصيلية ويجري حالياً تقييمها .
- بدأت المفاوضات حول بعض الاتفاقيات الرئيسية الخاصة بتكوين الشركة المشتركة .



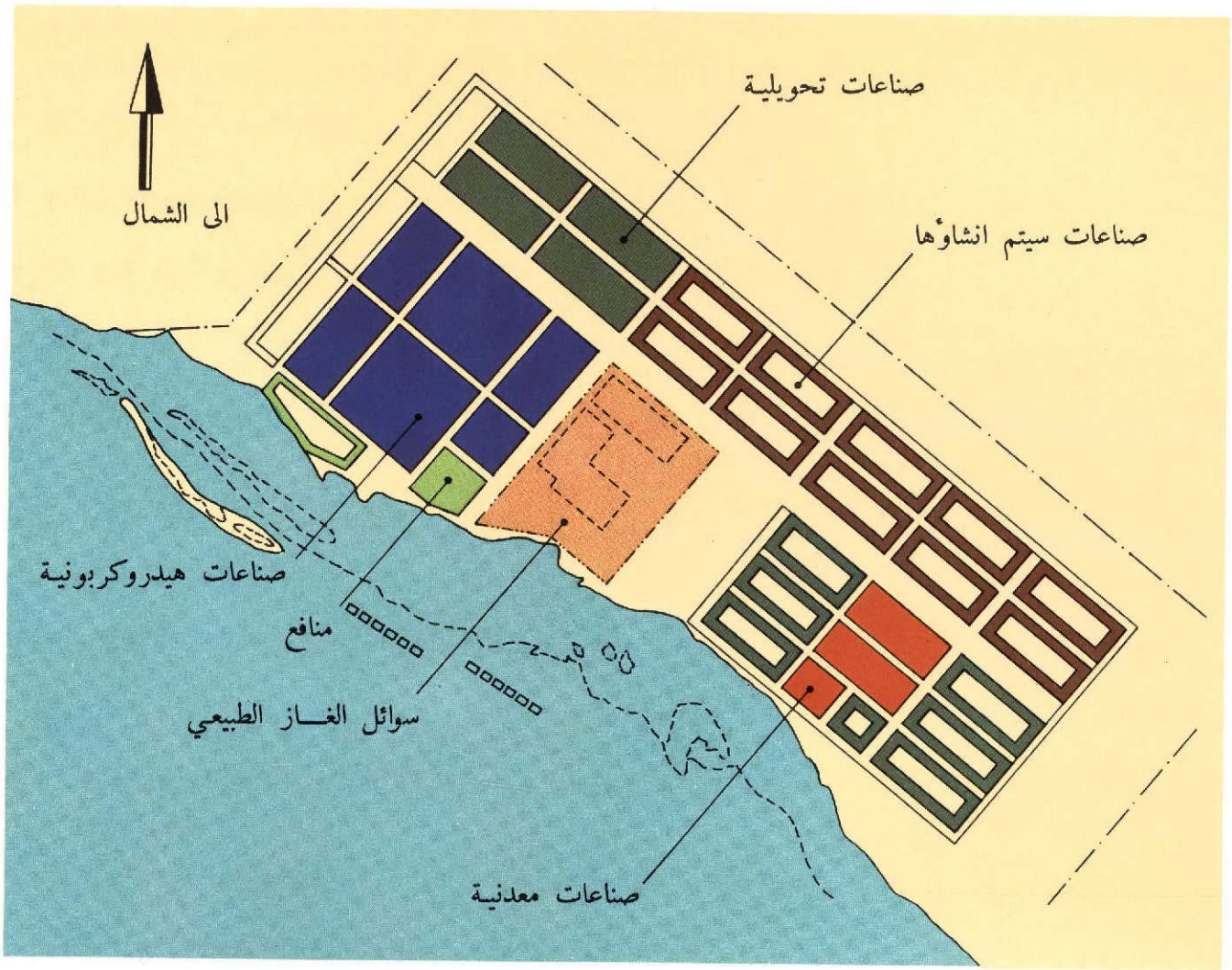
منظر تصويري لمجمع البتروكيماويات بالجبيل (سابك /شل)

أ ـ المشاريع البتروكيماوية

١ ـ مشروع سابك/شل

الموقع : الجبيل

- يستهدف هذا المشروع انشاء مجمع بتروكيماوي مملوك مشاركة بين « سابك » وشركة شل للزيت ممثلة في شركة بكتن العربية المحدودة .
- سيقوم المشروع بانتاج :
  - ☐ ٦٥٦ ألف طن متري سنوياً من الايثلين .
  - ☐ ٢٩٥ ألف طن متري سنوياً من الاستيرين .
  - ☐ ٤٥٤ ألف طن متري سنوياً من أثيلين داي كلورايد .
  - ☐ ٢٨١ ألف طن متري سنوياً من الايثانول الصناعي الخام .
  - ☐ ٣٥٥ ألف طن متري سنوياً من الصودا الكاوية.
- في شهر يوليو ١٩٧٦ م وقعت اتفاقية مرحلية بين « سابك » وشل للقيام بالاعمال التالية :
  - ☐ دراسة اقتصادية مفصلة .
  - ☐ البدء في التصاميم الهندسية الاولية .
  - ☐ التفاوض على الاتفاقيات اللازمة لاقامة المشروع .
- تم اختيار الشركات الهندسية التي ستقوم بتصميم والاشراف على تنفيذ المشروع وكذلك مرخصي التكنولوجيا .
- تم ارسال (١٤) من المختصين السعوديين للمشاركة في أعمال المشروع والتدريب في الولايات المتحدة الامريكية .
- في شهر سبتمبر ١٩٧٧ م انتهت الدراسة الاقتصادية وقدمت للشركاء للموافقة عليها .
- وافق مجلس ادارة (سابك) على نتائج الدراسات الاقتصادية والهندسية .
- وافق صندوق الاستثمارات العامة على القرض اللازم للمشروع .
- المناقشات لا زالت مستمرة بين (سابك) وشل حول اتفاقيات المشاركة المختلفة .



مخطط لمنطقة ينبع الصناعية

المشـــاريع

منظر جوي لمنطقة الجبيل الصناعية كما ستبدو في المستقبل

المبادئ الاساسية التي تنتهجها سابك لتطوير المشاريع

للتأكد من الجدوى الاقتصادية لمشاريع « سابك » فانها تمر خلال عدة مراحل من التقييم الاقتصادي وذلك قبل اتخاذ أي قرار نهائي بشأنها و تلك المراحل هي :

١ مناقشة مبدئية بين « سابك » والشريك الأجنبي .

٢ دراسة جدوى تمهيدية .

٣ اعداد وتوقيع اتفاقية مرحلية .

٤ دراسة جدوى تفصيلية .

٥ تقييم اقتصادي مفصل للمشروع .

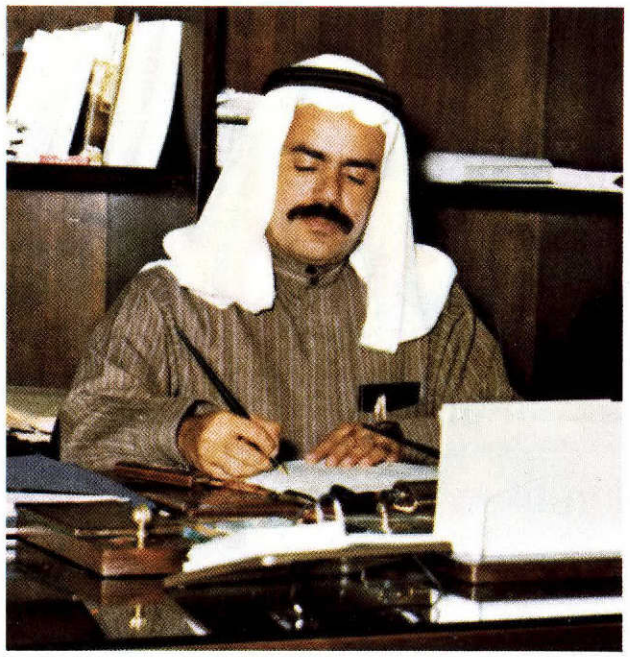
٦ القرار النهائي بالموافقة على تنفيذ المشروع .

٧ الأنتهاء من الأتفاقية الرسمية وتكوين شركة مشاركة .

٨ تنفيذ المشروع .

٩ البدء في تشغيل المشروع .

١٠ متابعة المشروع .



مدير عام الشركة للتخطيط وتقويم المشاريع

مهندس سعودي في مشروع سابك /شل في جولة تفقدية في احدى
وحدات المصنع .

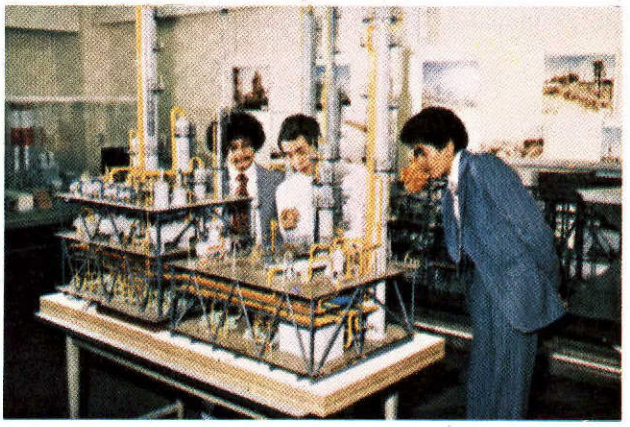
تنمية القوى العاملة

- **التدريب الداخلي** – ويشمل الاشتراك في الدورات والمؤتمرات والندوات .

- **التدريب الخارجي** – التدريب مع شركاء (سابك) لكسب الخبرات النظرية والعلمية في أمريكا وأوربا واليابان للعمل والتدريب في مشاريع الشركة المختلفة.

١

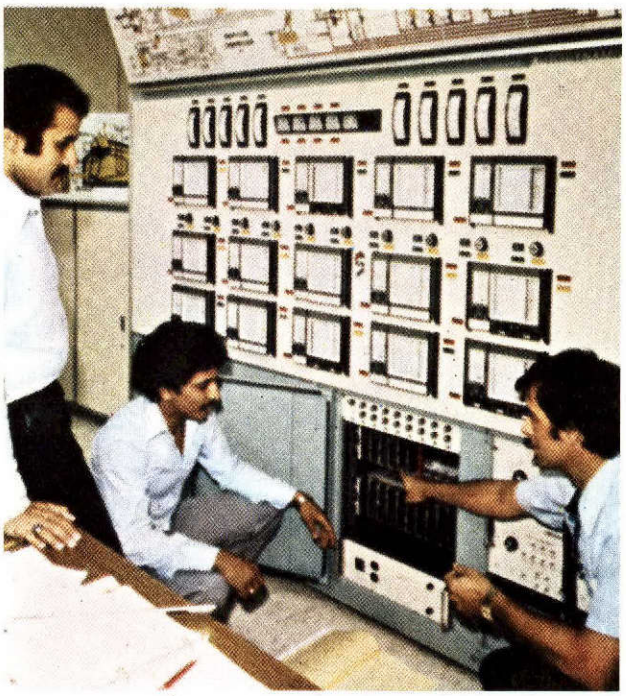
٢



١ – مهندس سعودي في مشروع سابك /شل يأخذ القراءة من لوحة في غرفة المراقبة .

٢ – مهندسان سعوديان في مشروع سابك /الميثانول الياباني يستمعان إلى شرح عن طريقة انشاء وتركيب الوحدات المسبقة التصنيع .

٣



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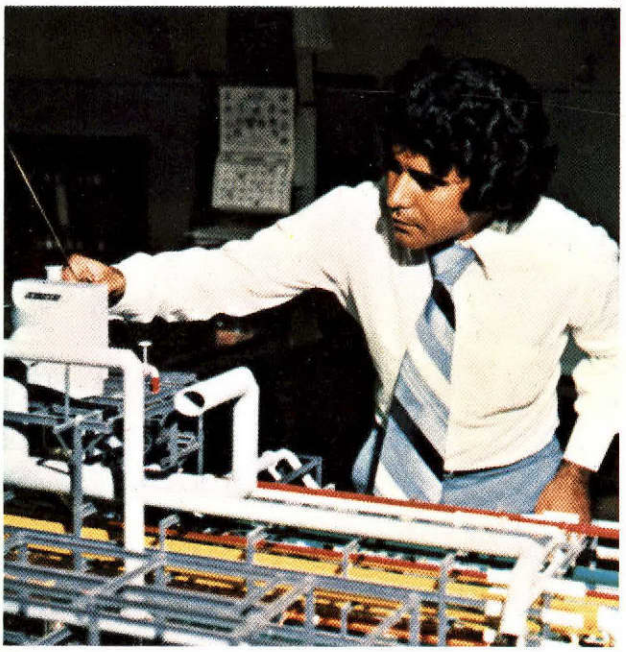


٣ – مهندسان سعوديان في مشروع سابك /موبيل يستمعان إلى شرح عن جهاز المراقبة في وحدة الاثيلين .

٤ – مهندس سعودي في مشروع سابك /سيلا نيز – تكساس ايسترن يتفقد نموذجاً لمصنع الميثانول الذي سوف يركب في الجبيل مستقبلا .

الشئون الادارية والمالية

تم استئجار وتجهيز المقر الرئيسي للشركة بالرياض وفرع الشركة بالدمام .

تم اعداد واعتماد الهيكل التنظيمي للشركة (شكل رقم ١) .

تم اعداد واعتماد لائحة العاملين بالشركة .

- تم اعداد واعتماد قواعد التعاقد مع الخبراء .

تم اعداد واعتماد اللائحة المالية للشركة .

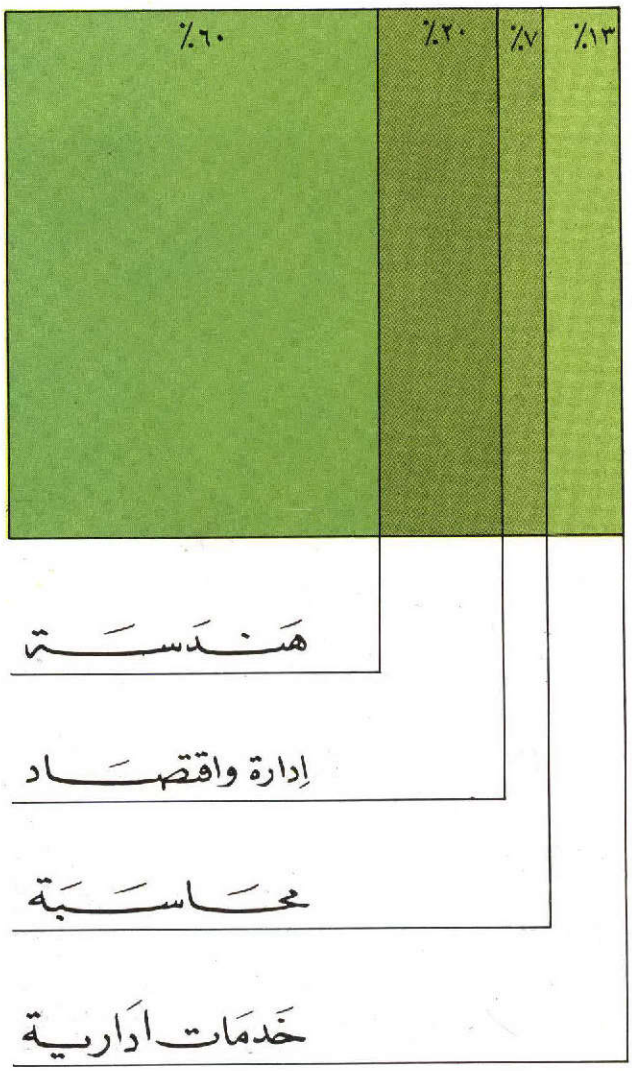
تم تعيين مراقبي حسابات الشركة .

تم اعتماد الميزانية التقديرية للشركة لعامي ١٩٧٧ و ١٩٧٨ م .

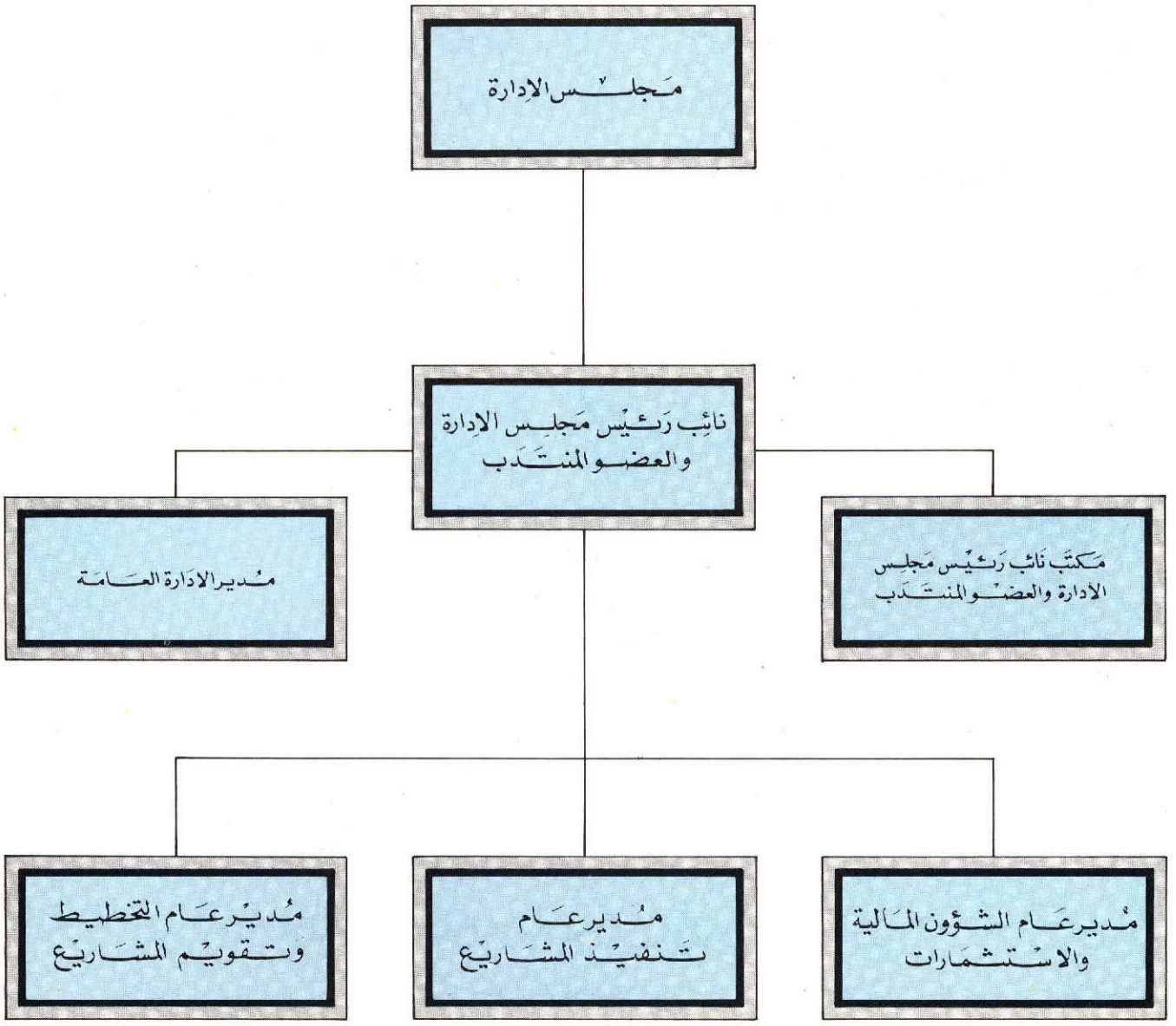
تم تدعيم ادارات وأقسام الشركة بالموظفين وقد بلغ عددهم حتى نهاية شهر ديسمبر ٧٨ (١٣١) موظفاً. ومما تجدر الاشارة اليه أن نسبة العاملين السعوديين في (سابك) تزيد عن ٩٠ ٪ (شكل رقم ٢) .

تم ابتعاث (٦٩) موظفاً الى أمريكا وأوربا واليابان للعمل والتدريب في مشاريع الشركة المختلفة .

- تم اشتراك العديد من موظفي الشركة في برامج تدريبية ومؤتمرات وندوات دولية بالاضافة الى الزيارات الاستطلاعية لمرافق صناعية داخل وخارج المملكة العربية السعودية .



شكل رقم ٢



الهيكل التنظيمي لسابك .

المحتويات صفحة

مجلس الإدارة

غازي عبد الرحمن القصيبي
رئيس مجلس الادارة
وزير الصناعة والكهرباء

عبد العزيز عبد الله الزامل
نائب رئيس مجلس الادارة
والعضو المنتدب

منصور التركي
وكيل وزارة المالية والاقتصاد الوطني
للشؤون الاقتصادية

فيصل البشير
وكيل وزارة التخطيط

أحمد التويجري
وكيل وزارة الصناعة والكهرباء
لشؤون الصناعة

محسون جلال

يوسف محمد علي رضا

مقدمة

ان من حق الاجيال القادمة علينا أن نعمل كل ما في وسعنا لاستغلال الموارد الطبيعية المتوفرة لدينا بطريقة تضمن زيادة قيمتها وتساعد الاجيال القادمة في استنباط أفضل السبل للاستمرار من الاستفادة منها وزيادة القيمة المضافة لها بشكل أكبر .

ولقد كان قرار حكومة المملكة العربية السعودية المتوج بالمرسوم الملكي رقم م/٦٦ وتاريخ ١٣/٩/١٣٩٦ هـ بتأسيس الشركة السعودية للصناعات الاساسية (سابك) هو ترجمة واقعية لتصميم المملكة من الاستفادة القصوى من مواردها الطبيعية .

ان هذا التقرير الذي بين يديك يعكس أهم المنجزات التي حققتها (سابك) منذ تأسيسها وحتى نهاية عام ١٣٩٨ هـ الموافق ١٩٧٨ م . وبالرغم من أهمية الاعمال التي تم انجازها فان الانجازات الحقيقية لم تتحقق بعد ولن تبرز إلا بعد تنفيذ المشاريع الصناعية واستفادة المملكة ومواطنيها منها .

لقد كان اهتمام العاملين في (سابك) في العامين الماضيين منصباً على تحقيق ما يلي :

١ — اتخاذ الخطوات اللازمة لانشاء الشركة وتدعيمها بالكفاءات الوطنية والخبرات الاجنبية ووضع القواعد واللوائح اللازمة لتشغيل الشركة .

٢ — وضع برنامج عمل محدد للمشاريع والبدء في تنفيذه .

٣ — اجراء الدراسات التفصيلية للجدوى الاقتصادية والهندسية لمشاريع الصناعات الاساسية .

ان المشاريع التي كلفت بها (سابك) في مجال البتروكيمائيات والحديد والصلب والالمنيوم والاسمدة تعتبر من اكبر المشاريع في العالم ، ونظراً لاهمية هذه المشاريع للمملكة فانه لا بد من دراسة كل مشروع بعناية فائقة وأن لا يدخر أي جهد في التأكد من الجدوى الاقتصادية للمشاريع التي ستقوم (سابك) بتنفيذها . ولذا فان العامين الماضيين شهدت سلسلة متواصلة من الدراسات المتعمقة والتي ستمكننا من اتخاذ القرارات اللازمة في العام المقبل للبدء في تنفيذ مشاريع الصناعات الاساسية .

وأود بهذه المناسبة أن أتقدم باسمي وباسم جميع العاملين في (سابك) بالشكر والتقدير لمعالي وزير الصناعة والكهرباء رئيس مجلس الادارة وزملائي أعضاء المجلس على اهتمامهم المستمر ومشاركتهم الفعالة في وضع اللبنات الاولى لمستقبل الصناعات الاساسية في المملكة العربية السعودية .

« وقل اعملوا فسيرى الله عملكم ورسوله والمؤمنون » .

عبد العزيز عبد الله الزامل

نائب رئيس مجلس الادارة
والعضو المنتدب

تقـــديم

في الوقت الذي أشعر بالسعادة بتقديم هذا التقرير عن أعمال الشركة السعودية للصناعات الاساسية ، فان سعادتي لن تكتمل إلا عندما نتمكن من تنفيذ وتشغيل المشاريع التي كلفت بها الشركة بأيد سعودية وبادارة سعودية .

ان الرعاية والدعم والتشجيع الذي تلقاه الصناعة من جلالة الملك المعظم وسمو ولي عهده الامين وكافة المسؤولين والمواطنين يتطلب منا بذل المزيد لتحقيق الآمال المعقودة علينا ، ورد جزء من الجميل الذي أحاطوا الصناعة السعودية به .

ان مشاريع الصناعات الاساسية هي ترجمة لأماني هذه المملكة الفتية في استغلال مواردها الطبيعية وتحويلها الى منتجات يستفيد منها جميع المواطنين وتكون مصدراً جديداً من مصادر الدخل بجانب البترول .

ان اقبال الشركات العالمية على المساهمة في تنفيذ مشروعاتنا الصناعية الاساسية هو أكبر دليل على الميزة الاقتصادية الواضحة التي تتمتع بها المملكة في مجـــال البتروكيمائيات والاسمدة ومنتجات المعادن الاساسية .

ويسرني بهذه المناسبة أن أعرب عن خالص شكري وتقديري لصاحب الجلالة الملك المعظم وحكومته الرشيدة على الدعم والتشجيع المتواصل الذي تحظى به الصناعة الوطنية .

كما أود أن أشكر زملائي أعضاء مجلس الادارة وأخواني العاملين في الشركة على الجهد الذي بذلوه خلال الفترة السابقـة .

أدعو الله أن يوفقنا لتحقيق المزيد من المنجزات في المستقبل انه ولي التوفيق .

غازي عبد الرحمن القصيبي

وزير الصناعة والكهرباء
ورئيس مجلس الادارة

صاحب السمو الملكي الأمير عبد الله بن عبد العزيز آل سعود

النائب الثاني لرئيس مجلس الوزراء ورئيس الحرس الوطني

حضرة صاحب السمو الملكي الأمير فهد بن عبد العزيز آل سعود

ولي العهد ونائب رئيس مجلس الوزراء

حضرة صاحب الجلالة الملك خالد بن عبد العزيز آل سعود

ملك المملكة العربية السعودية

سابك

الشركة السعودية للصناعات الأساسية

شركة حكومية

١٣٩٨

PROFILE OF TAIWAN FERTILIZER COMPANY LTD.

A. BACKGROUND:

Taiwan Fertilizer Company Ltd., (TFC) Taipei, Taiwan, Republic of China was founded in May, 1946, less than a year after the restoration of Taiwan to China, by the former National Resources Commission of the Central Government jointly with the Taiwan Provincial Government. TFC was formed by consolidating former Japanese plants located in Keelung, Hsinchu, Kaohsiung and Lotung. All these plants were devastated during World War II but through the incessant efforts of TFC staff, engineers and workers with the support of Government, all these plants were repaired in a few months. Before the end of 1946, production of calcium cyanamide in No. 1 Keelung Factory and calcium superphosphate in No. 2 Keelung Factory and Kaohsiung Factory were all resumed.

Throughout the years TFC has been steadily growing. Financed by US Dollar and local currency loans granted by the Bank of Taiwan in August 1949, the Hsinchu Factory completed its first expansion and started to produce calcium cyanamide in April, 1951. In 1954 TFC was granted US Aid for the construction of nitrophosphate plant in Kaohsiung Factory and an ammonia-urea plant in Nankong Factory; Nankong has now become a part of the City of Taipei. The nitrophosphate plant was completed in 1957 and the ammonia-urea plant in February, 1958. In May, 1960

Hualien Nitrogen Fertilizer Corporation with its Hualien Nitrochalk plant was merged with TFC by government order. In August 1962, in order to utilize the anhydrous ammonia produced in Miaoli by the then Mobil China Allied Chamical Industries Ltd., TFC started the construction of an ammonium sulfate plant in its Hsinchu Factory. Production was started in June, 1964.

From December, 1964, construction of a new ammonia-urea plant was started in Hsinchu Factory, this being completed in December, 1968.

In August, 1964, the Nanhu Coal Mine of the former China Coal Mine Development Company was merged into Musan Coal Mine originally of the Keelung Factory, and was placed directly under the TFC management.

Construction of a compound fertilizer plant was started in the Kaohsiung Factory in November, 1966 and production was started in March, 1970.

In January 1971 again by government order TFC bought out the American investors of Mobil China Allied Chemical Industries, Ltd. with its ammonia-urea plant in Miaoli. Expansion of the Miaoli Factory under TFC management was completed at the end of 1977.

In May, 1972, a project was initiated to revamp the ammonia-urea plant of Nankong Factory to make it produce ammonia from natural gas. In March 1974, another construction project was started at the same Factory for a compound fertilizer plant. The former project was completed by the end of 1976 and the later, in early 1977.

To diversify its products, the Hsinchu Factory began the construction of a melamine plant in July, 1974, this being completed in June 1979.

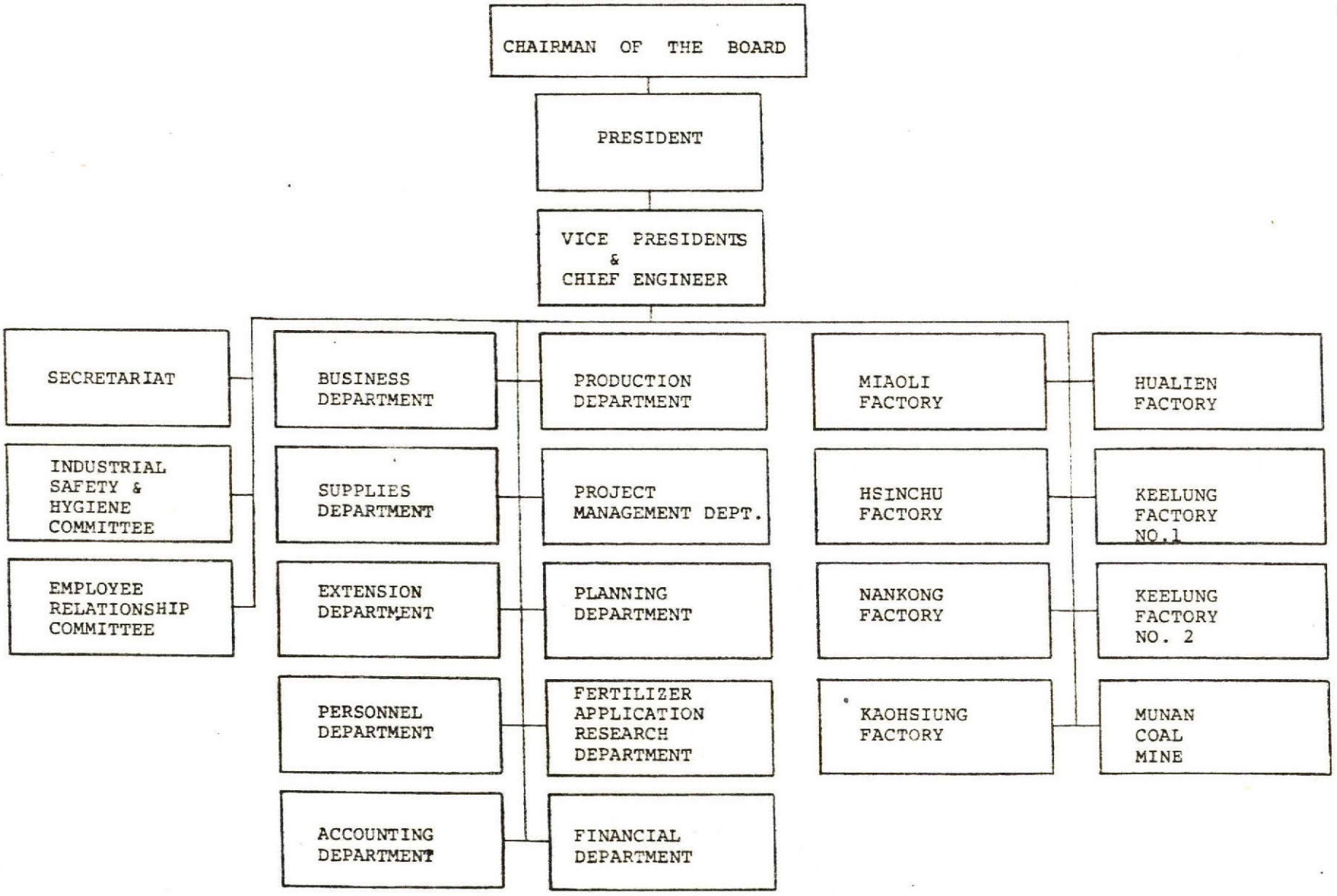
B. CAPITALIZATION:

TFC has been a company limited by shares, incorporated initially with a registered capital of NT$ 12 million. The capital has been increased several times since 1946. Now the registered capital is NT$ 3,200 million (equivalent to US $ 89 million), all paid up. Of the total stocks, the Central Government holds 78.72%, the Taiwan Provincial Government 21.17% and the balance 0.11% is held by legal entities and private individuals.

C. MANAGEMENT:

An Organization Chart of TFC is attached on the next page. Under the supervision of the Board of Directors and the management of the President, there are ten departments, two committees and one secretariat in TFC headquarters.

ORGANIZATION CHART OF TAIWAN FERTILIZER CO. LTD.



Planning Department

Personnel Department

Accounting Department

Financing Department

Supply Department

Business (or Sales) Department

Project Management Department

Production Department

Extension Department

Fertilizer Application & Research Department

Industrial Safety & Hygiene Committee

Employee Relationship Committee

D. PRODUCTION AND FACTORIES:

TFC operates seven factories scattered all over Taiwan. In the seven factories there are five compound fertilizer units, four ammonia units, three urea units, three nitric acid units, three sulfuric acid units, two ammonium sulfate units, two superphosphate units, one phosphoric acid unit, one nitrochalk unit, one melamine unit, one ferrosilicon unit and one acetylene black unit.

Essential functions of each production unit are described as follows:

D-1. Miaoli Factory:

Products : Ammonia and Urea

Raw Material : Natural Gas

Processes : Old Unit : Natural Gas Reforming for ammonia, Allied Chemical Water Solution total recycle for urea.

New Unit : Kellogg Natural Gas Reforming for ammonia, Stamicarbon carbon dioxide stripping for urea.

Annual Production Capacity

Old Unit : Ammonia : 106,000 MT

Urea : 100,000 MT

New Unit : Ammonia : 300,300 MT

Urea : 186,000 MT

D-2. Hsinchu Factory:

Products : Ammonia, Ammonium Sulfate, Urea and Melamine.

Raw Materials: Natural Gas and Sulfur

Processes : Chemical Natural Gas Reforming for Ammonia, OSLO Crystalizer for Ammonium Sulfate, Toyokoatsu Partial Recycle for Urea, Stamcarbon for Melamine.

Annual Production Capacity:

Ammonia	:	180,000 MT
Ammonium Sulfate	:	270,000 MT
Urea	:	90,000 MT
Melamine	:	10,000 MT

D-3. Nankong Factory:

Products : Urea and Compound Fertilizer

Raw Materials: Natural gas for ammonia and urea. Nitrogenous fertilizers, phosphates and potassium Chloride for compound fertilizers.

Processes : Topsoe/SRA Autothermal Process for ammonia.
Modified Inventa Process for urea.

Annual Production Capacity:

Urea	:	160,000 MT
Compound Fertilizers:		200,000 MT

D-4. Kaohsiung Factory:

Products : Superphosphates and Compund Fertilizers.

Raw Materials: Phosphate rock for superphosphates, nitrogenous fertilizers and potassium chloride for compound fertilizers.

Annual Production Capacity:

Superphosphates	:	130,000 MT
Compound Fertilizers	:	210,000 MT

D-5. Hualien Factory:

Products : Nitrochalk and Compound Fertilizers

Annual Production Capacity:

Nitrochalk	:	70,000 MT
Compound Fertilizers	:	30,000 MT

D-6. Keelung No. 1 Factory:

Products : Ferrosilicon and Acetylene Black

Annual Production Capacity:

Ferrosilicon	:	11,000 MT
Acetylene Black	:	1,000 MT

D-7. Keelung Factory No.2:

Products : Superphosphates and Compound Fertilizers

Annual Production Capacity:

Superphosphates	:	100,000 MT
Compound Fertilizers:		40,000 MT

D-8. Mu-Nan Coal Mine:

Production : Non-coking coal

Annual Production Capacity : 50,000 MT

E. SALES:

TFC products are mainly sold for domestic consumption in Taiwan. However, in compliance with the government trade policy, TFC has been successful in exporting products in excess of local needs.

E-1. Domestic Sales:

E-1-a. Fertilizers:

All fertilizers are sold through the Taiwan Food Bureau and Taiwan Sugar Corporation for redistribution to the farmers.

Since 1963, TFC has been following the government cheap fertilizer policy for agricultural development. In the past few years, the prices of fertilizers have been reduced nine times. They are now being sold at a lower price than most of the neighboring countries. The quantities of fertilizers applied to each unit area of farmland in Taiwan are already higher than most of the countries in the world. But to the local farmers, the cost of fertilizers accounts for only 9% of the total cost of production. It is comparable with or lower than the percentages prevailing in the world developed countries.

E-1-a. Industrial Products:

Industrial grade urea is sold mainly to the local fermentation industry and manufacturers of urea-formaldehyde resins. Anhydrous ammonia is sold to manufacturers of caprolactum and acronitrile as well as miscellaneous users. Ferrosilicon, acetylene black, melamine etc. are sold to industrial users directly or through dealers.

E-2. Export Sales:

Throughout the years TFC has exported urea, anhydrous and aqueous ammonia, calcium carbide, calcium cyanamide, argon, slaked lime, ferrosilicon, acetylene black, sodium silicofluoride, ammonium sulfate, ammonium phosphate and compound fertilizers. Markets include Thailand, Vietnam, Singapore, Malaysia, Okinawa, Laos, Borneo, Hongkong, Japan, the Phillipines, Korea, Pakistan, India, Indonesia, and even as far as Australia, New Zealand and the U.S.A. As TFC products are of good quality, reasonably priced and promptly delivered, a good reputation has gradually been built up in the international market.

How sold? Own organization? dealers?

F. RURAL SERVICES:

F-1. Demonstration:

In order to help the farmers apply fertilizers

in proper ways for increased yields, TFC has been setting up various field demonstrations in coordination with concerned agricultural organizations. Besides participating in the province-wide fertilizer demonstration projects on paddy rice and other miscellaneous crops sponsored by Taiwan Provincial Food Bureau and the Joint Commission on Rural Reconstruction, TFC has been conducting demonstrations on sugarcane, pineapple, banana, citrus fruits, tea, asparagus, mushroom, various vegetables and also on forest trees and fish ponds; all these showed good effects from using compound fertilizers. The great popularity of compound fertilizers is evidenced by its sharp rate of increase of annual consumption in recent years.

F-2. Soil Survey & Analysis:

TFC conducts soil surveys, performs free soil and plant tissue analysis and therefore provides guidance to the farmers on application of fertilizers. The farmers are welcome to submit soil samples to TFC for analysis.

Research on problems relating to soil, fertilizers and plant nutrition are being conducted in laboratories by technical personnel. The findings are published in journals.

F-3. Farm Visits:

Since November 1973 TFC has been sending teams of technical personnel to visit rural areas regularly to provide services to the farmers and to keep them informed of the agricultural development plans of the government. Each year, they visit 5,000 farming families, keep permanent records of their interviews and take follow-up actions on 400 - 600 cases.

To strengthen services to the farmers and maintain close liasion with them, service stations are set up in six locations all over Taiwan. These stations conduct surveys on fertilizer requirements. Reports are submitted to TFC headquarters for reference and action.


台灣肥料股份有限公司
TAIWAN FERTILIZER CO., LTD.

一、沿　革 HISTORY

本公司係於民國三十五年五月由前資源委員會及臺灣省政府共同籌組成立，接收前臺灣電化株式會社基隆工場及其羅東分工場、前臺灣肥料株式會社基隆、高雄兩工場暨新竹前臺灣有機合成株式會社工場等單位合併而成。接收之時，上述各工場均已損燬殆盡，形同廢墟，經政府當局扶持及全體員工努力整修之下，先將基隆及高雄三所工場分別定名爲本公司第一、二、三廠，在民國三十五年內先後恢復生產；羅東分工場定名爲本公司第一廠羅東分廠，五十年三月合併蘇澳石礦改組爲本公司第四廠；新竹之有機合成工場則定名爲本公司第五廠，於三十八年八月間奉臺灣省政府核准由臺灣銀行貸款美金一百七十萬元及新臺幣約五百萬元，由本公司自行加以擴建，於四十年四月開始生產

The Taiwan Fertilizer Company, Ltd. (TFC) was founded in May 1946 jointly by the former National Resources Commission and the Taiwan Provincial Government by consolidating the Keelung Plant and its Lotung Branch of the former Taiwan Denki Kagaku Kabushiki Kasha, the Keelung Plant and the Kaohsiung Plant of the former Taiwan Hiryo Kabushiki Kasha, and the Hsinchu Plant of the former Taiwan Yuki Gosei Kabushiki Kasha. All of these plants had been devastated when they were taken over by this Company. The two Keelung plants and the Kaohsiung plant were later named Factories Nos. 1, 2 and 3 of this Company. With the efforts of the staff, engineers and workers of this Company and with the support of the Government, these three plants resumed production before the end of 1946.

氰氮化鈣肥料。四十三年又獲美援創設化成氮磷及尿素工廠各一所，前者於四十六年建設完成，四十八年十月併入第三廠；後者於四十七年二月全部建造安裝完成，定名爲本公司第六廠。四十九年五月奉經濟部令將花蓮氮肥公司與本公司合併經營，該公司原有硝酸鋅鈣廠改爲本公司第七廠。五十一年八月本公司爲配合利用苗栗慕華化學公司所產液氨，計劃於新竹第五廠內籌建硫酸銨工廠生產硫酸銨肥料，遂即成立工程處，於五十三年四月籌建完成，開始試車，六月正式生產。五十三年八月收購前中國煤礦開發公司之南湖煤礦，與本公司原屬第一廠之木山煤礦合併而成木南煤礦，直屬總管理處。五十三年十二月成立新竹氮肥廠工程處。五十五年十一月在高雄第三廠內成立高雄複合肥料廠工程處。五十七年十二月新竹氮肥廠完成正式生產尿素及硫酸銨。五十八年二月各廠改稱如下：第一廠改名爲基隆一廠；第二廠爲基隆二廠；第三廠爲高雄廠；第四廠爲羅東廠；第五廠與新竹氮肥廠合併改名爲新竹廠；第六廠爲南港廠；第七廠爲花蓮廠。六十年一月又奉命收購慕華聯合化學工業公司外資股權，其原設於苗栗工廠液氨尿素之產銷，即行歸由本公司調度，旋爲經營合理化，復呈准於同年十月一日起將該公司苗栗尿素廠併入本公司，改稱爲本公司苗栗廠。六十一年六月間本公司爲改善經營，呈准將羅東廠結束。六十一年五月爲改善南港廠經營，推動該廠改用天然氣製氨計畫，六十三年三月復在該廠開始籌建複合肥料工場一所，以爲北部複合肥料供應中心。前者於六十五年底完成，後者於六十六年初完成。六十三年七月爲推動多角經營，於新竹廠開始籌建三聚氰胺工場，於六十六年十一月完成安裝。六十三年十月爲配合國內經濟發展之需要，於苗栗開始籌建第二液氨尿素廠，在六十六年十二月完成，併入苗栗廠。

本公司原爲有限公司組織，四十年一月改組爲股份有限公司，資本額原爲新臺幣一千二百萬元，歷年來數經調整，現在登記資本總額爲新臺幣三十二億元全額發行，其中中央政府部份持有股權百分之七八・七二，地方政府部份持有股權百分之二一・一七，其餘百分之〇・一一爲民法團股部份。

The Lotung Branch of the Keelung Plant was named Lotung Branch of Factory No.1 of this Company. In March 1961, the Lotung Plant was reorganized and, with the Suao Limestone Quarry under its management, became Factory No.4 of this Company. The Hsinchu Plant was named Factory No.5 of this Company. With a loan of US$1,700,000 and NT$5,000,000 granted by the Taiwan Provincial Government through the Bank of Taiwan in August 1949, Factory No.5 completed an expansion project for the production of calcium cyanamide. The production began in April 1951. In 1954 this Company was granted U.S. Aid for the construction of a nitrophosphate plant and a urea plant. The nitrophosphate plant was completed in 1957, and was integrated into Factory No.3 in October 1959. The urea plant was completed in February 1958 and was named Factory No.6. In May 1960, by order of the Ministry of Economic Affairs, the Hualien Nitrogen Fertilizer Corporation was merged with this Company and the Nitrochalk Plant of the Hualien Nitrogen Fertilizer Corporation became Factory No. 7 of this Company. In August 1962, in order to utilize the anhydrous ammonia produced in Miaoli by the Mobil China Allied Chemical Industries Ltd., this Company began planning for the construction of an ammonium sulphate plant in Factory No. 5 in Hsinchu. A construction board was subsequently established. The ammonium sulphate plant was completed in April 1964, and after test runs, was in operation in June 1964.

In December 1964, a construction board for a projected Hsinchu Nitrogen Fertilizer Factory was established. After the factory was completed in December 1968, it immediately began production of urea and ammonium sulphate.

In August 1964, the Nanhu Coal Mine of the former China Coal Mine Development Company was merged into this Company and was combined with the Musan Coal Mine of Factory No. 1 to form the Munan Coal Mine, which was placed directly under the management of the Head Office.

In November 1966, a construction Board for a projected Kaohsiung Compound Fertilizer Plant was formed in Factory No. 3.

In February 1969, the afore-mentioned eight fertilizer factories were renamed as follows:

1. Keelung Factory No. 1 (formerly Factory No. 1)

2. Keelung Factory No. 2 (formerly Factory No. 2)
3. Kaohsiung Factory (formerly Factory No. 3)
4. Lotung Factory (formerly Factory No. 4)
5. Hsinchu Factory (formerly Factory No. 5 and the Hsinchu Nitrogen Fertilizer Factory)
6. Nankong Factory (formerly Factory No. 6)
7. Hualien Factory (formerly Factory No. 7)

In January 1971, again by order of the Ministry of Economic Affairs, this Company bought the stocks of Mobil China Allied Chemical Industries Ltd. owned by foreign investors. The production and sales of anhydrous ammonia and urea, both being the products of the Miaoli Factory of "Mobil China," have since then been managed by this Company. On October 1, 1971, upon the approval by authorities concerned, the Miaoli Factory was consolidated into this Company.

In June 1972, the Lotung Factory was closed down for economic reasons. And to improve the efficiency of the Nankong Factory, a project was initiated in May of the same year to revamp the factory to make it produce ammonia from natural gas. In March 1974, another construction project was begun at the factory for a compound fertilizer plant. The former project was completed by the end of 1976; the latter, in early 1977.

To diversify its products, the Hsinchu Factory began construction of a melamine plant in July 1974. The plant was completed in November 1977. To meet the economic needs of the country, a project for a second ammonia and urea plant was begun in Miaoli in October 1974 and has been completed in December 1977. After completion, the plant will be a part of the Miaoli Factory.

This Company was formerly a company of limited liability. In January 1951, it was reorganized as a company limited by shares, with a registered capital of NT$12 million. The capital has been increased several times since then. Now the registered capital is NT$3,200 million, all paid up. Of the total stocks, the Central Government holds 78.72%; the Provincial Government holds 21.17%; legal entities and private individuals hold 0.11%.

二、各廠概況 BRIEF DESCRIPTION OF TFC FACTORIES
(一)苗栗廠 MIAOLI FACTORY

設於苗栗縣苗栗鎮福星里，於民國五十一年開始興建，五十二年十二月安裝完成，五十三年二月正式生產。該廠原屬於慕華聯合化學工業股份有限公司，民國六十年一月該公司美商股權讓售本公司，同年十月併入本公司，改爲今名。六十三年十月復於該廠廠地，開始籌建年產液氨三〇〇、三〇〇公噸，尿素一八六、〇〇〇公噸之苗栗第二液氨尿素廠，於六十六年十二月完成，併入該廠。其主要產品爲：

尿素：

1. 年產能量—三二〇、〇〇〇公噸。
2. 規　範—粒狀，含氮百分之四十六。
3. 包　裝—PP 編織內襯 PE 袋，每袋肥料淨重四十公斤。
4. 性　能—近中性，所含氮份極易爲植物吸收，肥效大而持久。

This factory, located at Fushing Li, Miaoli, was completed in November 1963. Production began in February 1964.

This factory was originally owned by the Mobil China Allied Chemical Industries, Limited, which was a joint venture of Socony Mobil Oil Company and Allied Chemical Corporation of the U.S.A. and the Chinese Petroleum Corporation. In January 1971, the American stockholders sold out their shares to the Taiwan Fertilizer Co. In October 1971, the factory was merged with this Company and was called the Miaoli Factory.

In October 1974, the factory began to build a second ammonia and urea plant, capable of producing 300,300 M.T. of ammonia and 186,000 M.T. of urea a year. The plant was completed in December 1977.

The main product of this factory is:

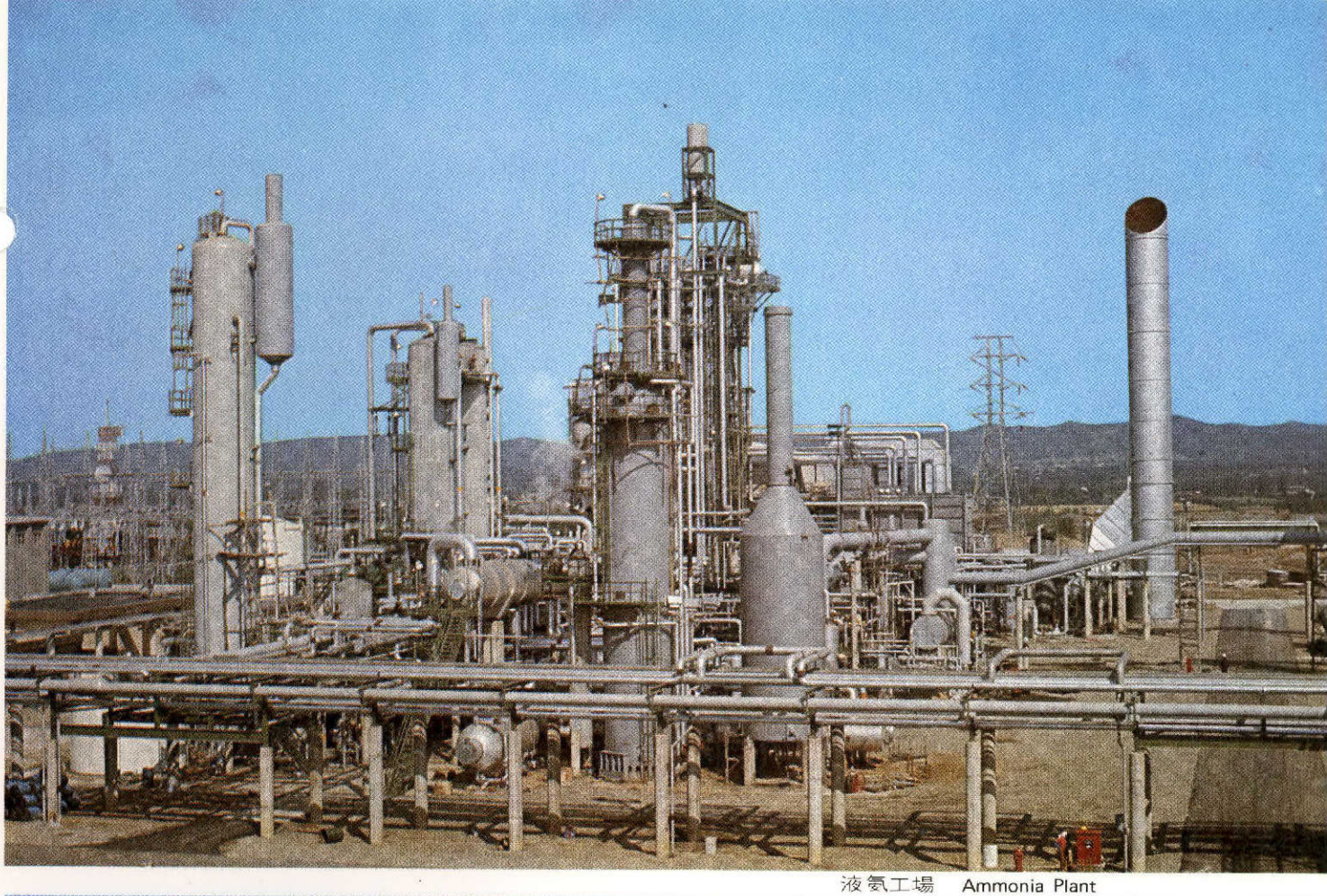
Urea:

Annual production capacity: 320,000 M.T.

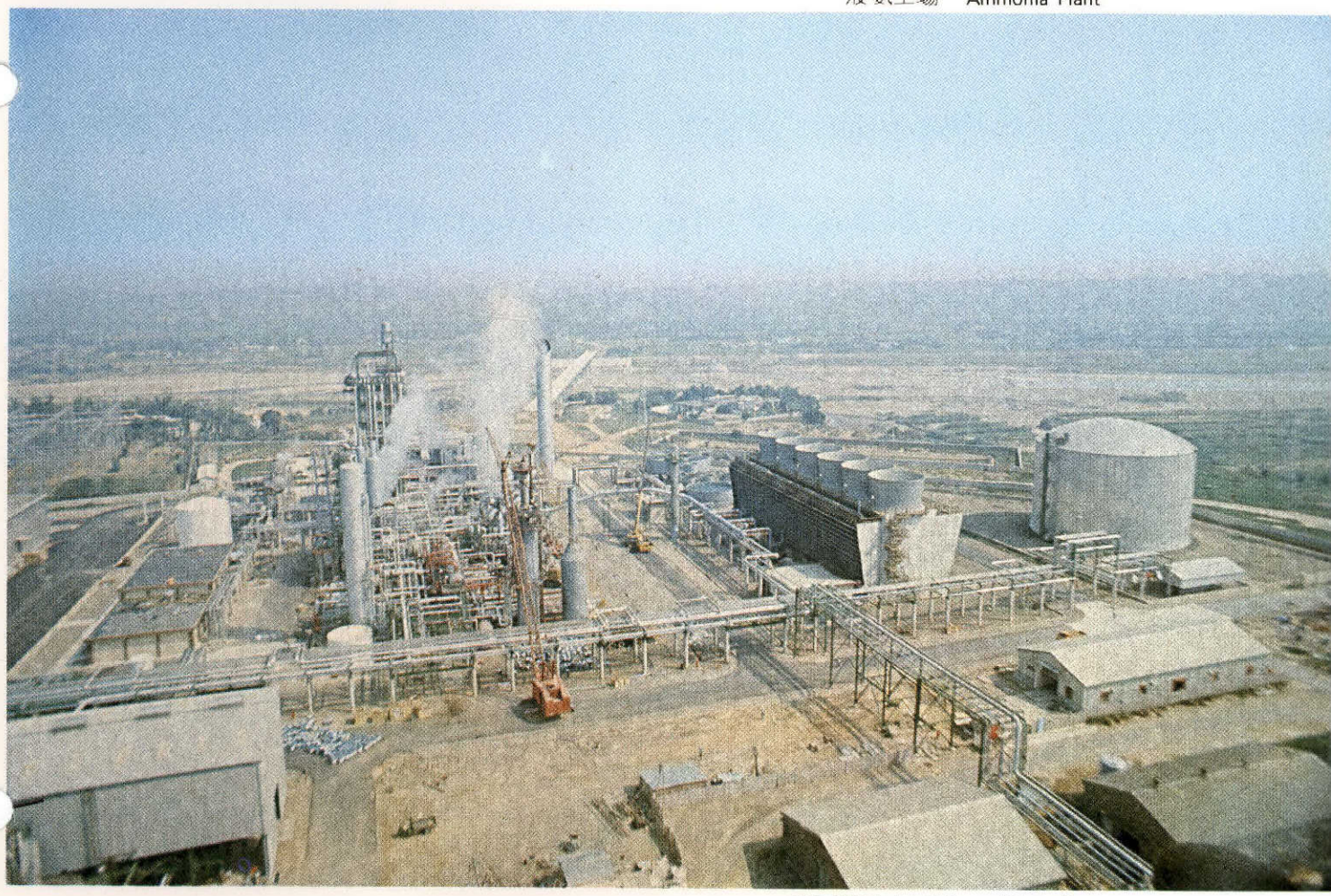
Specifications: Prills with 46% N content.

Packing: 40 kg. PP woven bag with PE liner.

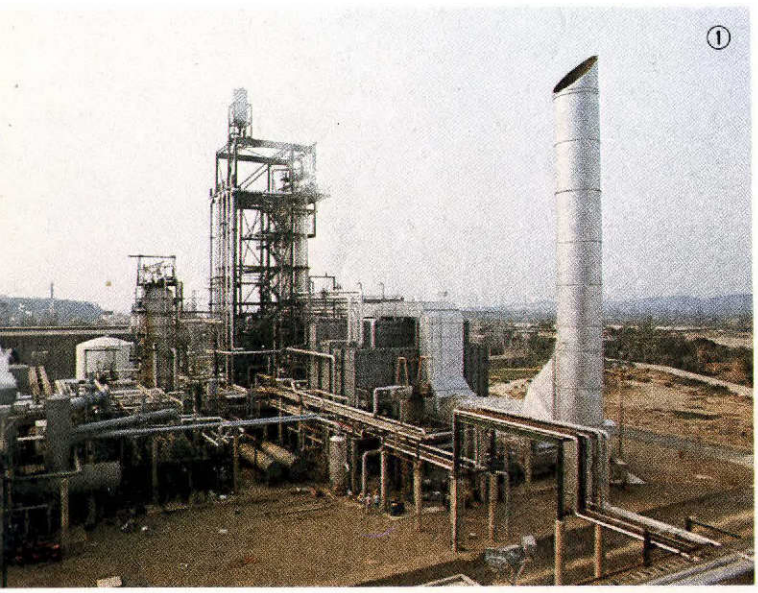
Characteristics: Nearly neutral. The N content is easily absorbed by plants, and therefore it has a high fertilizer value.



液氨工場　Ammonia Plant



廠區鳥瞰　Bird-View of Plant Area

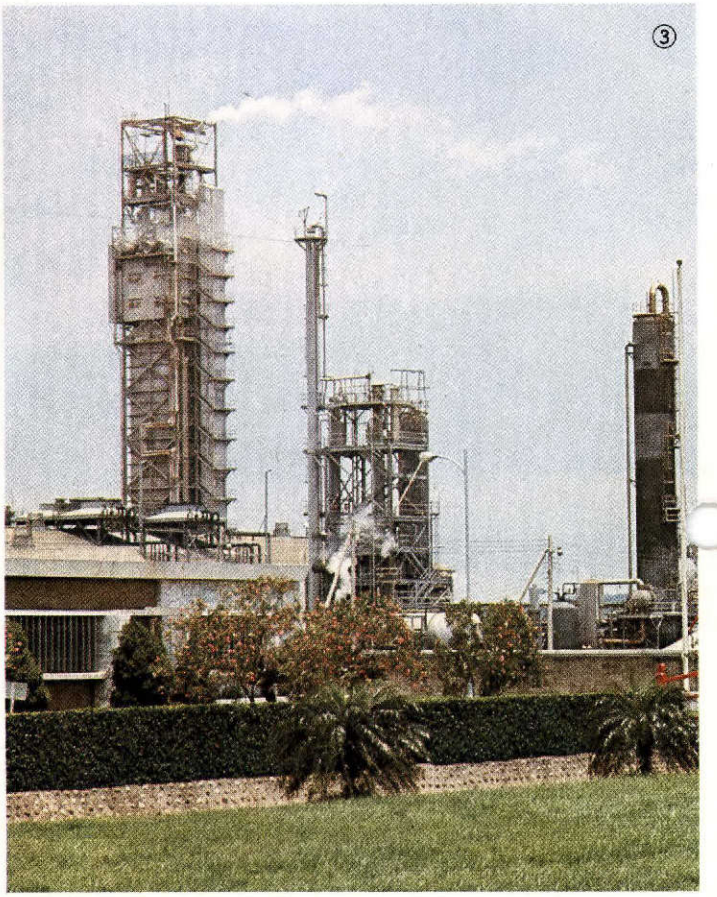


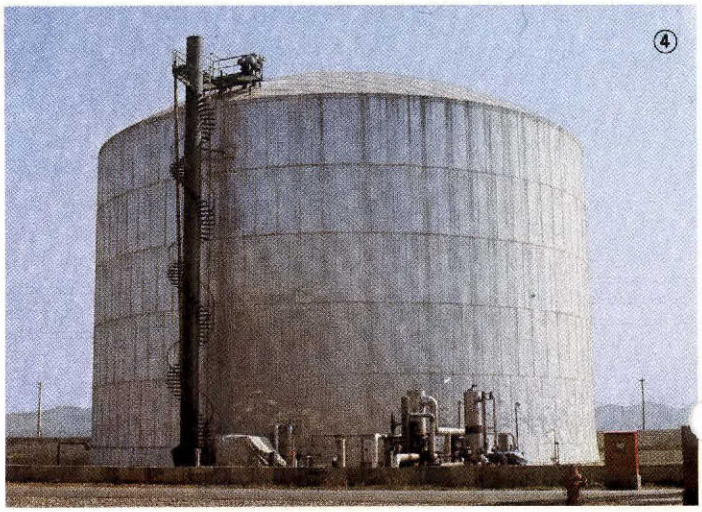
① 液氨工場重組部份
Reforming Area of Ammonia Plant

② 尿素工場(二)
Urea Plant (2)

③ 尿素工場(一)
Urea Plant (1)

④ 一萬公噸液氨儲槽
10,000 MT Ammonia Storage Tank





(二)新竹廠 HSINCHU FACTORY

設於新竹市中華路，該廠原係製造氰氮化鈣，爲配合政府第三期四年經濟建設計劃，利用向慕華公司收購之液氨與外購之硫磺，於五十三年完成硫酸銨工場開始生產硫酸銨，五十四年停產氰氮化鈣。嗣又配合政府利用天然氣政策，於該廠內籌建液氨、尿素及硫酸銨工場各一所，全部籌建工程及試車工作於五十七年底完成，五十八年起正式開工生產。六十三年七月爲發展多角經營，於該廠開始籌建三聚氰胺工場一所，在六十六年十一月安裝完成。該廠主要產品爲：

硫酸銨：

1. 年產能量—二七〇、〇〇〇公噸。
2. 規　　範—含氮量百分之二一。
3. 包　　裝—PE淋膜編織袋，每袋淨重四十公斤。
4. 性　　能—在土壤中極易溶解，各種植物均能吸收，水稻尤宜。

尿素：

1. 年產能量—九〇、〇〇〇公噸。
2. 規　　範—粒狀，含氮百分之四十六。
3. 包　　裝—PE淋膜編織袋，每袋淨重四十公斤　(外銷以PP編織內襯PE袋包裝，每袋淨重五十公斤)。
4. 性　　能—近中性，所含氮份極易爲植物吸收，肥效大而持久。

三聚氰胺：

1. 年產能量—一〇、〇〇〇公噸。
2. 規　　範—粉狀，純度不低於99.8%。
3. 包　　裝—紙袋，每袋淨重二十五公斤或五十公斤。
4. 性　　能—白色單斜系結晶，比重 1.57 (14°C)，融點354°C，爲製造三聚氰胺樹脂所必需之原料。

This factory is located on Chung Hwa Road, Hsinchu. Originally, it produced calcium cyanamide. In order to coordinate with the third Four-Year Economic Development Plan, a plant was built in 1964 to produce ammonium sulphate from ammonia produced by "Mobil China" and imported sulphur. In 1965, the factory ceased production of calcium cyanamide.

For the purpose of utilizing natural gas produced on the island, this factory completed by the end of 1968 a fertilizer production complex including an ammonia plant, a urea plant, and an ammonium sulphate plant. These plants began production in 1969.

In July 1974, this factory started the construction of a melamine plant, which was completed in November 1977.

Thus, the main products of this factory are:

Ammonium Sulphate:

Annual production capacity: 270,000 M.T.

Specifications:

Fine crystals containing 21% N.

Packing: 40 kg. PE laminated woven bag.

Characteristics:

Ammonium sulphate is acidic, easily soluble and easily absorbed by plants. It is therefore a quick acting nitrogenous fertilizer suitable as a basic fertilizer for all plants.

Urea:

Annual production capacity: 90,000 M.T.

Specification: Prills with 46% N content.

Packing: 40 kg. PE laminated woven bag (for export, 50 kg. PP woven bag with PE liner).

Characteristics:

Nearly neutral. The N content is easily absorbed by plants, and therefore it has a high fertilizer value.

Melamine:

Annual production capacity: 10,000 M.T.

Specifications: In powder form. Purity not less than 99.8%.

Packing: 25 kg. or 50 kg. paper bag.

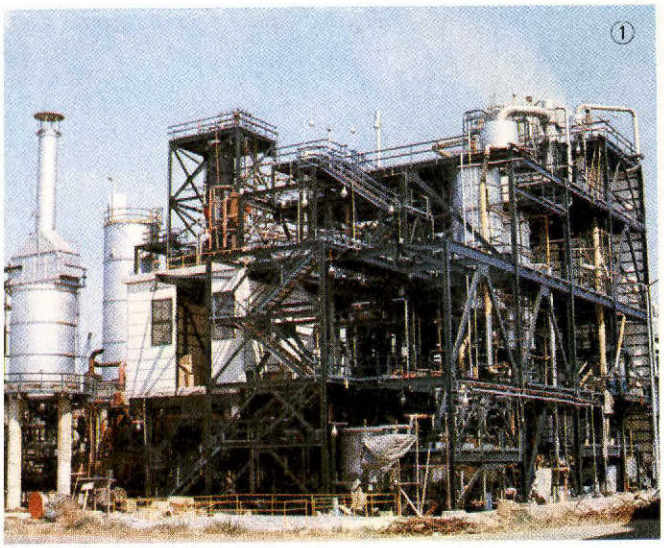
Characteristics:

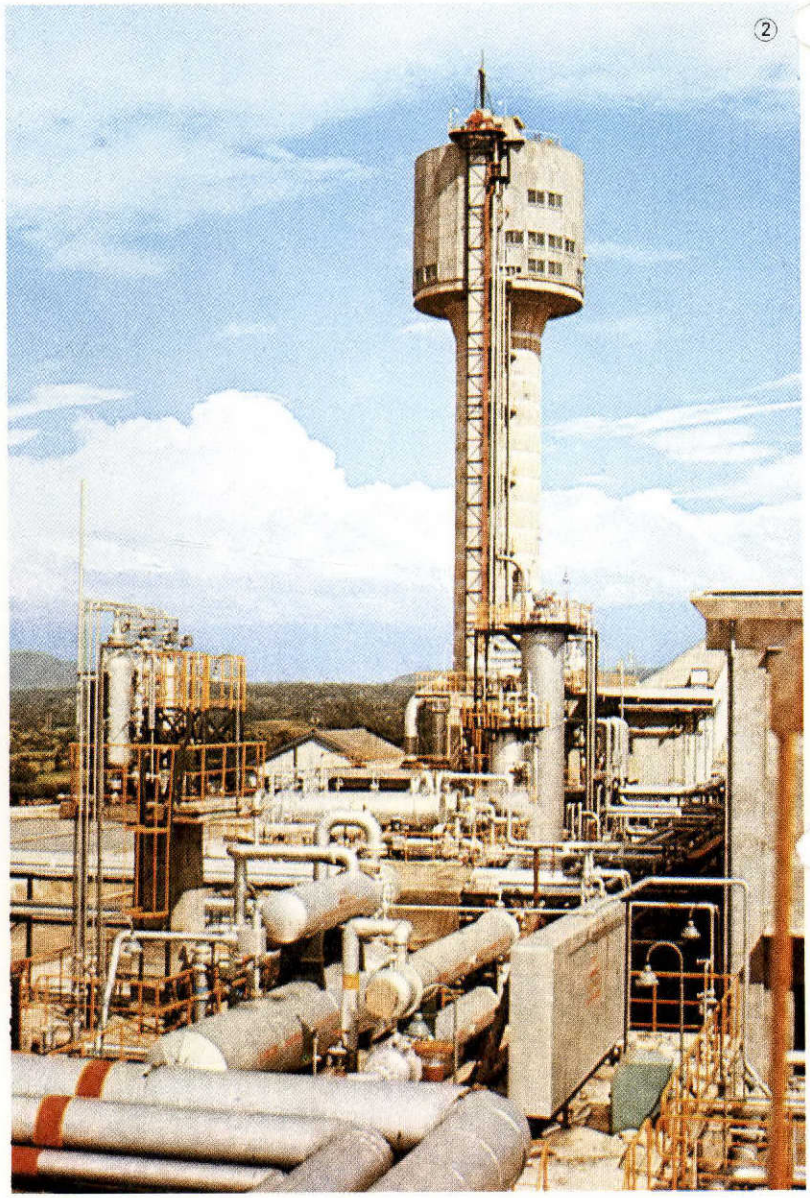
White crystalline powder, sp.gr. 1.54, melting point 354°C, reacted with formaldehyde to form melamine resin which to be applied to adhesive, laminated plate, molded article, textile and paper treatment agent, coating material.

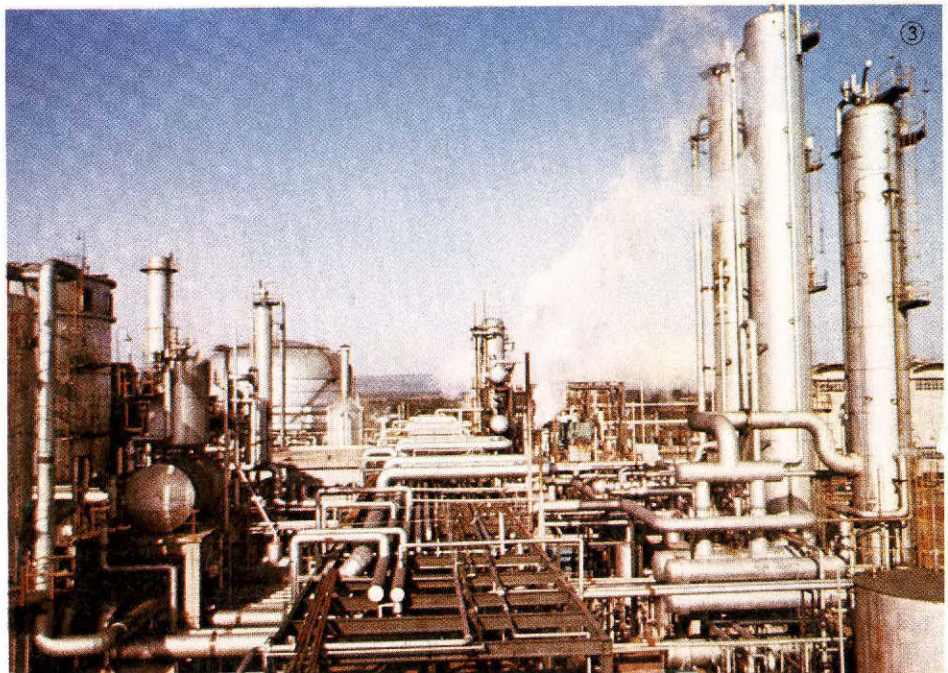
① 三聚氰胺工場
Melamine Plant

② 尿素工場
Urea Plant

③ 液氨工場
Ammonia Plant







(三)南港廠 NANKONG FACTORY

設於臺北市南港區，於四十三年九月開始興建，四十七年二月安裝完成，隨即試車，四十九年元月正式生產，其主要產品爲尿素，年產能力一〇五、〇〇〇公噸。由於使用焦炭製氨，成本過高。自五十九年二月起以三分之一產能生產液氨並停產尿素。六十一年五月爲改善該廠經營，推動改用天然氣製氨計畫。六十三年三月復於該廠開始籌建複合肥料工場，前者於六十五年底完成，後者於六十六年初完成。其主要產品爲：

尿素：

1. 年產能量—六〇、〇〇〇公噸。
2. 規　　範—粒狀，含氮百分之四十六。
3. 包　　裝—PE淋膜編織袋，每袋淨重四十公斤（外銷以PP編織內襯PE袋包裝，每袋淨重五十公斤）。
4. 性　　能—近中性，所含氮份極易爲植物吸收，肥效大而持久。

複合肥料：

1. 年產能量—二〇〇、〇〇〇公噸。
2. 規　　範—各種氮、磷、鉀配方。
3. 包　　裝—PE淋膜編織袋，每袋淨重四十公斤。
4. 性　　能—粒狀，爲氮、磷、鉀之多效性化成肥料，成份均勻，施用方便。

This factory is located at Nankong, Taipei. Its construction began in September 1954 and was completed in February 1958. Production began in January 1960. Its main product was urea; the annual production capacity was 105,000 M.T.

Owing to the high cost of producing ammonia from coke, this factory decided in February 1970 to reduce the production of ammonia to one third of its capacity and suspend the production of urea.

In May 1972, a project was initiated to revamp the factory so that natural gas, instead of coke, could be used as feed stock for ammonia production. In March 1974, another construction project was begun at the factory for a compound fertilizer plant. The former project was completed by the end of 1976; the latter, in early 1977.

The main products are:

Urea:

Annual production capacity: 160,000 M.T.

Specifications: Prills with 46% N content.

Packing: 40 kg. PE laminated woven bag (for export, 50 kg. PP woven bag with PE liner).

Characteristics: Nearly neutral. The N content is easily absorbed by plants, and therefore it has a high fertilizer value.

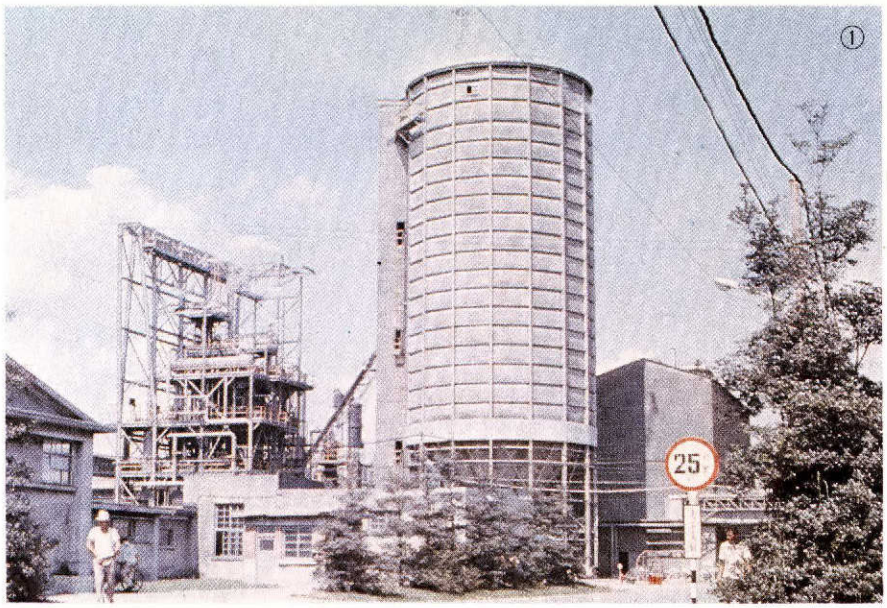
Compound Fertilizer:

Annual production capacity: 200,000 M.T.

Specifications: Granules with various formulas of compound fertilizer.

Packing: 40 kg. PE laminated woven bag.

Characteristics: Contains N, P_2O_5 and K_2O.



① 尿素工場
Urea Plant

② 液氨工場
Ammonia Plant

(四)高雄廠 KAOHSIUNG FACTORY

設於高雄市成功二路三號，該廠原爲磷肥工廠，於民國四十三年六月爲遵照政府經建計畫，乃籌設化成氮磷工場，至四十八年一月完成。嗣爲配合省內農業發展需要，復籌建鋅磷及硝磷複肥工場各一所，先後於五十八年十月及五十九年二月完成。該廠除下列各主要產品外，尚有副產品氟矽酸鈉與石膏。

過磷酸鈣：

1. 年產能量——三〇、〇〇〇公噸。
2. 規　　範—粉狀，含有效磷酐百分之十八。
3. 包　　裝—PP編織袋，每袋淨重五十公斤。
4. 性　　能—生理中性，爲速效性磷肥。

複合肥料：

1. 年產能量—二一〇、〇〇〇公噸。
2. 規　　範—各種氮、磷、鉀配方。
3. 包　　裝—PE淋膜編織袋，每袋淨重四十公斤。
4. 性　　能—粒狀，爲氮、磷、鉀之多效性化成肥料，成份均勻，施用方便。

This factory, located at No. 2 Cheng Kung Second Road, Kaohsiung, was originally designed for the production of phosphatic fertilizer. To meet the requirements for agricultural development, two plants were built for the production of compound fertilizers. They were completed in 1969 and 1970 respectively.

While the by-products of the factory are sodium silicofluoride and gypsum, the main products are:

Calcium Superphosphate:

Annual production capacity: 130,000 M.T.

Specifications: Powder with 18% available P_2O_5.

Packing: 50 kg. PP woven bag.

Characteristics: Physiologically neutral. Quickly available for plant absorption.

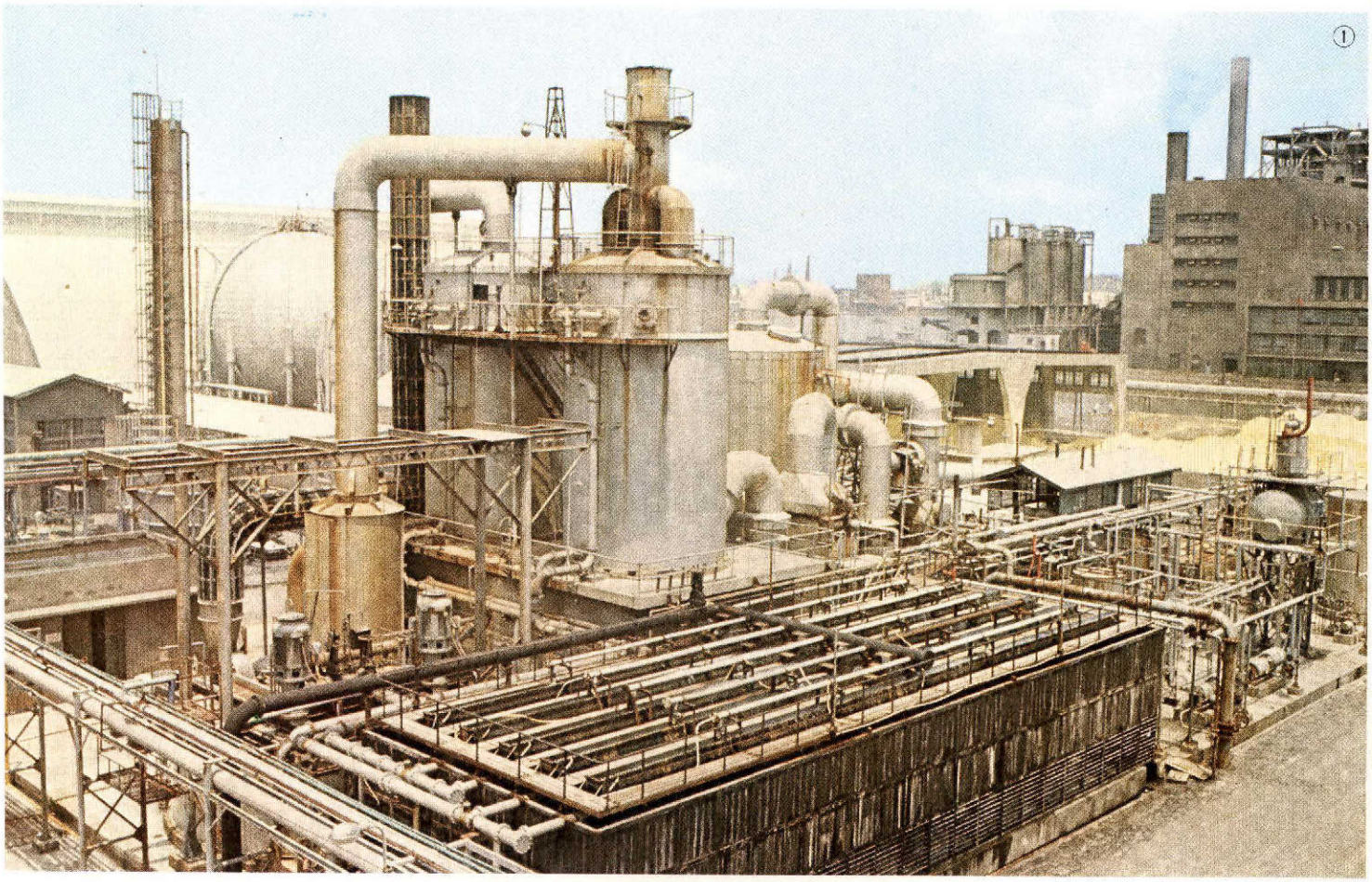
Compound Fertilizer:

Annual production capacity: 210,000 M.T.

Specifications: Granules with various formulas of compound fertilizer.

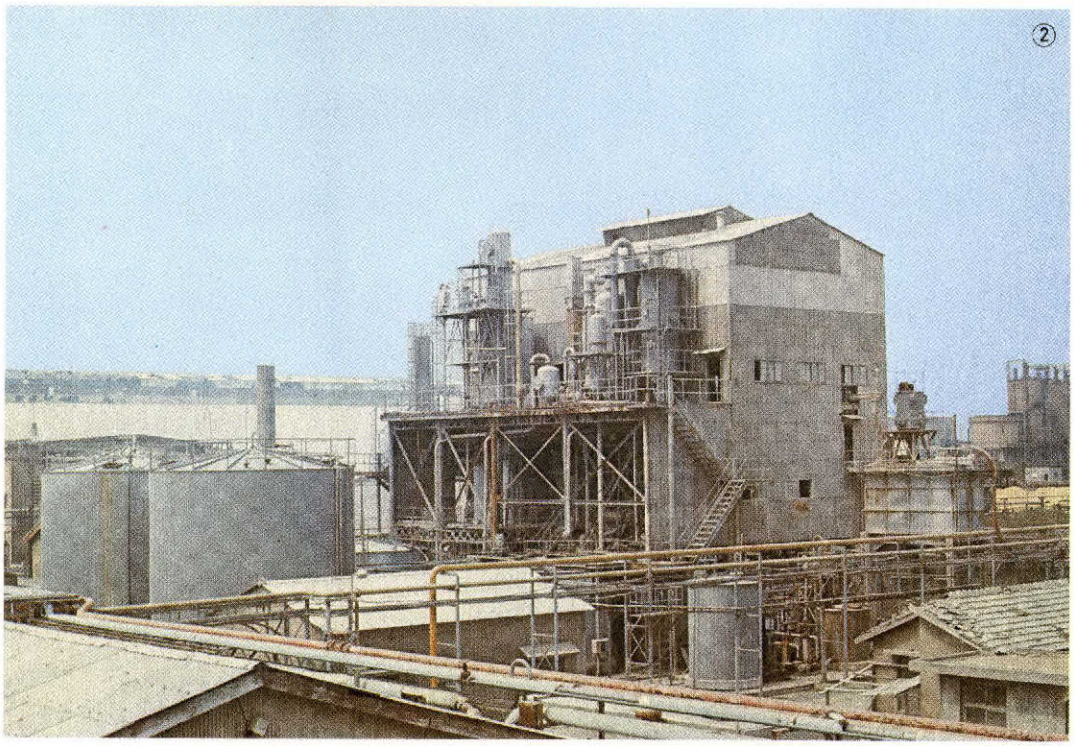
Packing: 40 kg. PE laminated woven bag.

Characteristics: A multipurpose fertilizer containing N, P_2O_5 and K_2O.



① 硫酸工場
Sulfuric Acid Plant

② 磷酸工場
Phosphoric Acid Plant



(五)花蓮廠 HUALIEN FACTORY

設於花蓮市華東，為本省東部唯一之肥料工廠。係於民國四十一年夏開始籌建，四十六年七月安裝完成，同年十一月正式開工生產。該廠原屬於花蓮氮肥公司，四十九年五月，併入本公司，改為今名。民國五十五年九月，本公司復於該廠新設燃油製氫設備一套，以替代原有之電解水製氫設備，不僅可以增加生產能力，抑且可以節減該廠所用電力。該廠主要產品為硝酸鈣，其中部份可供生產複合肥料。

硝酸鈣：

1. 年產能量—七〇、〇〇〇公噸。
2. 規　　範—粒狀，含氮百分之二十。
3. 包　　裝—PE淋膜編織袋，每袋重四十公斤。
4. 性　　能—為碱性氮肥，適合中性土壤或微酸性土壤，旱地作物尤宜施用。

複合肥料：

1. 年產能量—三〇、〇〇〇公噸。
2. 規　　範—粒狀，各種氮、磷、鉀配方。
3. 包　　裝—PE淋膜編織袋，每袋淨重四十公斤。
4. 性　　能—為氮、磷、鉀之多效性化成肥料，成份均勻，施用方便。

This factory is located at Hua Tung, Hualien Hsien, and is the only fertilizer factory on the east coast of Taiwan. Construction of the factory began in the summer of 1952 and was completed in July 1957. Production started in November 1957. In September 1966, it completed an oil partial oxidation plant to replace the existing water-electrolysis hydrogen generation units. The factory had been under the management of the Hualien Nitrogen Fertilizer Corporation until May 1960, when it was merged with this Company. Its main products are nitrochalk and compound fertilizer. A portion of the nitrochalk is used to manufacture compound fertilizer.

Nitrochalk:

Annual production capacity: 70,000 M. T.
Specifications: Granules with 20% N content.
Packing: 40 kg. PE laminated woven bag.
Characteristics: It is an alkaline nitrogenous fertilizer suitable for neutral and slightly acidic soils. It is especially effective when used on dry land crops.

Compound Fertilizer:

Annual production capacity: 30,000 M. T.
Specifications: Granules with various formulas of compound fertilizer.
Packing: 40 kg. PE laminated woven bag.
Characteristics: Contains N, P_2O_5 and K_2O.

燃油製氫工場
Oil Gasification Plant

(六)基隆二廠 KEELUNG FACTORY NO.2

設於基隆市東明路，爲本省歷史最久之肥料工廠，建於民國九年。主要設備於光復前幾全遭破壞，接收後經本公司陸續加以整建，始有今日之規模。其主要產品爲：

過磷酸鈣：

1. 年產能量——一〇〇、〇〇〇公噸。
2. 規　　範—粉狀，含有效磷酐百分之十八。
3. 包　　裝—PP編織袋，每袋淨重五十公斤。
4. 性　　能—生理中性，爲速效性磷肥。

複合肥料：

1. 年產能量—四〇、〇〇〇公噸。
2. 規　　範—各種氮、磷、鉀配方。
3. 包　　裝—PE淋膜編織袋，每袋淨重四十公斤。
4. 性　　能—粒狀，爲氮、磷、鉀之多效性化成肥料，成份均勻，施用方便。

This factory is located at Tung Ming Road, Keelung, and has the longest history of all fertilizer factories in Taiwan. It was constructed in 1920 and was almost totally destroyed in World War II. Since the restoration of Taiwan, it has been continuously rehabilitated and improved. The main products are:

Calcium Superphosphate:

Annual production capacity: 100,000 M. T.
Specifications: Powder with 18% available P_2O_5.
Packing: 50 kg. PP woven bag.
Characteristics: Physiologically neutral. Quickly available for plant absorption.

Compound Fertilizer:

Annual production capacity: 40,000 M. T.
Specifications: Granules with various formulas of compound fertilizer.
Packing: 40 kg. PE laminated woven bag.
Characteristics: Contains N, P_2O_5 and K_2O.

複肥乾燥機　Dryer for Compound Fertilizer

(七)基隆一廠 KEELUNG FACTORY NO.1

設於基隆市中華路，爲本省建立最早之氮素肥料工廠，光復後該廠亦爲本公司開工最早者，嗣因其所產氰氮化鈣滯銷，乃於民國五十七年起停產。現其主要產品爲：

矽鐵：

1. 年產能量——一、〇〇〇公噸。
2. 規　　範—含矽量百分之七十五以上。
3. 包　　裝—桶裝每桶約三〇〇公斤，草袋或蔴袋裝約五〇公斤。

乙炔黑：

1. 年產能量——、〇〇〇公噸。
2. 規　　範—含碳量百分之九十九・五。
3. 包　　裝—紙袋，每袋淨重五或十公斤。

This factory is located at Chung Hwa Road, Keelung, and is the first nitrogenous fertilizer plant in Taiwan. It was also the first factory of this Company to begin operation after the restoration of Taiwan. It produced calcium cyanamide before 1968, but stopped the production from the beginning of that year due to the limited market. The main products are:

Ferrosilicon:

Annual production capacity: 11,000 M.T.

Specification: 75% Silicon.

Packing: 300 kg. steel drums; 50 kg. straw bag or jute bag.

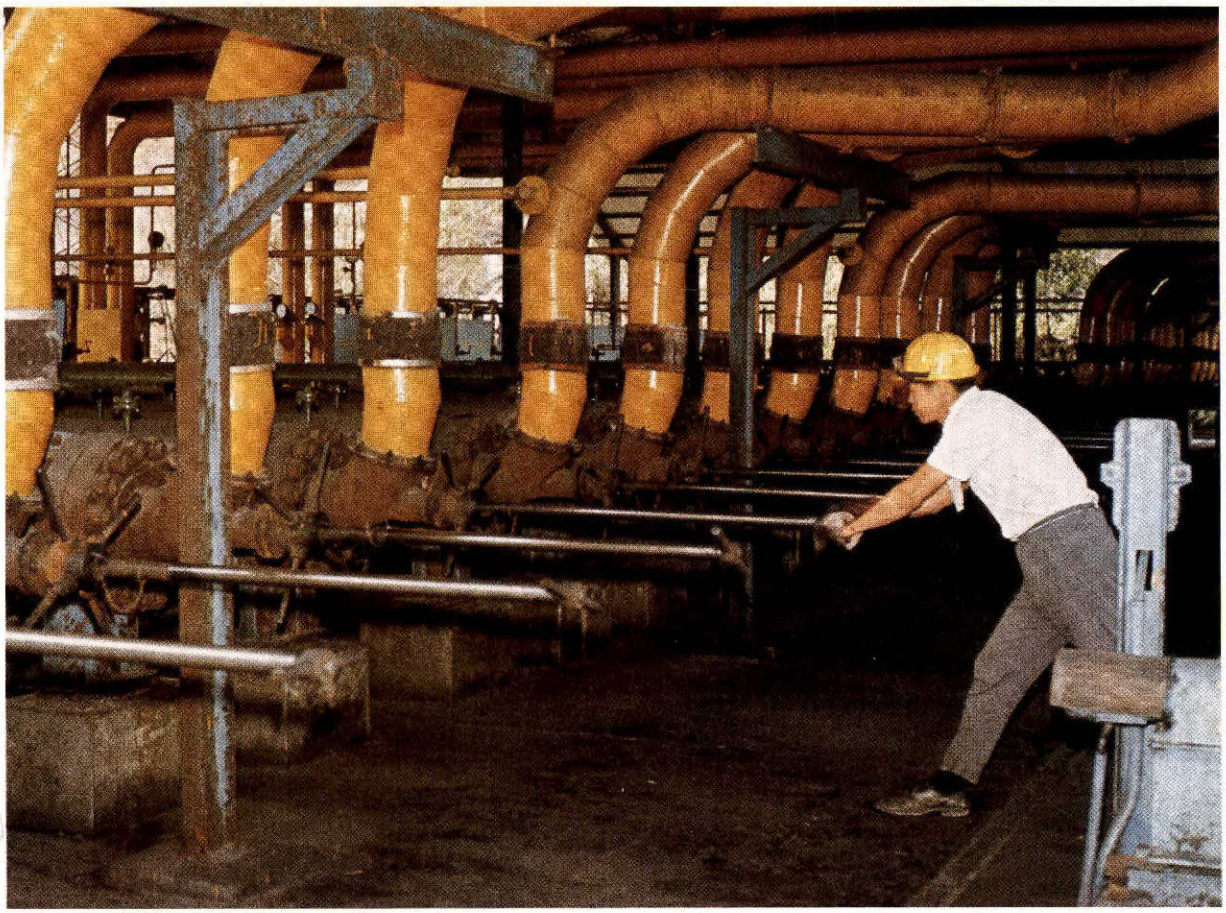
Acetylene Black:

Annual production capacity: 1,000 MT.

Specifications: Powder with 99.5% carbon.

Packing: 5 or 10 kg. paper bag.

乙炔黑工場 Acetylene Black Plant



(八)木南煤礦 MU-NAN COAL MINE

礦址設臺北縣汐止鎮北山里。原屬前中國煤礦開發公司。本礦產燃料煤。

燃料煤：

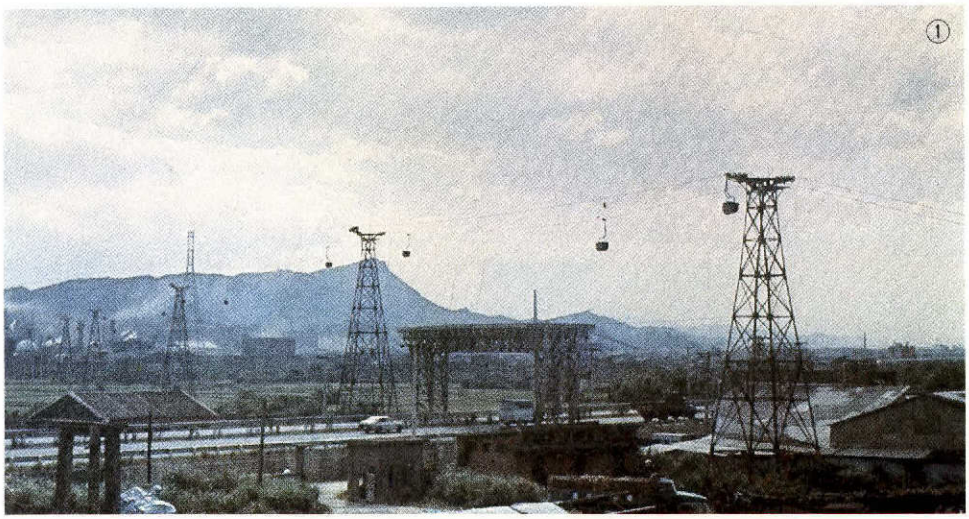
1. 年產能量—五〇、〇〇〇公噸。
2. 規　　範—發熱量六、五〇〇卡。

This mine is located at Pei Shan Road, Hsichih, Taipei Hsien. The main product is non-coking coal.

Non-coking Coal:

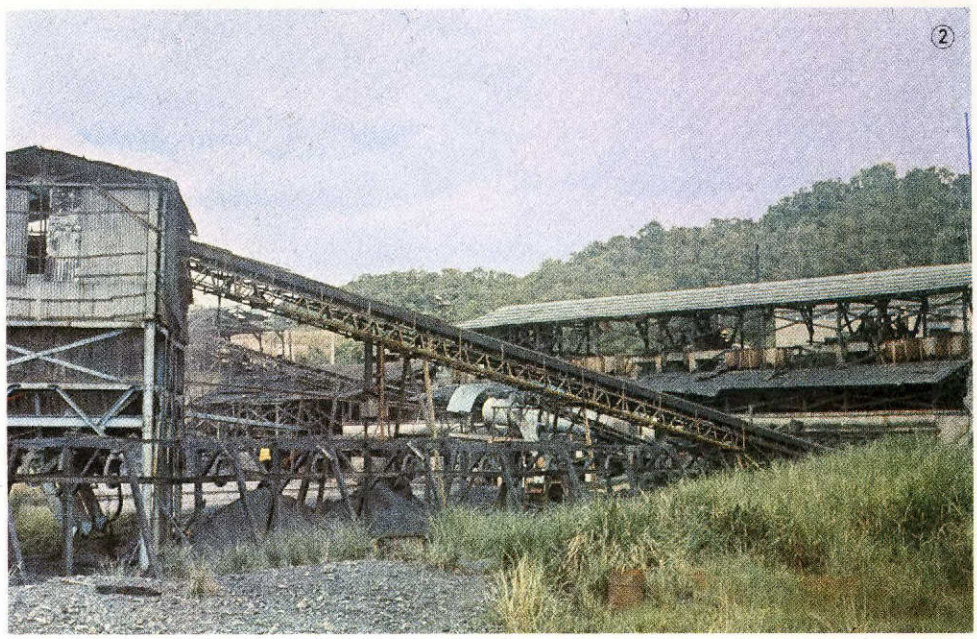
Annual production capacity: 50,000 M.T.

Specifications: 6,500 Cal. up.



① 運煤索道遠景
Cable Conveyor

② 選煤場選運設備
Classification Equipment of Coal



三、銷售概況 SALES

本公司產品以內銷爲主，惟爲配合政府貿易政策，凡供國內需要而有餘者，力謀爭取國外市場。茲將銷售情形簡介如次：

1. 內銷—各種肥料以售交臺灣省糧食局及臺灣糖業公司轉配農民爲主，至工業用尿素及各種其他產品如氧氣、液氨等，由本公司直接售供客戶或設承銷商，便利用戶購用。
2. 外銷—本公司歷年來外銷產品種類計有電石、氰氮化鈣、氬氣、消石灰、液氨、尿素、矽鐵、氟矽酸鈉、氨水、硫酸銨、複合肥料及磷酸銨，銷售地區已遍及泰國、越南、新加坡、馬來西亞、琉球、寮國、婆羅洲、香港、日本、菲律賓、韓國、巴基斯坦、印度、印尼，並遠至美國及澳洲、紐西蘭。所得外滙收入，歷年來均有顯著增加。由於本公司各項產品價廉物美，交貨迅速，得以逐漸建立市場信譽。

TFC products are sold mainly for local consumption. However, in compliance with the trade policy of the Government, TFC has been endeavoring to export products in excess of local needs.

1. Local Sales

All fertilizers are mainly sold to the Taiwan Food Bureau and the Taiwan Sugar Corporation for redistribution to the farmers.

Industrial grade urea and by-products, such as oxygen, anhydrous ammonia, etc., are sold through dealers or directly to the users.

2. Export Sales

TFC has exported such products as calcium carbide, calcium cyanamide, argon, slaked lime, anhydrous ammonia, urea, ferrosilicon, sodium silicofluoride, aqueous ammonia, ammonium sulphate, compound fertilizers and ammonium phosphate. The markets include Thailand, Vietnam, Singapore, Malaysia, Okinawa, Laos, Borneo, Hong Kong, Japan, the Philippines, Korea, Pakistan, India, Indonesia, and even as far as Australia, New Zealand and the U.S.A. The foreign exchange earned has been increasing markedly. As TFC products are of good quality, reasonably priced and promptly delivered, a good market reputation has been gradually established.

四、農業服務 RURAL SERVICE

(一)輔導農民施肥

本公司以肥料銷售業務之需要，同時配合省內農業發展之趨勢，經常與農業有關機關合作舉辦肥料示範，增加農民對各種肥料效能之瞭解，輔導農民有效施肥，以達增產之目的。歷年除與糧食局、農復會合作舉辦水稻及雜作肥料示範每年千餘處之外，復與農林廳及所屬各試驗所、分所及各區改良場、省農會及各級農會、臺糖公司、以及其他農業機關團體合作舉辦各項作物複合肥料示範及試驗，近年每年恒在二百餘處至三百處，遍及全省。計自五十二年以來先後陸續辦理甘蔗、鳳梨、香蕉、柑桔、茶、蘆筍、洋菇、多種果樹、蔬菜，以至森林及魚塭示範，推廣施用複合肥料，結果多表現肥效優良，有裨作物產量與品質之提高，因之複肥深受農民歡迎，近年各種外銷經濟作物對複肥需量之增加，甚爲顯著。

(二)供應廉價肥料

本公司自民國五十二年起，爲秉承政府經建政策，以肥料工業之能力，服務農業，逐年降低肥料價格達九次之多，使本公司肥料出廠價格已較他國內銷價格爲廉，因之肥料費用佔農業生產成本之比率，已降爲百分之九。此一比率即使與已開發國家相較，亦爲最低者之列。

(三)推行農村服務

本公司爲配合當前農村經濟建設政策，於六十二年十一月開始在所屬各廠礦選訓具有農業知識及熱心服務之員工，深入農村，展開訪問服務工作，宣導政府農業政策，調查農民意見，每訪問一戶即建立永久檔案。每年約訪問農友五千戶，處理農友反映意見四百至六百件。

此外，本公司爲擴大對農民服務，加強與農民聯繫，復在員林、屏東、新營、豐原、苗栗及宜蘭等地設置服務所，爲農民辦理各項服務，并調查各地肥料需求，俾供配肥參考。

1. Helping Farmers in Applying Fertilizers

In order to help promote the sales of fertilizer as well as to meet the requirements for agricultural development, TFC carries out annually extension programs in coordination with concerned agricultural organizations. Beside participating in the province wide fertilizer demonstration project on paddy rice and other miscellaneous crops sponsored by Provincial Food Bureau and JCRR, TFC has been conducting demonstrations on the use of compound fertilizers on many crops in recent years, often in cooperation with Provincial Dept. of Agriculture & Forestry, its subordinate research institutes and experiment stations, Farmers' Associations of different levels, Taiwan Sugar Corp. and many other units. The results of many demonstrations on sugarcane, pineapple, banana, citrus, tea, asparagus, mushroom, different vegetables and also on forest trees and fish ponds showed evidences of good effects of using compound fertilizers. The wide popularity of compound fertilizers can be shown by the sharp rate of increase of annual consumption in the recent years.

2. Low Pricing Policy

Since 1963, this Company has followed the policy of the government of using the fertilizer industry as a means to support agricultural development. In the past years, the prices of fertilizers have been reduced nine times. They are now being sold at a price level lower than that in most neighboring countries. To the local farmer, the cost of fertilizer accounts only about 9% of his total cost of production, which is comparable or lower than the percentage in developed countries.

3. Rural Services

Beginning November 1973, this Company has been sending teams of technical personnel to visit rural areas on a regular basis to provide services to the farmers and to keep them informed of the agricultural development plans of the government. Each year, they visit 5,000 farming families, keep permanent records of their interviews, and take follow-up actions on 400-600 cases.

To strengthen services to the farmers and to maintain close liaison with them, service stations are set up in Yuanlin, Pingtung, Hsinying,

(四)辦理土壤分析

本公司爲加強對農民服務，特辦理局部或專業農區之土壤調查、農戶施肥調查與指導服務，除經常採集土壤及葉片樣本分析，供各地區不同作物示範之參考外，并歡迎農民檢寄土壤樣本，免費代爲分析。另有關土壤肥料植物營養等問題之研究試驗亦在試驗室進行，結果均有專報發表。

Fengyuan, Miaoli, and Ilan. These stations conduct surveys on fertilizer requirements. Reports are submitted to the Head Office for reference and actions.

4. Soil Survey and Analysis

In addition, this Company also conducts soil surveys, performs free soil and plant tissue analyses, and provides guidance to the farmers on application of fertilizers. The farmers are welcome to submit soil samples to this Company for analysis.

Researches in problems relating to soil, fertilizer, and plant nutrition are being conducted in laboratories by technical personnel. The findings are published in journals.

水稻肥料試驗 Fertilizer Experiment on Paddy Rice

① 茶樹複合肥料示範
Field Demonstration on the Use of Compound Fertilizer on Tea

② 鳳梨複合肥料示範
Field Demonstration on the Use of Compound Fertilizer on Pineapple

③ 香蕉複合肥料示範
Field Demonstration on the Use of Compound Fertilizer on Banana

④ 施肥技術座談會
Discussion Meeting with Farmers

⑤ 農村服務座談會
A Meeting of Farmers and Rural Service Workers

⑥ 蔬菜複合肥料示範
Field Demonstration on the Use of Compound Fertilizer on Vegetables

⑦ 農村訪問
Visiting Farmers with Questionaire

⑧ 草莓複合肥料示範
Field Demonstration on the Use of Compound Fertilizer on Strawberry

⑨ 土壤肥力測定
Testing pH Value of Soil Samples

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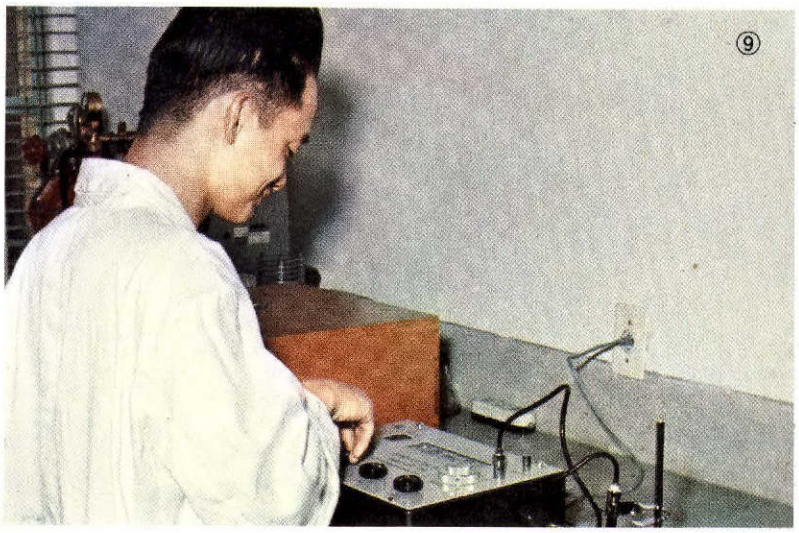
⑨

產品 PRODUCTS

主要產品 MAIN PRODUCTS

尿素・硫酸銨・過磷酸鈣・
硝酸銨鈣・複合肥料。

Urea
Ammonium Sulphate
Calcium Superphosphate
Nitrochalk
Compound Fertilizer

其他產品 BY-PRODUCTS

三聚氰胺・液氨・氧氣・
液氧・氮氣・氫氣・
氬氣・電極・電極糊・
乙炔黑・矽鐵・煤・
石膏・氟矽酸鈉。

Melamine
Anhydrous Ammonia
Oxygen
Liquid Oxygen
Nitrogen
Hydrogen
Argon
Electrode
Electrode Paste
Acetylene Black
Ferrosilicon
Coal
Gypsum
Sodium Silicofluoride

廠礦地址 ADDRESSES

總管理處
地　　址：(100)臺北市延平南路101號
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交換電報：22386 Taifer

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新竹廠
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Telex: 31240 Taifern

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電　　話：7619102—6

Nankong Factory
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Tel: 7619102–6

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地　　址：(950)花蓮市華東15號
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電報掛號：花蓮9672
電　　話：(038)323181—6

Hualien Factory
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Tel: (038)323181–6

苗栗廠
地　　址：(360)苗栗鎮福星里210號
信　　箱：苗栗61號
電　　話：(037)320601—5
交換電報：37190 Tfcmiaoli

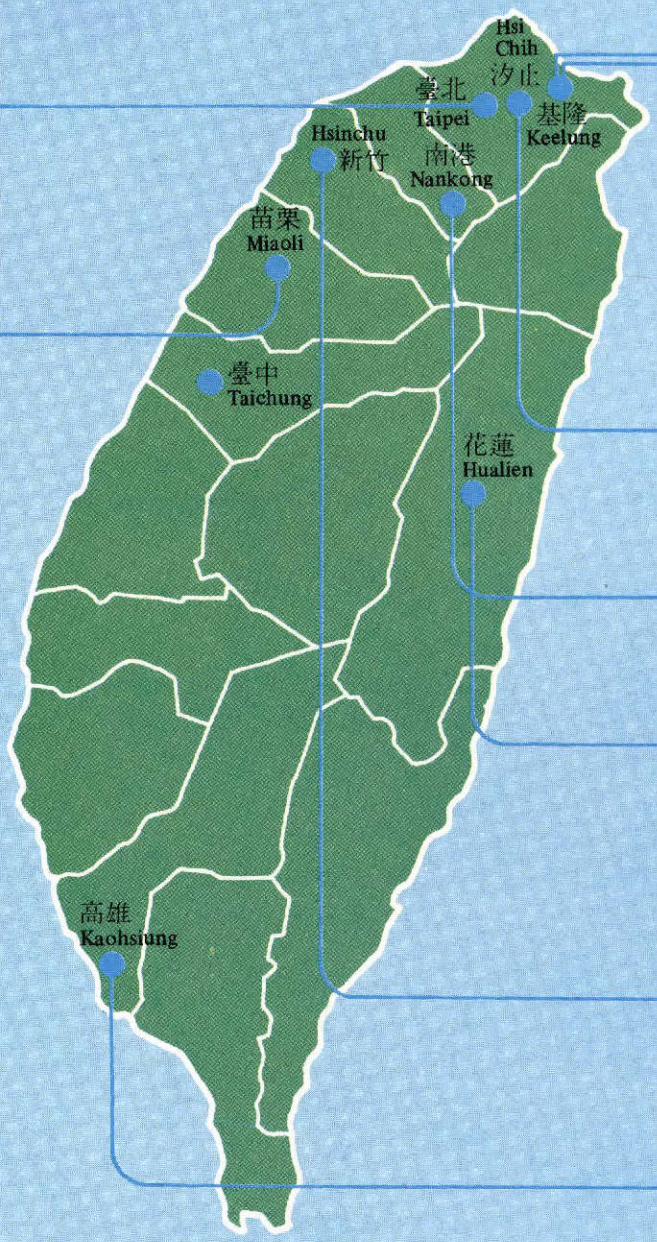
Miaoli Factory
210 Fushing Li, Miaoli, 360
Tel: (037)320601–5
Telex: 37190 Tfcmiaoli

木南煤礦
地　　址：(221)臺北縣汐止鎮北山里北山路39號
信　　箱：南港2號信箱
電　　話：6412324—5

Munan Coal Mine
39, Pei Shan Road, Hsichih, Taipei Hsien, 221
Tel: 6412324–5

本公司暨所屬各廠分佈圖
HEADQUARTERS AND SUBSIDIARIES

總管理處 Head Office



基隆一廠 Keelung Factory NO.1

基隆二廠 Keelung Factory NO.2

木南煤礦 Munan Coal Mine

南港廠 Nankong Factory

花蓮廠 Hualien Factory

新竹廠 Hsinchu Factory

高雄廠 Kaohsiung Factory

苗栗廠 Miaoli Factory

SECTION : III

DEVELOPMENT OF THE PROJECT

As there is abundance of natural gas and other hydrocarbon resources in the Eastern Province of the Kingdom of Saudi Arabia, Saudi Basic Industries Corporation (SABIC) is desirous of arranging for the utilization of a portion of them for the establishment of a chemical fertilizer plant at Al-Jubail of that province. The production capacity is to be 1,000 mertic tons of ammonia converted into 1,600 metric tons of urea per stream day. Taiwan Fertilizer Company, Ltd., (TFC) of the Republic of China was chosen as the partner for this project because of its technical competence, knowledge and experience in the establishment and operation of similar ammonia-urea plants in Taiwan. Shortly after the establishment of SABIC, their representatives met TFC representatives at SABIC office in Riyadh, Saudi Arabia in November 1977. A first feasibility study report of the proposed joint venture was presented by TFC and discussed at the meeting. Subsequently a memorandum was signed at the ministerial meeting held between His Excellency Dr. Ghazi Al-Gosaibi, the Minister of Industry and Electricity of the Kingdom of Saudi Arabia and His Excellency Mr. Y.S. Sun, former Minister of Economic Affairs of the Republic of China. It stated that TFC will guarantee to market a certain portion of the manufactured products of the proposed joint venture and will use its best endeavours together with SABIC for marketing the remainder.

In May 1978 representatives of the two parties met again at the SABIC office to discuss the revised feasibility study report and marketing proposal submitted by TFC. On January, 1979, the Interim Agreement for the SABIC-TFC Ammonia-Urea Project at Al-Jubail was signed by His Excellency Dr. Ghazi Al-Gosaibi, the Minister of Industry and Electricity and Chairman of SABIC, the Kingdom of Saudi Arabia, and His Excellency Mr. Chang Kwang Shih, the Minister of Economic Affairs and Chairman of the Commission of National Corporations of the Republic of China at the SABIC office.

In accordance with the Interim Agreement, the SABIC-Taifer Fertilizer Project Team was established in Jan. 1979 under the supervision of a Project Executive Committee. The objective of the work of the Team is to initiate the engineering of the project and provide SABIC and TFC with an acceptable capital cost estimate and other relevant information pertaining to its financial and economic feasibility; all of these objectives were achieved and their results are incorporated in this feasibility study.

Meanwhile, the managements of SABIC and TFC started the negotiation of the following ten agreements, almost all of them were completed and finalized:-

- Joint Venture Agreement
- Memorandum of Assosication
- Off-Take Agreement
- Marketing Agreement (2)
- Service Agreement (2)
- Principle of Loan
- Principle of Land Lease
- Principle of Feed/Fuel.

JOHNSON COVER CO.
REORDER NO. D-7357

IV. PARTNERS' UNDERTAKINGS

SECTION IV

PARTNERS' UNDERTAKINGS

The Partners in this Project (i.e. Sabic and TFC) undertook to help the Company in many fields in order to facilitate its establishment and its profitable operations. These undertakings will apply throughout the life of the Project. In the following pages a summary of the major undertakings by the Partners are outlined.

A. SITE AND UTILITIES PROVISION:

Sabic undertook to arrange with the Royal Commission for Al-Jubail and Yanbu to allocate a suitable site for the Company as detailed in Vol. III of this study. Sabic also coordinated with the Royal Commission to arrange for the supply of the required amounts of feed-stock and utilities to the allocated site.

B. FINANCIAL ARRANGEMENTS:

In addition to the Partners contribution of 30% of the needed investment as equity, Sabic undertook to arrange for the Company to get a loan from a Saudi Government agency according to favourable terms and conditions to cover 60% of the needed investment.

The Partners also undertook to help the Company in securing a commercial loan to cover 10% of the needed investment.

C. ESTABLISHMENT OF THE COMPANY:

Out all the official procedures and to obtain all governmental approvals required for the establishment of the Company under the Saudi Laws and to obtain a commercial register for the Company.

D. MANPOWER SUPPLY:

The Partners undertook to supply the Company with all the available manpower in the different technical, administrative and marketing fields as may be requested by the Company.

TFC submitted attached Table I for the minimum numbers of technical personnel which it will make available to the Company.

45 of total expat. 168 (in Vol. 1)

As it is clear from these undertakings the Company will be able to get experienced personnel to man the critical positions in its different departments which will enable it to perform successfully.

E. TRAINING SERVICES:

The Partners offered the Company their training services in the different fields of experience which are of importance to the Company.

Sabic undertook to make available to the Company training facilities inside the Kingdom, while TFC undertook to train substantial number of the Company employees inside Taiwan in its plants. Attached Table II indicates the minimum numbers which TFC undertook to train in its plants and facilities.

These undertakings are of great importance as the provision of well trained manpower is the key to the success of the Project.

F. TECHNICAL ASSISTANCE:

Both Partners undertook to render all available technical assistance to the Company. In addition TFC undertook to render to the Company all assistance needed in carrying out research in the relevant technical fields. Also TFC will make its facilities available to the Company for carrying out research at cost in case of need.

The Partners will exchange all available technical information with the Company and will send experts to help in solving the Company's problems in case of need.

G. MARKETING:

Both Partners agreed to help the Company in marketing its Product through-out the world; in addition to that TFC undertook to market 60% of the Product according to an Offtake Agreement which ensures minimum proceeds to the Company in case of a drop in the international prices of urea.

These undertakings are an expression of the confidence of the Partners in the Viability of the Project and an assurance to the Company of favourable marketing conditions.

H. GENERAL ASSISTANCE:

The Partners undertook to render the Company all other assistance within their capacities as the Company may need. Sabic undertook also to help the Company in obtaining any government license the Company may need and to help the Company in getting governmental approvals and in clearing materials and equipments from Customs as the need may arise.

TABLE I

MINIMUM MANPOWER TO BE PROVIDED BY TFC

Time / Category	1980	1981	1982	1983	1984	Total
Senior Staffs and Managers	4	2	2	2		10
Superintendents, Supervisors and Engineers	10	15	10	10	10	55
Craftmen & Operators	10	20	25	30	20	105
Administrative Staffs	6	8	8	8		30
Total	30	45	45	50	30	200

Note: The Company shall notice TFC the required personnel, its numbers and Catagories three (3) months before the employment date.

TABLE II

TRAINING PLANS AND PROGRAMS

Time / Category	1980	1981	1982	1983	1984	Total
Engineers						
Craftmen						
Operators						
Other Staffs						
Total	20	20	20	20	20	100

Note: The Company shall notice TFC the expected training category and the detailed training schedule three (3) months before the training date.