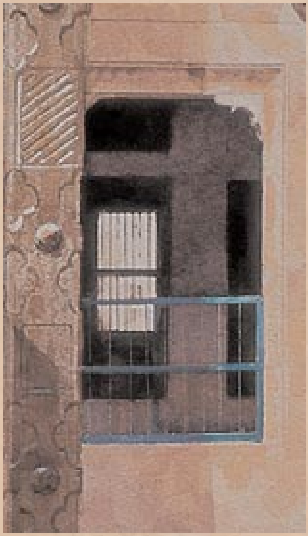
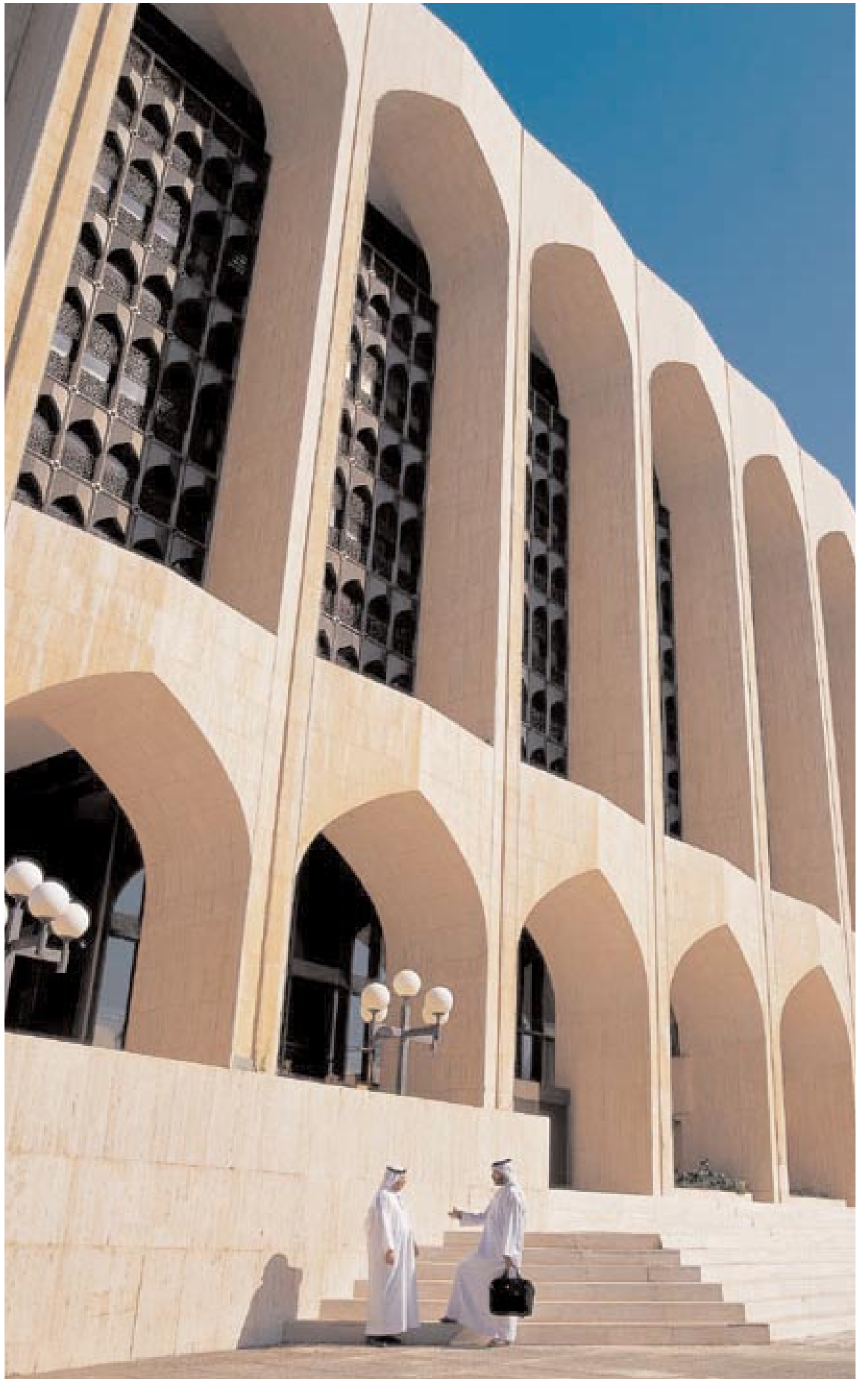


ECONOMIC DEVELOPMENT



THE ECONOMY

THE UAE ECONOMY EXPERIENCED significant growth in 2000 according to official figures issued in mid-2001. This was primarily attributable to the increase in oil prices. An important result of this strong economic performance was a reduction in the general budget deficit, and an increase in the balance of trade surplus from Dh17.4 billion in 1999 to Dh46.7 billion in 2000. Investment rose from Dh53.9 billion to Dh55.4 billion, while inflation was only 1.4 per cent.

During 2001, a report from the International Monetary Fund on the UAE economy reported favourably on the progress being made, a feature that will help the country to make the necessary changes incumbent upon its new status as a full member of the World Trade Organisation (WTO). The first UAE representative to this key international body took up his post in June 2001.

Sheikh Zayed's call for greater integration and unity between the emirates was met, in part, by increased economic cooperation leading to a number of significant partnership projects. In view of growing regional and international competition and the urgent need to strengthen economic development to face the 'New World Economy', economic openness and joint ventures with strong economic bases have become a vital element of successful competition. Businessmen have established stock companies in Dubai, Sharjah and other emirates, while banks and insurance companies have played significant roles in the real estate and tourism sectors. Close cooperation between the Abu Dhabi and Dubai governments has resulted in the establishment of several new joint projects such as Emirates Cable Company, and Emirates Industries (Sinaat). This process is set to continue in the coming years.

GROSS DOMESTIC PRODUCT

According to the Central Bank, UAE gross domestic product at factor cost and current prices (GDP) grew by 20.4 per cent in 2000, compared to Dh201 billion in 1999, to reach Dh241.9 billion. Non-oil sectors, which were valued at Dh159.9 billion in 2000, accounted for 66.1 per cent of the GDP, compared to Dh151.1 billion and a ratio of 75.2 per cent in 1999. The fall of the non-oil sector as a percentage of total GDP was attributable to the strong oil prices that were sustained throughout the year. The value of the overall output of the commodity sectors reached Dh140.4 billion in 2000, accounting for 58.0 per cent of GDP, against Dh104.4 billion and a ratio of 52.1 per cent in 1999.

The oil and natural gas sector, as indicated above, showed the biggest leap, realising Dh82.0 billion in 2000, an increase of 64.6 per cent over its 1999 level. This led to a corresponding jump in its contribution to overall GDP which reached 33.9 per cent in 2000, compared to 24.8 per cent in 1999. Average oil prices over the period rose from US$17.6 in 1999 to US$27.2 in 2000 and then fell back to US$22.4 in 2001. With output growth rate exceeding the rate of population growth, GDP per capita rose by 13.8 per cent in 2000, reaching Dh77,800, compared to Dh68,400 in 1999. Meanwhile consumption per capita increased by 2.4 per cent in 2000.

The balance of payments achieved an overall surplus of Dh10.4 billion, an increase of 85.2 per cent over the level attained in 1999. The strength of the dollar and the dirham's fixed exchange rate to the US currency also had a positive impact, raising the purchasing power of the oil and gas export earnings and leading to an increase in the trade and current account surpluses to Dh46.7 billion and Dh42.6 billion respectively in 2000, against a surplus of Dh17.5 billion and Dh12.8 billion in 1999.

Whilst 2001 experienced much greater economic uncertainty and, among other factors, a significant weakening of oil prices, the medium-term outlook remains positive.

The impressive growth figures have been maintained for a considerable time, throughout periods of oil-price fluctuations. Indeed, economic activity evaluated by nominal GDP in real terms increased from Dh133.2 billion in 1993 to Dh241.9 billion in 2000. During that seven-year period, the GDP growth rate was 5.8 per cent and oil value-added increased by 0.6 per cent, while non-oil activities increased by an annual average of 8 per cent.

FEDERAL BUDGET

While full figures for the year 2001 were not available at the time the yearbook went to press, an indication of the scale of government expenditure can be obtained from the budget of the Federal Government for the year. Total expenditure was set at Dh22.063 billion, with revenues estimated at Dh20.425 billion. By way of comparison, the federal budget in 1972 amounted to only Dh2.238 billion. It should be noted, however, that combined government spending is very substantially larger when the expenditure of the local governments in each of the emirates is taken into account. Moreover, in contrast to other countries with a single, central government, the existence of a deficit in the federal budget is in practical terms of little significance, since reserves held by the emirates, in particular Abu Dhabi, are unofficially estimated to be well in excess of US$100 billion.

The federal budget is funded both by revenues from fees and services and by contributions from the emirates, with Abu Dhabi providing the lion's share from its oil revenues.

The largest single allocation in the federal budget for 2001 was for education, (including higher education), which was given Dh5.428 billion. Social services received Dh1.936 billion while health (excluding healthcare facilities funded by local governments), was allocated Dh1.683 billion. Expenditure on electricity and water, (primarily in the northern emirates) received Dh659 billion.

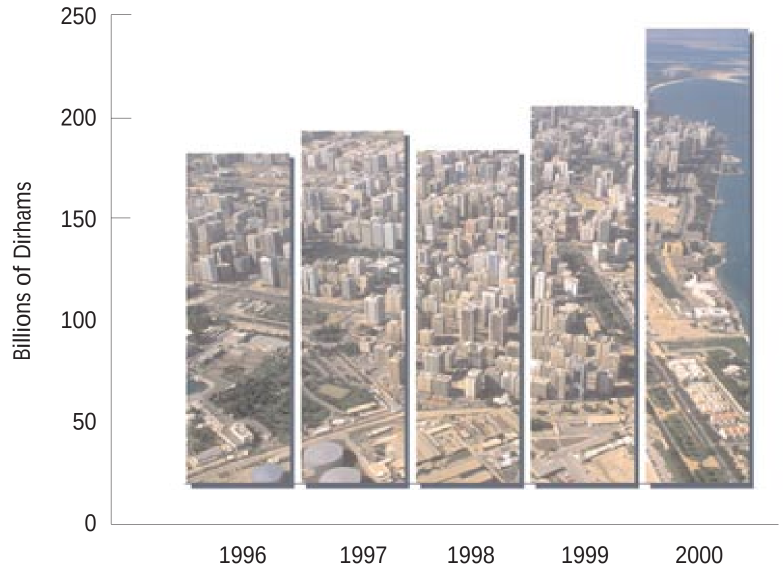
FIXED INVESTMENT

The UAE Government has continued its impressive programme of investment in social and economic projects with the input from government into these projects reaching Dh55.3 billion in 2000, which was 22.9 per cent of GDP. In line with government strategy, the private sector plays a crucial role, investing 43.2 per cent of GDP into manufacturing, restaurants, hotels, real estate, transportation, storage and communications projects in 2000, compared with 41.4 per cent in 1999.

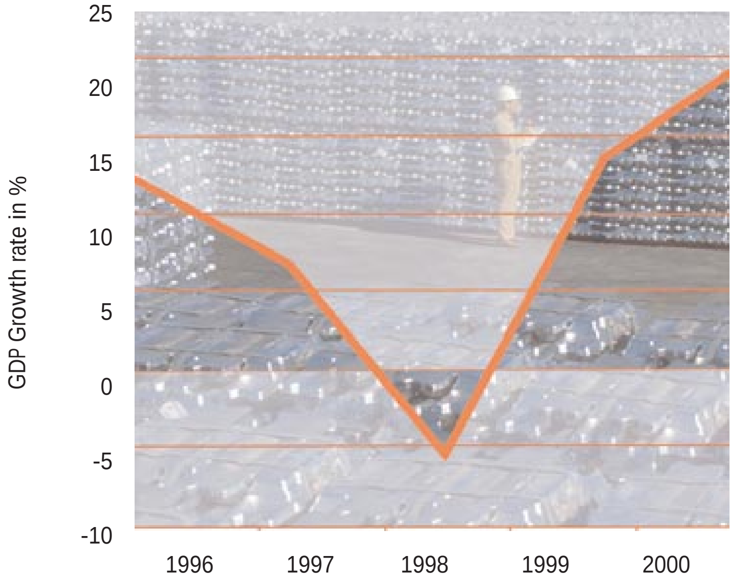
Public sector investment rose to 28.5 per cent of total investment in the year, mainly in crude oil, manufacturing, transportation, communications and storage. Local governments' activities represented 25.5 per cent of total investment, mainly electricity, water, transportation, storage, real estate and government services. Federal Government share of total investment reached 2.8 per cent, mostly in government services such as education, health and social care.

MONEY SUPPLY

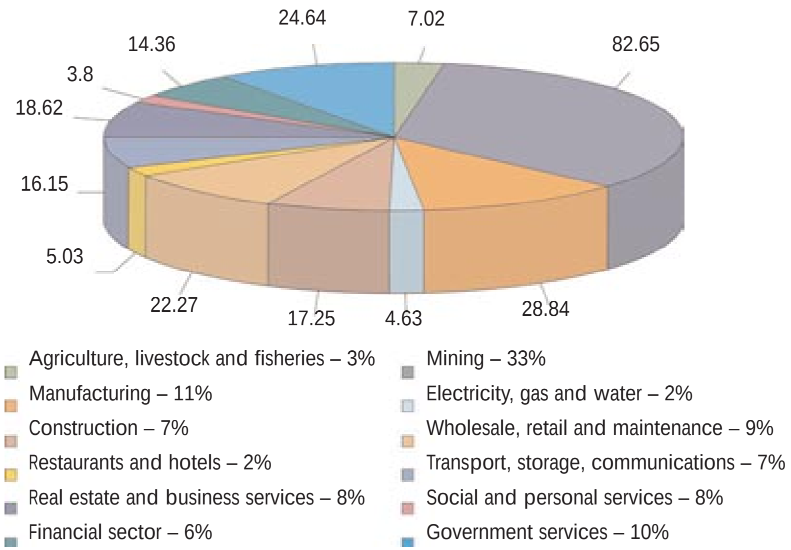
Money supply rose by 12.6 per cent to Dh34.1 billion in 2000, leading to an increase in cash deposits of 10.7 per cent to Dh10.3 billion and domestic liquidity rising by 11.1 per cent to reach Dh142 billion. Net foreign assets rose 4.4 per cent to Dh4.1 billion.



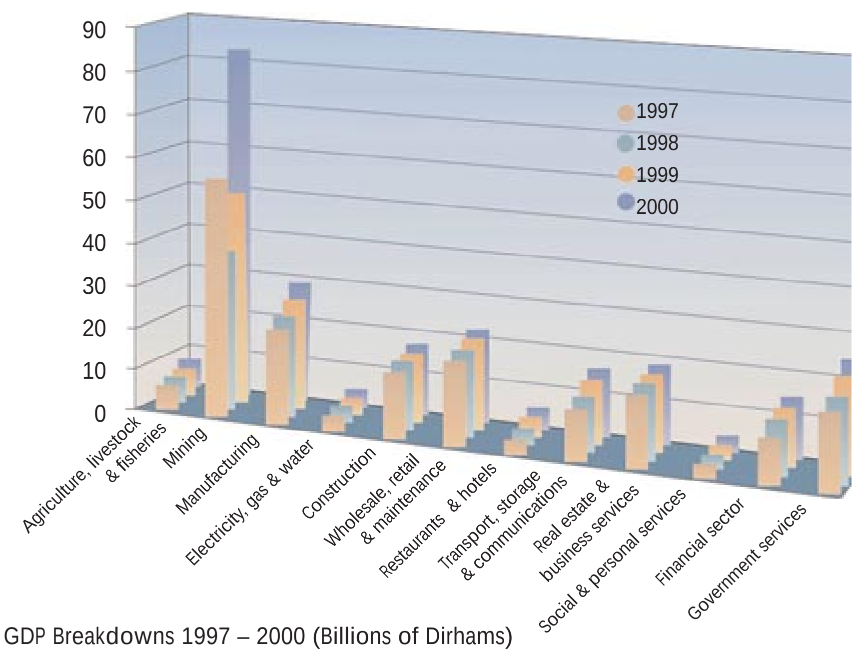
UAE Gross Domestic product 1996 – 2000 (Billions of Dirhams)



GDP Percentage Growth Rate 1996 – 2000



GDP Breakdown for the year 2000 (Billions of Dirhams)



GDP Breakdowns 1997 – 2000 (Billions of Dirhams)

WORKFORCE

The UAE population grew by 5.8 per cent to slightly over 3.1 million in 2000, of whom 2.095 million were male and 1.013 million female, compared to 2.938 million in 1999, with 1.975 million males and 963,000 females. The number of workers increased by 60,000 to 1.6 million in 2000. The wholesale, retail and maintenance sector was the biggest employer with 321,000 employees accounting for 19.5 per cent of the total workforce.

SELECTED ECONOMIC INDICATORS

INDICATOR	1996	1997	1998	1999	2000
Population (thousands)	2,479	2,624	2,776	2,938	3,108
GDP in current prices (Bn. Dh)	175.8	187.6	–177.4	200.9	241.9
GDP growth rate in %	12.05	6.72	–5.43	13.25	20.41
Employees in thousands	1,274	1,346	1,437	1,564	1,624
Total exports & re-exports (Bn. Dh)	137.06	148.40	124.26	133.95	166.21
Crude oil exports (Bn. Dh)	53.55	50.35	34.49	45.19	73.35
Total re-exports (Bn. Dh)	38.42	39.68	42.55	43.46	44.44
Trade balance (Bn. Dh)	24.86	23.19	4.58	17.46	46.72
Balance of payments overall (Bn. Dh)	+2.28	+1.20	+2.76	+5.62	+10.41
Average oil price (US$ per barrel)	19.70	18.80	12.40	17.60	27.20
Dh exchange rate for each US dollar	3.671	3.671	3.6725	3.6725	3.6725

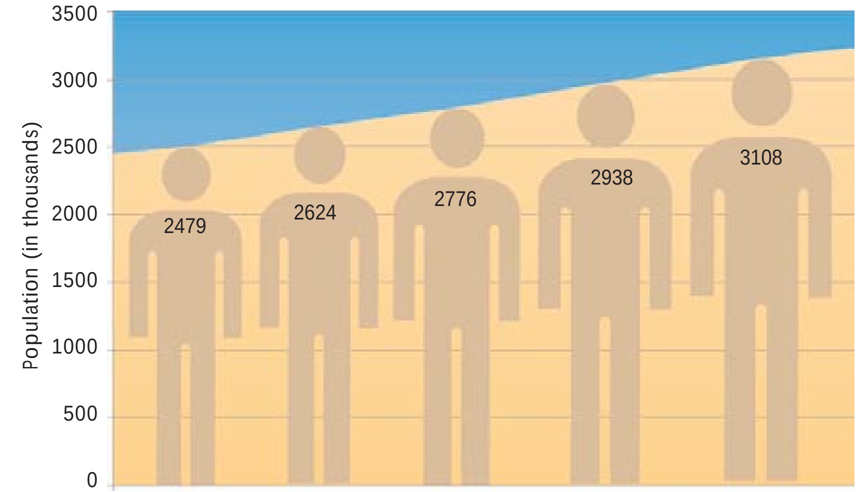
Source: Central Bank of the UAE

BUSINESS ENVIRONMENT

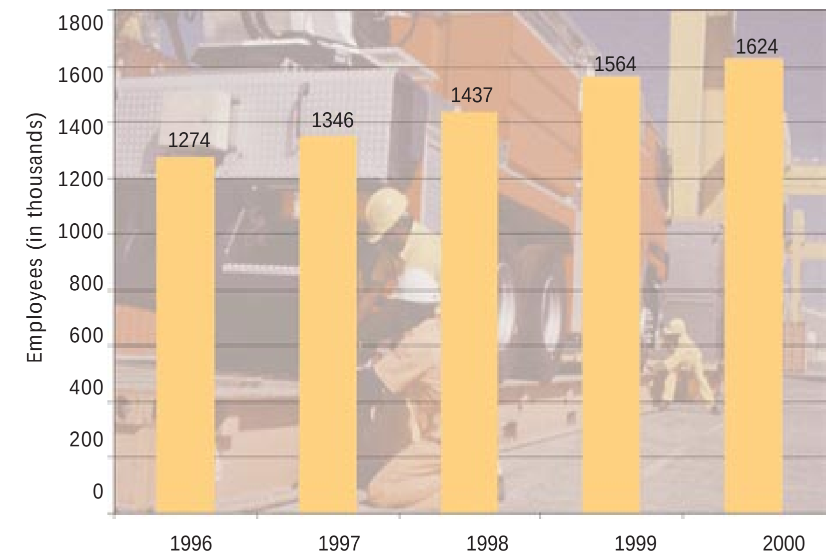
An IMF report on the country's financial sector, delivered in May 2001, was broadly complimentary, especially with regard to the soundness of the financial system, describing the financial sector as being 'dominated by well established banks that are effectively supervised'. It also highlighted the important role played by the free zones in the country's development and praised the strategy to diversify and liberalise the economy.

E-BUSINESS

The term e-business is now widely used to describe business ventures that rely upon the Internet as their marketing and sales platform. Over the past few years the Internet has created a virtual revolution in the UAE in terms of how



UAE Population Growth 1996 – 2000



Number of Employees 1996 – 2000

business is conducted and how it interacts with government on a wide range of levels. With corporate web sites now the norm rather than the exception, and business executives increasingly dependent upon the Internet for access to a wide range of information and services, the importance of e-business to the UAE can hardly be over-emphasised. Elsewhere in this chapter we have repeatedly referred to companies and organisations that have upgraded their online presence or are actively utilising the Internet in their business management strategies.

One company that has taken the process a step further is Tejari.com which is headquartered in Dubai Media City and is the Middle East's business-to-business online marketplace with more than 125 organisations participating in its online trading community, including multinational corporations, Middle East-based trading groups and about 30 government and semi-government departments. Tejari.com's prime objective is to maximise the business potential of regional customers by providing them with innovative, reliable and versatile B2B and e-marketplace services that extend their reach and enhance their competitive standing in the new global economy. An example of how Tejari.com works for local businesses is provided on their web site which reports that a UAE bank wished to purchase 100 laptops for use by its personnel. Using traditional purchasing methods, they might have paid up to Dh500,000 for the purchase of the merchandise. Using Tejari's auction, however, the bank ended up saving Dh35,000.

PRIVATISATION

The UAE continues to examine different options for privatisation of projects that have traditionally been run by government. Privatisation is necessary to offset unstable oil revenues and finance development and key infrastructure projects (see Infrastructure chapter). In-depth studies of enterprises considered for privatisation are being carried out and experiences of other countries are being considered. The success of privatisation requires a strong private sector capable of shouldering its responsibilities in managing enterprises sold off by the government. The idea of private sector participation in major energy projects is not new to the UAE, which was among the first Arab countries to establish partnership agreements with foreign companies in its oil sector. The private sector's role is steadily increasing, currently accounting for over 45 per cent of the economy compared to 30 per cent ten years ago. The expanded contribution has enabled it to partially offset the impact of fluctuating oil prices.

EMIRATES INDUSTRIAL BANK

Another way in which the Government has continued to promote private sector development is through the operations of the Emirates Industrial Bank, which was founded in 1982. 51 per cent owned by government and 49 per cent by banks, insurance companies and other private investors, the bank had its capital increased in July 2001 from Dh400 million to Dh1 billion. In the years since its establishment up to the end of 2000, the bank had provided 70 per cent of the capital investment of Dh2.41 billion in a total of 369 industrial projects.

Another government-owned organisation making contributions towards the expansion of the industrial sector is Abu Dhabi's General Industries Corporation, which is currently engaged in studies for the construction of the UAE's second aluminium smelter, to be located in the western industrial centre of Ruwais.

PRIVATE INDUSTRIAL INVESTMENT

The number of new industrial establishments registered in the UAE totalled 2152 in 2000, with investments grossing Dh24 billion. This compares with a figure of around 1800 establishments in 1999, and an investment figure of Dh21 billion. Dubai accounted for more than half of the total investment in industrial projects during the period, with the figure of Dh12.7 billion representing 53.8 per cent of the total. In 2000, Dubai had 793 industrial firms, while Sharjah followed with 685. Abu Dhabi registered 220 units during the same period. Investment in ventures situated in Sharjah totalled Dh2.84 billion representing a 12 per cent increase over 1999. Similar rises were experienced in Ajman (where Dh779 million was invested, compared to Dh618 million in 1999), Ra's al-Khaimah (Dh2.78 billion in 2000, Dh2.02 billion in 1999), Umm al-Qaiwain (Dh351 million in 2000, Dh312 million in 1999), whilst there was a small drop in the figures for Fujairah where Dh646 million was spent in 2000, compared to Dh665 million in 1999.

THE UAE STOCK MARKET

There are two officially approved stock exchange floors in the UAE, one in Abu Dhabi and one in Dubai. The stock exchanges are controlled by the UAE Securities and Commodities Market Authority which must approve the listing of companies on the stock exchanges and also the brokerage houses that operate at the exchanges. The main thrust of the Authority's work has been towards streamlining trading and broadening the market. Considerable importance is also being placed on electronic networking between the two markets so that a broker licensed in one can efficiently access and use the data and services of the other.

The stock exchanges were originally established to provide suitable and transparent market conditions for trading in shares of UAE companies. More recently there have been moves to open up the market so that non-UAE companies can gain listings and this is in line with a medium-term objective to establish smooth linkages with other stock exchanges within the GCC, creating a regional market.

Abu Dhabi Securities Market (ADSM)

In November 2001, the following companies were listed on the ADSM: Abu Dhabi Aviation Company, Abu Dhabi Commercial Bank, Abu Dhabi Islamic Bank, Abu Dhabi National Foodstuff Company, Abu Dhabi National Hotels Company, Al-Ain Ahlia Insurance Company, Al Dhafra Insurance Company, Al Khazna Insurance Company, Al Wathba National Insurance Company, BILDCO, Emirates Insurance Company, National Bank of Abu Dhabi, National Hotels & Tourism Company, National Marine Dredging Company, Oasis International Leasing Company, Union National Bank.

The ADSM offers live stock quotes over its web site (www.adsm.co.ae). Trading on the Abu Dhabi exchange takes place via a number of approved brokers. In mid-November 2001 these were as follows: Oman & Emirates Investment Holding Company, National Bank Of Abu Dhabi, Union National Bank, Emirates Bank International, National Financial Brokerage Company, Al Wathba Shares & Bonds Centre, Emirates Commercial Centre, Al Ramz For Shares & Bonds, Arabian General Investment Corp., Dubai Islamic Bank, Al Sharhan For Shares & Bonds, Damak Al Baraka Investment Securities, and First Gulf Bank. By September 2001 ADSM's market capitalisation was Dh18.4 billion of which banks accounted for 68 per cent, hotels 14 per cent, service companies 9 per cent, insurance 8 per cent and industries 1 per cent.

Dubai Financial Market (DFM)

The Dubai Financial Market (www.dfm.co.ae) has introduced a number of technologically up-to-the-minute innovations to bring market information to investors. In addition to Internet listings and live quotes over their web site, they have established what they term a Supreme Quote System (SQS)

which is delivered to mobile telephones bilingually, via SMS and WAP protocols. Whenever certain stocks go above or below a particular 'trigger level' the subscriber receives an alert.

In mid-November 2001, the listed securities on the Dubai Exchange were as follows: Dubai Islamic Bank (DIB), Emirates Bank International (EBI), Mashreq Bank (MASQ), National Bank of Dubai (NBD), Dubai Insurance Company (DIN), Dubai National Insurance (DNIR), Union Insurance Company (UIC), SHUAA Capital (SHUAA), Dubai Investment Company (DIC), Emaar Properties (EMAAR), National General Cooling Company (TABREED), and Union Properties (UPP). In addition one bond was quoted, i.e. Emirates (EK-2006), together with one Mutual Fund, NBAD UAE Growth Fund (NBAD FUND UGF).

Also in mid-November 2001, the following brokerage companies were licensed to operate at the DFM: Al Sharhan for Shares & Bonds, Commercial Bank International, Dubai International Securities, Dubai Islamic Bank, Dubex Securities International, Emirates Bank International, Emirates Commercial Centre, Mashreq Bank, National Bank of Abu Dhabi, National Bank of Dubai, Shurooq for Shares & Bonds, Union National Bank.

The stock exchange operates an automated screen-based trading system. This offers a distinct advantage over traditional floor trading in terms of transparency, liquidity and trading of prices. The trading system is an order driven system, which matches buying and selling orders of the investors. Investors can place their orders with accredited brokers, who enter these orders into the trading system. The system automatically matches buy and sell orders of a particular stock, based on the price and quantity requirements. The trading system also generates and displays details of current and historical trading activity, including prices, volumes traded and outstanding buy and sell orders. This ensures that investors have the required information to be able to take informed investment decisions.

BANKING SECTOR

At the end of 2000 there were 46 banks operating in the UAE. The number of foreign banks was reduced by one to 26. Seven licences were issued in 2000 for new representative offices, five in Dubai and two in Abu Dhabi. While there was no change in the number of local banks, the number of branches and cash offices of these banks increased to 311 from 295 in 1999. Foreign bank branches and cash offices totalled 109 in 2000. The number of licensed representative offices of foreign banks and other financial institutions in the

country rose to 45 by the end of 2000 as opposed to 39 the previous year. New representative offices licensed in 2000 are Housing Bank for Trade & Finance (Abu Dhabi), Templeton Worldwide Inc. (Abu Dhabi), and The Equitable Life Assurance Society, Scottish Widows International, Kuwait Interests for Financial Investments, HSBC Bank International and Royal Bank of Canada – all in Dubai.

Dirham Exchange Rate

The dirham continued to strengthen during 2000, benefiting from its fixed peg to the dollar, which appreciated markedly against major currencies. During 2000, the dirham appreciated against the euro (9.4 per cent), sterling (6.3 per cent), Swiss franc (6.4 per cent) and the yen (5 per cent). The dirham rate of exchange remained unchanged against all GCC currencies with the exception of the Kuwaiti dinar, which depreciated 0.8 per cent.

Performance of Banking Sector

The UAE banking sector performed extremely well in 2000. UAE's 19 national banks and 28 foreign units netted around Dh3.53 billion, one of their best years on record. With the exception of Arbift, they all recorded profits, in some cases far beyond even the most optimistic forecasts. At the top of the scale was First Gulf Bank which declared a profit of 202 per cent whilst Mashreq Bank managed to enter positive territory with a small profit of 0.05 per cent, which was a great improvement on its 1999 loss of US$13.4 million. Overall, the UAE banks showed an average increase in net income of 18.9 per cent.

The UAE banking sector has been buoyant for several years with bank credit rising from Dh102 billion in 1995 to around Dh155 billion by the end of 2000. A further increase of nearly Dh10 billion was forecast for 2001. Liquidity also jumped 18.5 per cent to Dh157 billion, allowing banks to expand their lending activity, mainly to the private sector. Confidence in the UAE's credit rating was confirmed by a report published in the *Institutional Investor* that listed country credit ratings for a large number of countries. The UAE retained its top country credit ranking in the Middle East while improving its rating despite increased tensions in the international arena. At the global level, it maintained its twenty-sixth place.

Emiratisation in Banks

One important issue facing UAE banks is that of emiratisation. About 2600 UAE nationals were working in the banking sector in the first six months of

2001, compared to 2473 nationals in the corresponding period in 2000 helping emiratisation in banks to reach 18 per cent compared to 17 per cent in 2000. The figures at higher levels of management are more impressive with 32 per cent of branch managers being nationals.

E-banking

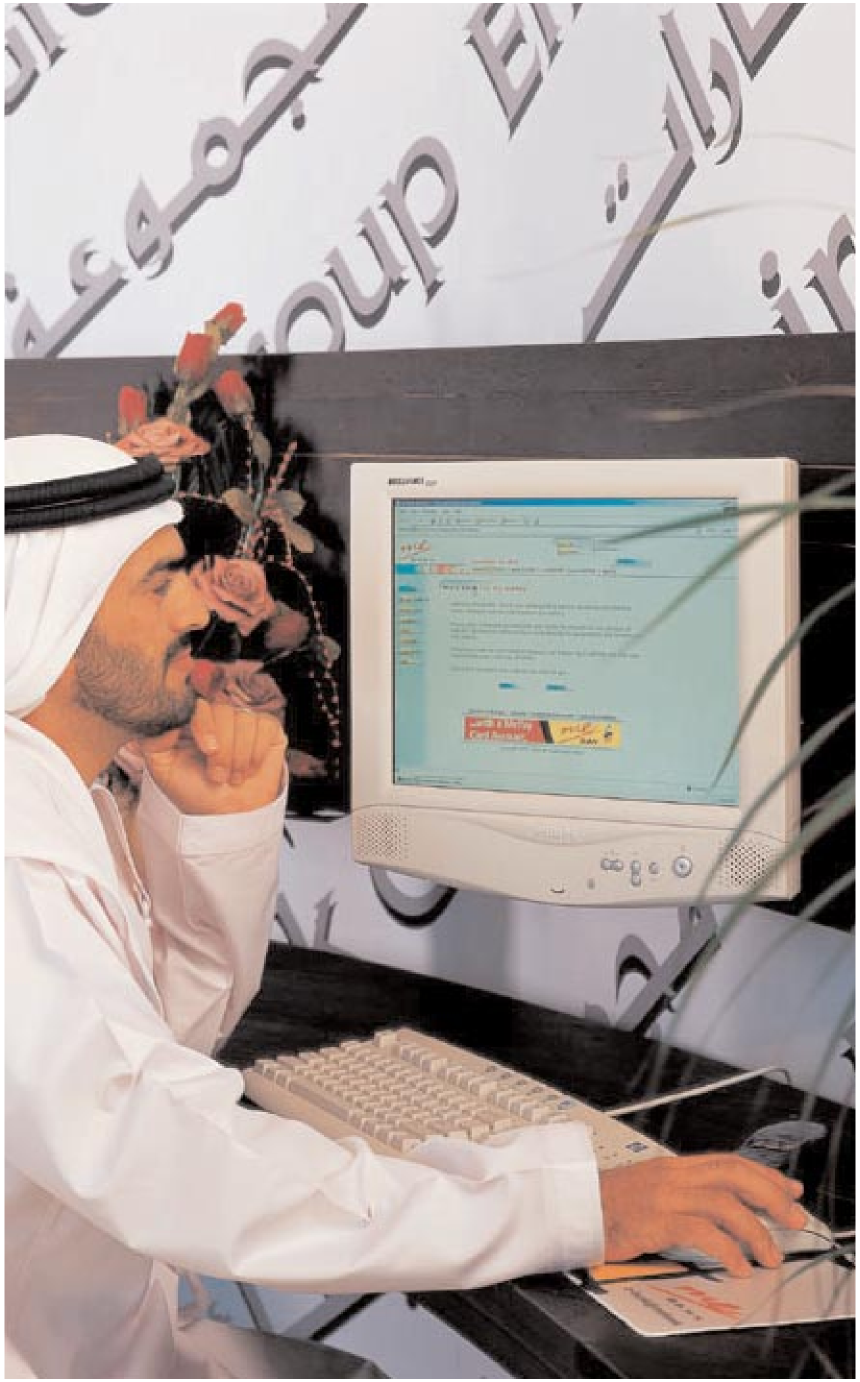
Online banking is a relatively new concept in the Gulf but it is one that is receiving a very high priority in terms of management attention. Emirates Banking Group's (EBG) innovative BankNet service, introduced in 1997, was recently upgraded to MeBank with improved features, greater flexibility and lower costs. EBG has recently formed Emirates Electronic Banking Services (EEBS), which will market EBG's online banking system to its parent company as well as to other banks in the region. The move is expected to revolutionise the country's online banking services by reducing the cost and time required for implementing technically demanding e-banking solutions. The Central Bank approved project is a positive and significant step towards the e-government goal. It is one of several important developments in this sector and there have been strong calls from government circles for all UAE banks to speed up development of their electronic and e-banking services.

Another front-runner in provision of Internet banking services is the National Bank of Dubai which offers customers a full list of online services. ABN Amro Bank introduced an electronic banking tool to corporate customers in September 2000. The UAE-developed BankOnline service allows customers to view data directly on screen, and download it instantly for offline viewing. In addition to providing instant access to account information, BankOnline also supplies updates on foreign exchange movements, money market movements, deposit rates and exchange rates.

ABTEC 2001, the first Arab E-Banking and E-Security Summit, was held in Dubai in September 2001. Forty-two per cent of UAE companies planned to set up e-commerce operations by the end of 2001 whilst 88 per cent already had Internet access. The meeting also discussed laws that are being considered to increase security of transactions over the Internet for UAE-based users.

Bank Web Sites

Many of the major banks in the UAE now have web sites where customers can read information on the bank's products and, in some cases, access their accounts. Emirates Bank Group's web site (www.emiratesbank.com), regarded



as something of a model for the banking sector to follow, was rated in first place in the Year 2000 assessments of Middle Eastern Banks, according to Lafferty Internet Ratings (LIR), the Internet Financial Services benchmarking service.

Response to Terrorism

The terrorist attack on America, which took place on 11 September was immediately condemned by the UAE which has been cooperating closely with the international community in closing off any financial links that may exist between terrorist groups and UAE companies or individuals. In addition to the closure of bank accounts and seizure of assets belonging to groups or individuals who have been implicated in connection with illegal activities, the UAE has also introduced stringent measures to control money laundering. These involve the banks in maintaining proper records of individuals or companies that transfer funds from UAE banks to international destinations. In November 2001 the Central Bank issued instructions for the freezing of assets of 30 companies listed in the country.

Prevention of Money Laundering

A federal law criminalising laundering of property derived from unlawful activities was approved in late 2001, and came into effect at the beginning of 2002. The law aims to ensure that funds banked in the UAE derive from legitimate activities and that they are not used in support of illegal conduct. In addition to confiscation of proceeds from unlawful activities, money laundering offenders may be sentenced to seven years in jail, pay a fine of up to Dh300,000, or both. The law covers financial assets derived from narcotic and psychotropic substances, kidnapping, piracy, terrorism and offences committed in violation of the environment law. It also covers illicit dealing in firearms and ammunition, bribery, breach of trust and other related offences stated in the international conventions to which the UAE is a signatory. In order to ensure the efficient operation of anti-money laundering procedures, the National Anti-Money Laundering Committee was established under the chairmanship of the Central Bank Governor.

Banks are required to determine and record the true identities of their clients and also report any accounts in which the balance may not be compatible with the income of the owner, or seems to lack any reasonable economic cause or clear legal objective. The Central Bank does not allow banks to open coded or disguised accounts. Moneychangers must record details of persons or institutions that transfer an amount of Dh2000 or more (or its equivalent in other currencies) and must also verify their clients' true identity by checking original documents.

In published comments, the Governor of the Central Bank has noted that the process of increasing regulation of the country's financial sector had commenced long before the events of September 2001 and that the bulk of the funds likely to be covered by the new legislation arise from criminal activities undertaken outside the UAE, those responsible then seeking to make use of the UAE's liberal economic policy to 'launder' their gains. These regulations, therefore, will not cause difficulties for legitimate business concerns in the UAE.

E-GOVERNMENT

E-government throughout the UAE is rapidly taking hold, allowing many functions that previously required one's physical presence in a particular office, or the exchange of letters by post, to be carried out online. This is creating a new business environment, helping to streamline many procedures and saving time for business people.

At the end of October 2001 the Dubai government launched its e-government web site over which numerous online services can be accessed. Among its many functions, the site links into the Dubai Municipality's Geographical Information System (GIS) directory, which affords visitors to Dubai unparalleled access to city information such as the location of the nearest open pharmacy. Meanwhile motorists can pay outstanding traffic fines online through the Dubai Police service's web site. The Dubai Courts Department's web site allows anyone having a case before the court to look up case details by using a password and user name provided to him by the court.

Abu Dhabi Chamber of Commerce and Industry has operated an online service to business people for a number of years and maintains a very comprehensive database for its members. It received the award for the Best Government Agencies Internet Site award in 2000 and the Best B2C Site Provider of Information Award in 1999.

In November 2001 the Dubai Department of Economic Development's (DDED) online services were launched as part of the country's e-initiative. The new facility enables all company transactions to be finalised online through the bilingual web site, www.dubaided.gov.ae. Cancellation of trade licences was due to become available over the web site early in 2002. Kiosks for transactions are being installed in shopping malls such as Bur Juman and Deira City Centre. Customers can pay through credit cards, pre-paid cards, by new forms of online payments, or send cheques by mail. Online services for new companies include: reservation of trade names, enquiries on licences, general information on DDED and Dubai, application for new licences (main/branch), modification or cancellation of licences. Additional services for existing companies include: licence renewals, issuance of commercial permits, modification or cancellation of commercial permits, fines payments, complaints registration and submission of suggestions.

THE OFFSETS PROGRAMME

The UAE Offsets Programme, introduced in early 1992, has resulted in the creation of several small to medium-sized joint ventures between local investors and international defence contractors that have acquired offset obligations in connection with the sale of military hardware to the UAE Armed Forces.

The UAE Offsets Group (UOG) www.uaeoffsets.org, responsible for implementing the scheme, has tried to ensure that projects set up under the offsets framework are sustainable and create value for the local economy. By late 2001, 21 joint ventures ranging from shipbuilding, fish farming and financial services to agriculture, medical waste management, training and business centres were in operation. Some have expanded beyond Abu Dhabi and even the boundaries of the UAE. Two such examples are the National Central Cooling Company (TABREED), with an office and commercial contracts in Dubai, and the International Fish Farming Company (Asamak) which has operations in Fujairah and Ra's al-Khaimah in the UAE and in Oman and Kuwait, as well as a 40 per cent stake in a fish feed plant in Greece.

UOG's goal is to facilitate the creation and implementation of new ventures that introduce technology and expertise to the UAE. A good example of this approach is the ongoing privatisation of the power and water sector and the creation of independent water and power plants (IWPPs), a concept introduced by UOG.

Over the years the group's role has matured into that of a development agency and venture capital organisation. It is also working as a think-tank and assisting the Government to develop and implement new projects on a fast-track basis. A case in point is the 656 MW power plant, 100 million gallons a day (mg/d) water desalination and transmission project being built by the Union Water & Electricity Company (UWEC) in Fujairah.

The group has also launched a number of strategic initiatives designed to complement the UAE's hydrocarbons sector and add more value to local and regional economies. Efforts exerted in this direction by a dynamic and experienced team of UAE nationals are already starting to bear fruit. The multi-billion dollar Dolphin gas programme, unveiled in March 1999, is at an advanced stage of implementation. The group is also in the process of establishing a small and medium-sized enterprises (SMEs) programme in cooperation with the Abu Dhabi Chamber of Commerce & Industry (ADCCI) and the Higher Colleges of Technology. Over the next 12 months, UOG is expected to unveil a number of new ventures in the energy, real estate, healthcare and petrochemicals sector.

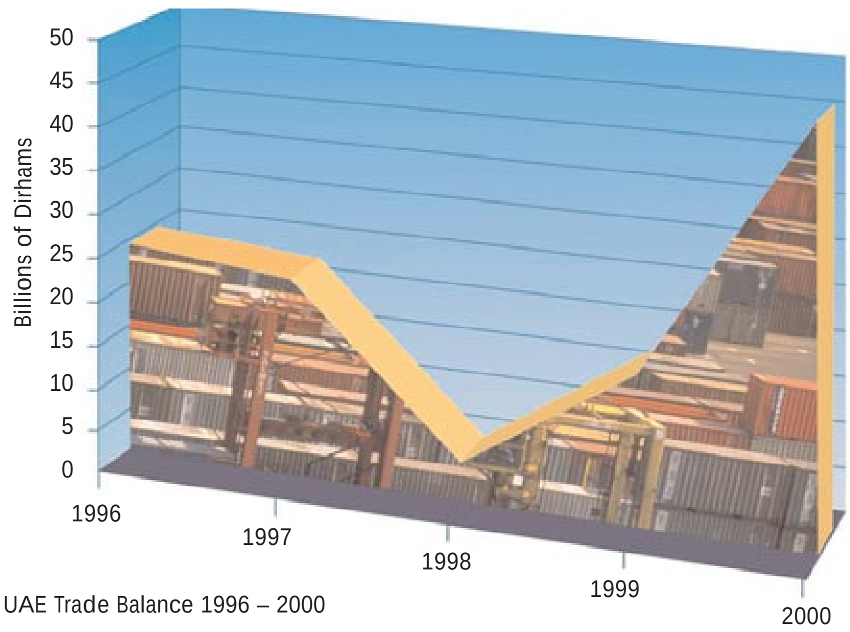
TRADE

The UAE's economy has been built on trade and continues to depend upon different forms of trade. As a member of the World Trade Organisation (WTO) the UAE recently approved the establishment of a UAE permanent office in the WTO headquarters in Geneva together with appropriate specialised technical staff. In addition to the large re-export business in which the UAE is an important trading hub, there are efforts underway to boost the export of UAE manufactured products. The UAE Ministry of Finance and Industry recently announced plans to establish an independent government body to develop, support and finance exports of national products.

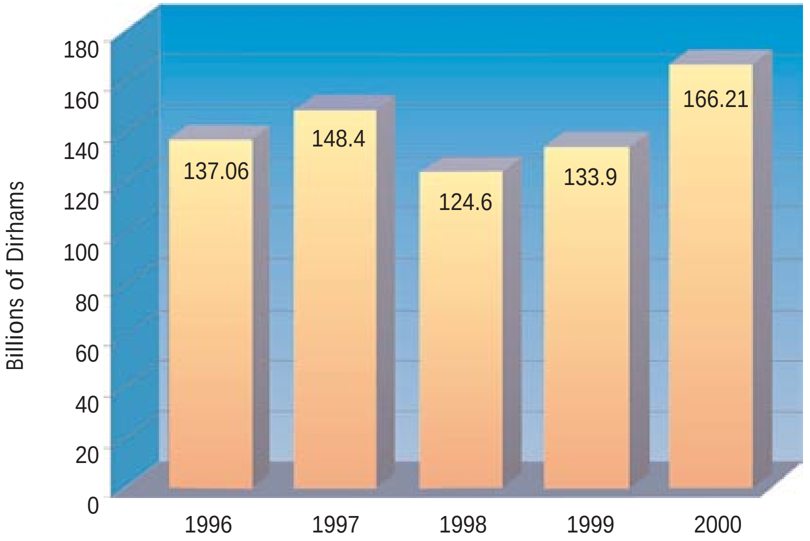
FREE ZONES

There are currently 12 free zones in the country and they have been successful in attracting a large number of companies and foreign direct investment, as well as expanding net non-oil exports. The share of free zones in non-oil exports increased from 22 per cent in 1999 to 57 per cent in 2000. Net exports from free zones have also risen, reaching US$1.4 billion in 2000. Currently, there are more than 3000 companies operating in free zones, with an estimated trade of around US$8 billion.

Establishing a business entity in one of the UAE's Free Trade Zones (FTZ) can be an attractive option for foreign investors who can either register a new company in the form of a Free Zone Establishment (FZE) or simply establish a branch or representative office of their existing or parent company based



UAE Trade Balance 1996 – 2000



UAE Total Exports and Re-exports 1996 – 2000 within the UAE or abroad. An FZE is a limited liability company governed by the rules and regulations of the free zone in which it is established. Under Federal Law No. 15 of 1998, except for acquiring nationality in the UAE, the provisions of UAE Company Commercial Law do not apply to FZEs, provided that the free zones have special provisions regulating such companies.

The major attractions of FZEs include:

- 100 per cent foreign ownership of the enterprise
- 100 per cent import and export tax exemptions
- 100 per cent repatriation of capital and profits
- No corporate taxes for 15 years, renewable for an additional 15 years
- No personal income taxes
- Assistance with labour recruitment, and additional support services, such as sponsorship and housing.

An independent Free Zone Authority (FZA) governs each free zone, and is the agency responsible for issuing FTZ operating licences and assisting companies with establishing their business in the FTZ.

Jebel Ali Free Zone (JAFZ) (www.jafza.co.ae) is located in Dubai. It offers well-structured tax and business incentives in a long established free zone with good manufacturing, warehousing and distribution facilities. Over 150 of the world's major container shipping lines call into Dubai, including feeder vessels to Iran, Africa and the Indian subcontinent. Dubai International airport, just 30 minutes by road from JAFZ, is serviced by more than 95 airlines to and from over 137 destinations.

The Jebel Ali Free Zone Authority (JAFZA) recently launched an exclusive portal for customers in the free zone area. 'MyJAFZA', which is part of Dubai's e-government strategy, will reduce the average time of a transaction by 90 per cent. Designed by Dubai Ports, Customs and Free Zone Corporation to provide online services to JAFZ customers, MyJAFZA is an addition to the MyDPA portal launched in 2000 for Dubai Ports Authority (DPA) customers. MyDPA has over 560 users. The initial focus of the portal is on reducing over-the-counter services and manual documentation.

Dubai Airport Free Zone (DAFZ) (www.dubaiairportfreezone.com) is an integral part of the Dubai International Airport Expansion programme and covers a total land area of 1.2 million square metres, with specially designed facilities for a wide variety of technology driven industries, including retail and light industrial companies as well as commercial distribution services.

Companies with products having high value to low weight ratio will benefit from being located at this innovative free zone. The free zone has more than 470,000 square metres of apron space on the north side of the airport, with parking bays to handle up to 10 Boeing 777 aircraft simultaneously. The Dubai Airport Free Zone is built around a high quality infrastructure providing digital communications, reliable power and other utilities supporting the needs of sophisticated high technology companies. This free zone is a major new step in Dubai's evolution from a distribution hub to a manufacturing centre, and in this respect complements the already well-established Jebel Ali Free Zone.

DAFZ has become one of the few free zones in the region, and the first in UAE, to receive ISO 9001:2000 certification. Set up in 1996, the zone has recorded good growth. More than 125 companies have been registered and about 500 applications have been received for companies intending to establish in the zone.

Dubai Internet City (DIC) (www.dubaiInternetcity.com) is the first complete information technology and telecommunications centre to have been built inside a free trade zone. It is also the biggest IT complex in the Middle East, and has one of the largest Internet Protocol telephony systems in the world. Dubai Internet City offers ready-to-operate, fully serviced office space complete with the up-to-date infrastructure that high-tech companies require. Companies can also establish their own premises on land held under 50 year lease agreements.

Dubai Media City (DMC) (www.dubaimediacity.com) intends to become the region's media hub. Established by the Dubai Technology, E-Commerce and Media Free Zone Authority, DMC offers state-of the-art infrastructure that will enable media-related enterprises to operate globally out of Dubai. Broadcasting, publishing, advertising, public relations, research, music, and postproduction companies are being offered a working environment in which they can thrive in the Middle East.

Dubai Textile Village is a new free zone under development on 460,000 square metres of land in the Ra's al-Khor area, which has been allocated by the Dubai government. The facility can accommodate 295 showrooms and stores, available in three sizes, of 230, 460 and 920 square metres. According to estimates, the textile trade in Dubai will continue to record strong growth in coming years, to average between Dh15 and Dh17 billion a year. The current size of the industry is valued at Dh12 billion. The Textile Village will feature advanced communication networks and utility systems.

Hamriyah Free Zone (HFZA) (www.hamriyahfz.com) comprises approximately 10 million square metres of industrial and commercial land. Included in the free zone area is a 14 metre-deep-water port, which is designed to incorporate dedicated petrochemical bulk handling and general cargo berths. HFZA has extensive facilities, including access to three seaports on the Arabian Gulf and Indian Ocean, combined with a generous incentive framework. The free zone has over 180 companies from 17 countries. It holds ISO 9002 certification, and has recently been awarded ISO 14001 for its quality consciousness in the management of environment safety.

Ajman Free Zone (www.ajmanfreezone.gov.ae) is located adjacent to Ajman Port, between the Sharjah and Umm al-Qaiwain. Sharjah's Port Khalid and Dubai's Port Rashid are within 35 minutes drive from the zone. Two international airports are also located nearby.

Umm al-Qaiwain Free Zone is located about 50 kilometres north-east of Dubai. The Ahmed Bin Rashid Free Zone was set up within the confines of the Ahmed Bin Rashid Port. It consists of 845 metres of quay wall, 400 metres of which can handle ocean going vessels and 118,000 square metres of land reserved for light industrial development. UAQ Free Zone Authority provides administrative support to the resident companies as well as the usual free zone incentives.

Fujairah Free Zone (www.fujairahfreezone.com) is next to the Port of Fujairah. Companies established there have easy access to all Arabian Gulf ports, the Red Sea, Iran, India and Pakistan on weekly feeder vessels. Mainline services arrive from Northern Europe, the Mediterranean, Far East and North America on a weekly basis, and services leave twice weekly to the Far East and once a week to North America. Fujairah Free Zone is also close to Fujairah International Airport, the only airport serving the UAE East Coast as well as northern Oman.

Ra's al-Khaimah Free Zone (www.rakiftz.com) Authority oversees three new sub-zones within the emirate. The 71-hectare Technology Park is intended to accommodate capital-intensive, high technology manufacturing and assembly companies. The Park is adjacent to the Ra's al-Khaimah Ceramics Factory and other light manufacturing businesses. The Al Hamra Development, located across the Emirates Highway, is a 325-hectare waterfront recreational and residential development that includes a hotel, waterfront villas, marina and golf course. The proximity of the Technology Park to the Emirates Highway makes it readily accessible to the City Centre, International Airport, Port Saqr,

and destinations southward, such as Dubai. The Industrial Park is located along the Ra's al-Khaimah coastal road approximately 15 kilometres north of Ra's al-Khaimah and immediately adjacent to Hulaylah Island, site of the 100-hectare second phase, and approximately 6 kilometres from Port Saqr. The Free Trade Zone Business Park is centrally located in the heart of Ra's al-Khaimah's vibrant business district, between the Industrial Park, 20 kilometres to the north, and the Technology Park, 15 kilometres to the south. Its proximity to the Emirate's Emiri Diwan and other government centres of activity is an additional advantage. The Business Park is also just a short walk from the 1600 square metre Ra's al-Khaimah exhibition hall, and a new mall, a modern shopping and entertainment complex, and a five-star hotel are only minutes away.

Sharjah Airport International Free Zone (SAIFZ) (www.saif-zone.com) was the world's first ISO 9001 certified airport free zone. Located in the vicinity of Sharjah City, adjacent to Sharjah International Airport, one of the best ranked cargo operations in the world, this well-appointed zone is also in close proximity to other major UAE airports and seaports on the Arabian Gulf and Indian Ocean coasts of the UAE. This is a vital strategic advantage especially for export, import and industrial establishments. The UAE accounts for the highest volume of sea-air cargo handled in Asia with Sharjah International Airport accounting for the highest volume of sea-air tonnage movement.

OIL AND GAS

The UAE has the third largest recoverable oil reserves in the world, around 98 billion barrels, and is also fourth in the world in its proven natural gas reserves of 6.2 trillion standard cubic metres. Installed production capacity is over 2.6 million barrels of oil a day, although the current OPEC quota determines its actual production. As a result of further investment in the sector, the country's oil production capacity is expected to reach 3.6 mbpd in 2005 and 4.0 mbpd in the year 2010. Annual natural gas gross production stands currently at 38.9 billion cubic metres.

The UAE is an active member of both OPEC and the ten-nation Organisation of Arab Petroleum Exporting Countries (OAPEC). The country has long been a firm supporter of OPEC efforts to maintain stability in the oil market and to sustain a fair price for the producing nations. When prices are weakening this frequently requires a cut-back in production in line with regularly revised quotas. As part of OPEC agreements on the reduction of production during 2001, the UAE's quota was reduced in September 2001 to 2.03 mbpd, and then to 1.884 mbpd at the end of December 2001

The most significant market for both oil and gas is Japan with the UAE exporting 62 per cent of its crude oil and almost all of its natural gas to this one country. Overall, the UAE supplies almost one-eighth of Japan's entire gas requirements.

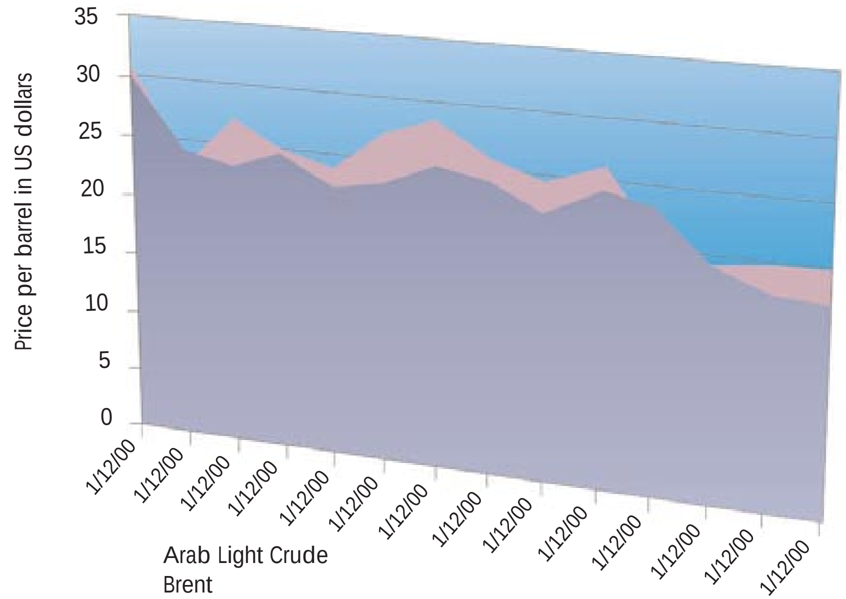
ABU DHABI

Abu Dhabi controls over 90 per cent of the country's oil and more than 85 per cent of its gas reserves. The proven crude oil reserves of the emirate are 92.2 billion barrels, while those of natural gas are 5.3 trillion cubic metres. Principal offshore oil fields are Umm Shaif, Lower Zakum, Upper Zakum, Al Bunduq and Abu al-Bukhoosh and the main onshore fields are Asab, Bab, Bu Hasa, Sahil and Shah. The smaller onshore Dabb'iya and Rumaitha fields are also being expanded. As mentioned, Abu Dhabi has substantial reserves of natural gas and its Khuff reservoir, situated beneath oil fields in Umm Shaif and Abu al-Bukhoosh, ranks among the largest gas reservoirs in the world.

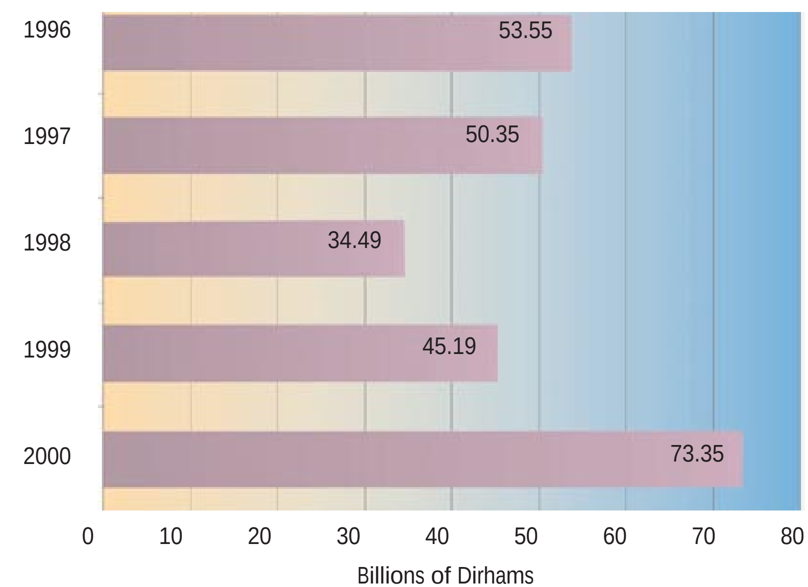
The Supreme Petroleum Council, established in June 1988, determines oil policy in Abu Dhabi. The Council is chaired by Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces, Sheikh Khalifa bin Zayed Al Nahyan. Among the Supreme Council's responsibilities is management control of the Abu Dhabi National Oil Company (ADNOC). This company, in turn, has majority shareholdings in a range of subsidiaries in the UAE and overseas. These are briefly described below.

Production Operations

The Abu Dhabi Company for Onshore Oil Operations (ADCO) operates onshore and in the shallow coastal waters of Abu Dhabi emirate. The Company operates and produces oil mainly from five fields Asab, Bab, Bu Hasa, Sahil and Shah. These fields are linked to the storage and shipping facilities at Jebel Dhanna, where tankers load crude oil for export to markets around the world. Oil is also produced at three other oil fields: Al Dabb'iya, Rumaitha and Shanayel which together known as the North East Abu Dhabi (NEAD) fields, are the focus of a major development programme. Recent developments have taken place in the Sahil field, with an increase in land-based oil rigs, and at Asab where a major gas gathering and injection project has borne positive results.



Oil Prices December 2000 – January 2002



UAE Crude Oil Exports 1996 –2000

Abu Dhabi Marine Operating Company (ADMA-OPCO) is an oil and gas producer whose operations are centred in the offshore areas of Abu Dhabi. Oil and gas production comes from two major fields – Umm Shaif and Zakum. The crude is collected from these fields using giant steel structures called super complexes, and then transferred to Das Island, a nearby industrial base, for processing, storing and world export. Over the years, the company has adopted the latest in drilling techniques and technologies, starting with vertical, then deviated and ultimately horizontal drilling. The advancement in drilling is necessitated by the need to optimise oil and gas production.

In October 2001 ADMA-OPCO signed a contract for a major gas injection project to expand the output capacity of its main offshore Zakum oilfield. It is one of the largest offshore operations in the history of the company and involves a tie-up between the giant Umm Shaif gas field, where the gas will be collected, and Zakum West Super complex, where it will be injected. Around 5.7 million cubic metres of natural gas from Umm Shaif will be compressed daily and delivered to an existing wellhead tower for injection.

The Zakum Development Company (ZADCO) operates the Upper Zakum Field, one of the largest oil fields in the world, on behalf of ADNOC and Japan Oil Development Company (JODCO). The development of the Upper Zakum reservoirs is considered to be one of the major technical achievements in Abu Dhabi. Besides Upper Zakum, the company currently operates the Umm Al Dalkh, and Satah fields. Crude oil from Upper Zakum, Umm al-Dalkh and Satah fields is pumped via main oil lines to Zirku Island for further processing, storage and export.

Construction & Oilfield Support Services

The National Petroleum Construction Company (NPCC) facilities are currently located at Mussafah. They include a new modern fabrication yard capable of producing 67,000 tons of fabricated steel structures per year and pipe-coating plants for coal, concrete, fusion bonded epoxy, and polypropylene coatings. NPCC owns and operates an extensive marine fleet capable of lifting single structures weighing up to 2000 tons and laying submarine pipelines up to 150 centimetres in diameter. NPCC offers comprehensive services as a major engineering, procurement and construction (EPC) contractor for the oil, gas and petrochemical industries.

Abu Dhabi Drilling Chemicals and Products Ltd (ADDCAP) is now a fully owned subsidiary of ADNOC and, since 1996, has been based at Mussafah industrial area. The drilling chemicals (barite, bentonite, attapulgite) are produced at their grinding plant which uses the latest technologies.

The National Drilling Company (NDC) is a leading drilling company with over 26 years of accumulated experience and is one of the largest drilling contractors in the Middle East. Currently, the company operates a modern fleet of ten offshore and 12 onshore drilling and work-over rigs. In addition, the company has six water well rigs all operating in two projects to survey the groundwater of Abu Dhabi and Al Ain.

Abu Dhabi Petroleum Ports Operating Company (ADPPOC) operates the oil terminals and ports of Jebel Dhanna, Ruwais, Umm aI-Nar, Das Island, Zirku, and Mubarraz Islands. The company also carries out maintenance work on ADMA-OPCO’s single point moorings and ZADCO’s oil terminals. It also helps, whenever necessary, in combating oil pollution in petroleum ports. ADPPOC owns 41 vessels including crane maintenance and dive support vessels, 16 tugs, 17 line and mooring boats, 6 fast pilot boats and a maintenance barge with a 20 ton hydraulic crane.

The National Marine Services Company (NMS) is the leading offshore support service company in Abu Dhabi. The company currently owns 25 offshore vessels ncluding supply boats, anchor handling and rig moving tugs, safety standby, maintenance vessels and crew boats. The entire fleet is chartered to ADNOC Group Companies, but mainly ADMA-OPCO and ZADCO.

Oil & Natural Gas Processing

Abu Dhabi Gas Industries Ltd (GASCO) is the operating company in Abu Dhabi responsible for processing associate and non-associate gas from onshore oil production. The company began as a joint venture incorporated in 1978 with ownership shared between Abu Dhabi National Oil Company (ADNOC), TotalFinaElf, Shell Abu Dhabi and PARTEX. In April 2001, Abu Dhabi Gas Company (ATHEER) was merged with GASCO, further enhancing GASCO’s position as one of the largest gas processing companies in the world and one of the biggest industrial projects in the UAE.

GASCO converts the previously flared oil by-products into different marketable forms of clean energy. Processing takes place in its five plants at Asab, Bab, Bu Hasa, Habshan and Ruwais. A network of pipelines transport part of the processed NGL to Ruwais Plant where it is fractionated and separated into propane, butane and pentane plus which are stored prior to shipment. The remaining processed gas and residual dry gas are used as fuel for the field plants, power and water desalination plants, refineries, petrochemical plants and other industrial amenities. Following the commissioning of the Maqta – Jebel Ali Gas Pipeline in June 2001, it began supplying natural gas to Dubai. In November 2001 GASCO commissioned the Ruwais Upgrading Project.

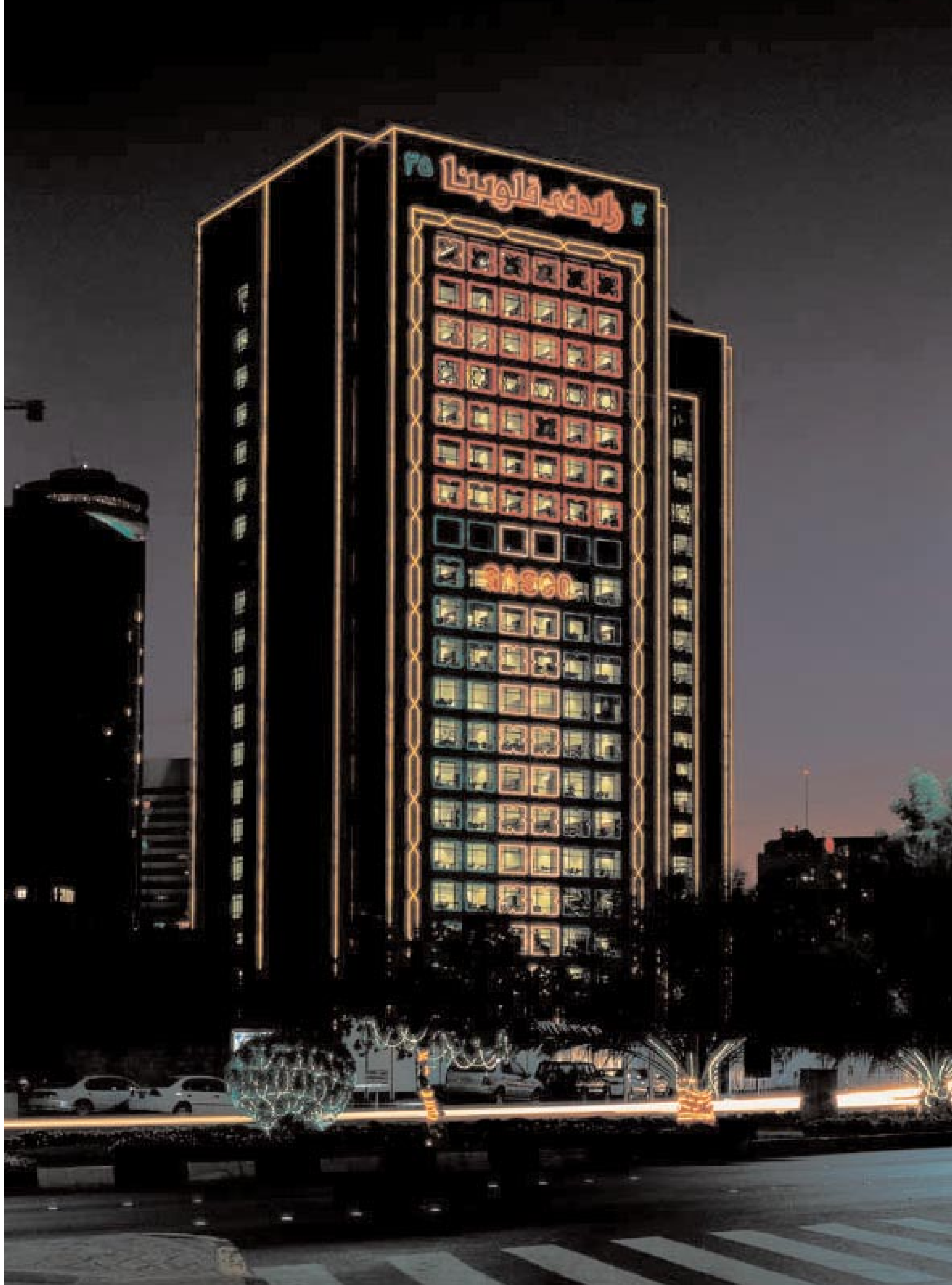
The Abu Dhabi Gas Company (ADGAS) was established in 1973 to turn gas, extracted from Abu Dhabi's offshore field crude oil, into a new source of marketable energy, Liquefied Natural Gas (LNG). The initial plant had a designed annual capacity of 2.5 million tons of LNG plus 800,000 tons per year of Liquefied Petroleum Gas (LPG). Following a 20-year purchase agreement with the Tokyo Electric Power Company (TEPCO) the first shipment of LNG left Das Island in 1977. Further sales agreements with TEPCO, signed in 1990, resulted in ADGAS doubling its production. A new 25-year agreement, signed in 1994, provided the stimulus for further expansion. A third LNG train, the largest of its kind in the world, was built adding another 2.5 million tons annually to the plant's production and doubling capacity. This was completed in 1994 and is the most advanced of its kind in the world. It underwent a major upgrade during April 2001, leading to higher production levels of around 380 tonnes per hour (tph) of LNG compared to the previous figure of 320 tph. Annual production of LNG at the plant is now around 5.4 million tonnes.

Meanwhile ADGAS has announced plans to construct a fourth LNG production facility on Das Island. Under project management by Stone & Webster, the new train will increase the overall production of LNG at the ADGAS Das island plant by almost 20 per cent, to 6.4 million tonnes.

Liquefied Natural Gas (LNG) accounts for some 69 per cent of total revenues at ADGAS while its by-products account for the balance. The base market for LNG is Japan and South Korea, while the short-term spot sales are normally to countries west of Suez, such as Spain and the US.

Maritime Transportation

Abu Dhabi National Tanker Company (ADNATCO) owns and operates a fleet of seven crude and products tankers, a molten sulphur carrier and a bunkering vessel. ADNATCO vessels trade worldwide for international customers including major oil companies. The company also provides logistical support and advice on shipping to ADNOC and its group of companies. In addition to managing and operating its own fleet, ADNATCO manages ADNOC offshore bunker supply ships. It holds ISM and ISO 9002 quality certification, Lloyd's Register (UK), for all its operations.



The National Gas Shipping Company Ltd (NGSCO) main administration office is located in Abu Dhabi with two sub-offices in Tokyo and Das Island. It operates a fleet of eight modern 135,000 m^3 LNG ships and charters LNG, LPG and sulphur ships to transport ADGAS's products to Japan and other parts of the world. In addition it provides ADGAS with marine expertise. It also holds ISO 9002 certification and was one of the first shipping companies in the world to obtain ISO 14001 certification in 1999.

The Dolphin Project

The Dolphin gas initiative, the first cross-border gas pipeline project in the Middle East, unveiled in March 1999 by the Abu Dhabi-based UAE Offsets Group (UOG) is now in an advanced stage. Dolphin Energy (DEL), the joint venture development company responsible for implementing the project, and Qatar Petroleum (QP) signed the all-important development and production sharing agreement (DPSA) in late December 2001, paving the way for the US$3.5 billion project to enter the construction phase.

The 25-year agreement calls for the development of upstream facilities for the production of 2 billion cubic feet a day (cf/d) of natural gas from the Khuff formation in Qatar's North Field, its transportation to a gas gathering and processing plant at Ras Laffan to strip out condensate, ethane, sulphur, and liquefied petroleum gas (LPG) from the wet gas, and the transportation of lean, sweet gas through a 440 kilometre sub-sea pipeline to Taweelah in Abu Dhabi and Jebel Ali in Dubai. The project aims at meeting the rising demand for gas in the UAE, especially from the power generation sector, which is escalating by between 10–12 per cent a year.

DEL is also putting in place several other elements of the project. In mid-December 2001 it awarded a US$10.3 million contract for the upstream front-end engineering & design (FEED) work, which will take eight months to complete, and later in the same month it appointed Credit Suisse First Boston (CSFB) as the financial adviser. The downstream FEED work was scheduled to be awarded during the first quarter of 2002.

Progress is also being made on the selection of a second strategic partner. At present, UOG owns 75.5 per cent and France's TotalFinaElf owns the remaining 24.5 per cent of the project. UOG is to sell up to 24.5 per cent of its stake to one of the five international oil companies – BP, Conoco, Exxon Mobil, Occidental and Royal Dutch/Shell – shortlisted in August. The new partner is expected to be selected by mid-2002.

Aside from meeting the rising demand for gas in the UAE, Dolphin will bring significant benefits for the economies of Qatar and the UAE by creating new jobs for the citizens of both countries, and facilitating the development of more power generation plants in the UAE which will supply power to new industries. The project is also setting another precedent in the Gulf region. It is the first time that one country will be investing in the upstream hydrocarbon sector of another, making the Abu Dhabi government's vision of cross-border economic cooperation a reality.

The Dolphin project will also complement the gas operations of Abu Dhabi National Oil Company (ADNOC) by freeing up significant quantities of gas, which ADNOC is currently supplying to Dubai, for re-injection purposes and extending the life of Abu Dhabi's oil and gas reservoirs. DEL aims at delivering the first gas to its customers in the UAE in 2005.

Refining

The Abu Dhabi Oil Refining Company (TAKREER), presently 100 per cent owned by ADNOC, was established in accordance with the provisions of Law No. (3) of 1999 as a public joint stock company, all the shares of which are owned by the Abu Dhabi National Oil Company (ADNOC). Under the terms of this legislation TAKREER took over the responsibility of refining operations at two major refineries (Umm al-Nar, established in 1976, and Ruwais, established in 1982). The two refineries have been expanded several times to increase capacity and improve product quality. A major expansion in 2000 has more than doubled refining capacity to meet a growing demand for products. TAKREER has a total refining capacity of over 500,000 bpd of crude oil and condensate. The Umm al-Nar refinery near Abu Dhabi town has a capacity of 85,000 bpd of crude. The Ruwais refinery at Ruwais near Jebel Dhanna now has a crude capacity of 140,000 bpd and condensate splitter capacity of 280,000 bpd, the condensate plant having come into operation in November 2000. Comprising 2 distillate units, each with a design capacity of 140,000 bpd, it converts the condensate into naphtha, aviation fuel and other products. The two refineries now produce over 23 million tons of products annually for the local and export markets. Among new projects being planned by TAKREER are the production of lead-free petrol and lube-oil, an expansion of its facilities for sulphur extraction and a major maintenance programme for the Umm al-Nar refinery. TAKREER has also constructed its own power plants and desalination units.

Refined Products Distribution

ADNOC Distribution operates a large network of filling stations covering all areas of the UAE. The company's fuel products are distributed by its own fleet of load tankers in addition to pipelines for transporting petroleum products to the main depots. It runs a lubricant blending, filling and packaging plant and has introduced a range of new lubricants based on the latest international specifications. ADNOC Distribution also operates a modern grease plant, two LPG bottling plants, one in Abu Dhabi and the other in Al Ain, and three vessels that supply gas oil to offshore islands in Abu Dhabi.

Chemicals & Petrochemicals

Ruwais Fertilizer Industries (FERTIL) is a joint venture between ADNOC and TotalFinaElf, which hold shares in the company in the ratio of 2:1 respectively. The prime objective behind establishing the company was to utilise lean gas supplied from the onshore fields of Bab, Asab and Thamama C to produce fertilisers and market them locally and internationally. Ammonia production has reached 1310 MT per day and urea 1850 MT per day. FERTIL exports around 600,000 tons of urea annually, including surplus ammonia. The plants have consistently operated above design capacities, and an expansion of the complex is under consideration.

The Abu Dhabi Polymers Company Ltd (Borouge) is a joint venture owned by ADNOC (60 per cent) and Borealis, Europe's leading producer of polyolefins (40 per cent), the latter, in turn, being 25 per cent owned by Abu Dhabi's International Petroleum Investment Company (IPIC). It manufactures and markets polyethylene for use in technically demanding applications, primarily in the flexible and rigid packaging and construction industries. Borouge's new 260-hectare complex at Ruwais is one of the largest and most advanced polyethylene facilities in the Middle East and will produce 450,000 tons of high and linear low-density polyethylene per year. It comprises a 600,000 ton ethane-based ethylene cracker and two polyethylene plants, each with an annual production capacity of 225,000 tons of linear high, medium and low density polyethylene.

Overseas Investments

The Abu Dhabi government-owned International Petroleum Investment Company (IPIC) concentrates on overseas investment in oil and oil-related activities and acquisitions. Total value of the investment in late 2001 was

US$3.5 billion, while the companies in which it has a stake have a combined refining capacity of over 1.5 million barrels of oil a day and over 5,000 retail stations. Through its stakes, IPIC is also involved in oil exploration in eleven countries. Among the shareholdings are stakes in Borealis (a partner of ADNOC in the Borouge petrochemicals complex at Ruwais), Compania Espanola De Petroles SA (CEPSA), OMV of Austria and Pak-Arab Refinery Ltd (PARCO) of Pakistan. It also acquired a 50 per cent stake in South Korea's Hyundai Oil Refinery Company Ltd.

The Petroleum Institute

The new Petroleum Institute in Abu Dhabi brings together the best from education and industry to create a world-class regional centre in the fields of engineering, applied science and research. International industry partners, BP, JODCO, Shell and TotalFinaElf have committed to partner ADNOC in this pioneering venture. The Colorado School of Mines (CSM) will provide academic leadership for the Petroleum Institute in terms of programme and curriculum design, and mechanisms for achieving accreditation.

The first intake of students took place in September 2001. Initially there are five undergraduate programmes in Chemical, Petroleum and Mechanical Engineering, Instrumentation & Control Engineering and Petroleum Geoscience Engineering.

A Cleaner Oil and Gas Industry

The UAE is at the forefront of countries in terms of its environmental practices in the oil and gas sector. The Abu Dhabi Oil Company Ltd, Japan (ADOC) injects separated sour and acid gas into oil reservoirs in Umm al-Anbar and Neewat al-Ghalan fields. Significantly, the increased volume of injected gas has improved oil recovery from the two fields. ADOC has also implemented a zero-gas flaring project, which recovers gas from Mubarraz Offshore and Mubarraz island (pilot flares excluded) for injection into oil reservoirs in these fields. The National Petroleum Construction Company is the main contractor of this project.

The zero-gas flaring project was completed in April 2001 and gas injection from both Mubarraz Offshore and Mubarraz Island is continuing. Through the combined efforts with sour gas injection and zero-gas flaring projects, almost all the gas produced from ADOC's oilfields is being recovered and injected into the oil reservoirs of the Umm al-Anbar and Neewat al-Ghalan fields.

During 2000 and 2001, ADOC also successfully executed a water disposal project that collects the water produced from the oilfields at Mubarraz Island for disposal into an underground formation with the aim of eliminating disposal into the sea.

OTHER EMIRATES

Dubai

Dubai is the next largest oil producer in the UAE after Abu Dhabi, but its output is decreasing. The major oil company in Dubai oil is the Dubai Petroleum Company (DPC) which is the operator in a consortium comprising DPC (32.5 per cent), TotalFinaElf (27.5 per cent), Repsol of Spain (25 per cent), RWE-DEA of Germany (10 per cent) and Wintershall (5 per cent). DPC discovered the four major offshore oilfields, Fateh, Southwest Fateh, Rashid and Falah between 1966 and 1976. Dubai's oil production peaked in 1991 at 410,000 bpd and has been steadily declining ever since. In the mid-1990s production was running at around 230,000 bpd, but had dropped to 170,000 bpd by 1999. Production of condensate from the onshore Margham field is running at around 25,000 bpd. The Margham oil field, previously operated by Arco International Oil and Gas Company, is now run by the Dubai Margham Establishment, which is wholly owned by the government of Dubai.

With a strong interest in sources of natural gas, Dubai is examining all options to supply its growing industrial base. In addition to tapping in to external sources of gas, the emirate is also maximising the output of its own Margham field. A new US$40 million project is presently being managed by a Canadian Company, VECO Engineering, to optimise gas flow from Margham to supply Jebel Ali.

A condensate refinery began production at Jebel Ali in May 1999. The refinery, owned and operated by Emirates National Oil Company's (ENOC) wholly-owned subsidiary, ENOC Processing Company, has five Merox units to process condensates from the Gulf region into 34,000 bpd of kerosene, 11,500 bpd of diesel, 5000 bpd of liquefied petroleum gas (LPG) and 33,000 bpd of naphtha.

Dubai has three oil and LPG terminals: Jebel Ali, Port Rashid and Fateh. On the domestic front, ENOC and Caltex own a joint company, Emirates Petroleum Products Company (EPPCO) Lubricants, that produces and markets engine oil and lubricants in the UAE. EPPCO markets petroleum products in the Northern Emirates of the UAE. Early in 2000, ENOC revealed that it, too, intended to move into the domestic petroleum retail market, setting up 30 gasoline stations in Dubai and other emirates, joining ADNOC for Distribution (ADNOC-FOD) and Emarat in the gasoline distribution business.

Sharjah

Sharjah is the third largest hydrocarbon producer in the UAE, with oil production centred on the offshore Mubarak field. This lies close to an area occupied by Iran, and the northern part of the field lies in an Iranian concession area. As a result, while Sharjah has drilling and production rights, it shares production and revenue with Iran. At the same time, 20 per cent of Sharjah's remaining revenue is shared with the Emirate of Umm al-Qaiwain and 10 per cent with Ajman. Crescent started exploratory drilling of the Khatir Number One well in 1998 – with production to be hooked up to the Mubarak field. Early in 2000, production from the Mubarak field was estimated at 6000 bpd.

Sharjah has 5 per cent of the country's gas reserves, mostly non-associated gas for domestic use. The emirate's main gas deposits are at the offshore Mubarak field and the onshore Saja'a. The former, operated by the local Crescent Petroleum Company, produces around 30,000 bpd of condensate.

In July 1999 Crescent Petroleum began drilling Sharjah-2 some 30 kilometres offshore of Sharjah, where gas has already been discovered. Crescent Petroleum Company along with London-based Atlantis announced in July 2001 that they are planning to begin major seismic work in the gas-proven areas of Sharjah's interior desert. The onshore Saja'a and Moveyeid fields produce 35,000 bpd of condensate, in addition to natural gas.

The Sharjah Liquefied Gas Company (SHALCO) was formed to increase exports of liquefied natural gas. Sharjah Petroleum Council was established in October 1999 to draw up the emirate's policy regarding the production and processing of oil, as well as all other matters related to oil.

Ra's al-Khaimah

Ra's al-Khaimah has estimated reserves of 400 million barrels of oil and condensate. Offshore production from the Saleh field fell significantly from an initial rate of 11,000–12,000 bpd and is now suspended. In June 1998, the Ra's al-Khaimah Oil and Gas Company said that it had failed to find any hydrocarbons at its offshore exploration well Aman-1 that had been spudded in February that year. The well had been drilled to a depth of 5358 metres. At the present time Ra's al-Khaimah has no oil production.

Fujairah, Ajman and Umm al-Qaiwain

Fujairah, Ajman and Umm al-Qaiwain are the only three emirates where no oil deposits have yet been located, although exploration has been carried out in all three and they remain optimistic that commercial quantities may one day be discovered. The Ajman Petroleum Department was established in February 2000 to manage all aspects of the emirate's oil and gas industry, onshore and offshore. The new government body was charged with supervising upstream and downstream activities and advising on policy.

In May 2001 an exploration and development contract for an offshore gas field in Umm al-Qaiwain was awarded to Atlantis Holdings of Norway. With supply contracts already signed by the UAE Offsets Group, the plan is to construct an offshore platform for extracting the gas and then to deliver it by pipeline to an onshore location where a gas processing facility would be sited.

INDUSTRIAL DEVELOPMENT

The non-oil sector accounts for more than two-thirds of the country's GDP. Initially the country's efforts to step up industrial development focused mainly on construction, food, canning and the garment sectors. This was followed by new major industries, especially that of aluminium production. Such projects led to the development of other smaller supporting industrial activities. The construction industry boosted demand for cement, cement blocks, PVC pipes etc., whilst the aluminium industry has spawned a whole host of companies using aluminium as their raw material. Today, however, the development of the country's travel and tourism industries is considered likely to play the major role in future expansion of the non-oil sector, whilst the further consolidation of the UAE's free zones will be a crucial catalyst for industrial growth.

MANUFACTURING

The manufacturing sector growth was steady in 2000 with total manufacturing establishments (i.e. those registered by the Ministry of Finance and Industry) increasing to 2512 compared with 1859 in 1999. Total invesrment at the end of the year 2000 was estimated at Dh34.5 billion, compared to only Dh9.5 billion in 1995. Abu Dhabi has a 10 per cent share in manufacturing units but accounts for half the manufacturing output. Dubai had 793 manufacturing establishments, with an investment of Dh12.73 billion; Sharjah had 685

units, with an investment of Dh2.85 billion, while Abu Dhabi had 220 units, with an investment of Dh3.53 billion. Among the other emirates, Ra's al-Khaimah had 436 manufacturing units with a total investment of Dh2.79 billion, Ajman had 301 units, with total investment of Dh797.6 million and Fujairah had 4 units with an investment of Dh646 million.

Manufacturing continued to retain fourth position in the economy after oil, construction and trading. There was a 12.27 per cent rise in the setting up of manufacturing units in the food and beverages sector, a 12.56 per cent rise in textiles, garment and leather, 28.13 per cent in wood and wood products, 17.60 per cent in paper and paper products and 28.16 per cent in chemical products among others.

Aluminium

After oil and gas, the largest industrial manufacturing sector in the UAE is connected with the production and use of aluminium. Aluminium exports account for almost 40 per cent of all non-oil export sectors. The Dubai Aluminium Company (DUBAL), formed in 1979, supplies 70 products to about 250 customers in 44 countries with Japan accounting for 20 per cent of its total sales. It exports high volumes to Europe, despite a punitive 6 per cent duty.

Set in a 480-hectare site, approximately 35 kilometres south of Dubai city, DUBAL has been a major success story. The company has a primary aluminium production capacity of 536,000 tonnes per annum (tpa), and it incorporates a power generating capability exceeding 1400 megawatts together with a seawater desalination plant capable of providing up to 25 million gallons of potable water daily.

The company has expanded three times during its relatively short history. The latest expansion project, code-named Condor, provided a 35 per cent increase in capacity at a cost of US$725 million. The expansion project raised the smelter output capacity from 396,000 tonnes to 536,000 tonnes, making DUBAL the biggest aluminium smelter complex in the Middle East. DUBAL is planning further expansion of its facilities to increase production capacity by another 150,000 tonnes. This is to take place by replacement of units that are 20 years old and the upgrade will boost production by 30 per cent. With an asset value of almost US$2 billion, DUBAL is one of the largest stand-alone smelting complexes in the world.

In September 1993 DUBAL achieved a world's first when it successfully aligned and certified all of its smelting and related processes to the international quality standard ISO 9002. Subsequently the company has also developed and installed ISO 9002 certified quality management systems for its power and desalination processes. In May 1999 DUBAL gained the environmental accreditation ISO 14001 certification for its entire operations following an alignment process that extended over a three-year period.

DUBAL is one of the largest suppliers of foundry alloy for the world's automotive wheel manufacturing industry. It also produces extrusion billet for architectural purposes, such as window frames, and is a top producer of high purity aluminium used in the manufacture of compact discs and electronic components. All of the aluminium produced at DUBAL is of excellent quality with purity levels reaching as high as 99.97 per cent.

In the automotive wheel industry, consistency of the product quality and high smelter purity are of paramount importance. This explains why many of the world's finest alloy wheels on the road today are made with aluminium from DUBAL, the world's single largest producer of foundry alloys, unmodified and strontium modified metal for the wheel industry.

In the highly competitive world of electronic circuit boards, the quality of aluminium used in capacitors and other precision components is very often crucial to success. DUBAL's renowned high purity aluminium is specifically intended for the manufacture of capacitors, computer hard discs and as feed stock for high technology electronic components.

Another aluminium producing company known as the Gulf Aluminium Company was set up in Dubai to produce aluminium sheets for canning of food and medicine. The 180 million dollar company has an annual production capacity of about 22,000 tons.

The Dubai Cables Company (DUCAB), now fully owned by the Dubai and Abu Dhabi governments, recorded 33 per cent higher sales in 2000 at Dh404 million against Dh300 million in 1999. Recently the company announced a Dh45 million expansion, adding a new medium-voltage cable production line at its factory in Jebel Ali. This expansion will increase DUCAB's capacity in low-voltage cables by 35 per cent to 35,000 tonnes a year. In 2000, DUCAB received firm orders worth Dh411 million against Dh307 million in 1999, up 34 per cent.

Iron and Steel

Prior to the establishment of the new Emirates Iron & Steel Factory, financed by Abu Dhabi's General Industries Corporation, there were five factories manufacturing reinforcement steel bars from scrap iron producing between them about 100,000 tonnes annually, and supplying less than one tenth of the local demand.

Performance tests at the new Emirates Iron & Steel Factory took place towards the end of 2001 and commercial production of 250,000 tonnes per year is scheduled for the first quarter of 2002, with a gradual phase-in up to its full capacity of 500,000 tonnes per year. Dh300 million was invested in the first phase to produce reinforcing bars that conform to international standards. In addition to the production of steel reinforcing bars, a study is currently under way for the expansion and diversification of the factory's products by adding wire rod and light sections. The factory is the biggest of its kind in the UAE with the latest rolling mill technology. Currently, the UAE's iron and steel requirements for the construction industry are about 700,000 to 900,000 tonnes per year, with much of the demand being met through imports from Saudi Arabia, Turkey and Qatar. Demand for the company's products is projected to increase substantially due to national and regional development plans.

Cement

The UAE's cement production is estimated at approximately 2000 tonnes per day, with around 60 per cent meeting domestic demand. The rest is exported to the rest of the GCC and Africa. Iran and the CIS region also absorb small volumes. There have been some pricing difficulties in the market over the past 12 months with prices falling from Dh13 per bag to Dh6.50/Dh6.75. This seems to have been caused by several new producers entering the market and increasing supply. Sources within the industry estimated that added product inflows at around 15 per cent of installed capacity were enough to touch off consecutive rounds of price cuts as producers fought to retain market shares. The self-defeating spiral had prices hitting an 18-year low before the producers – pinched further by the rise in global raw material prices – decided to act through the Cement Manufacturers' Association.

Boat Building

The UAE-based company Gulf Craft is continuing an ancient tradition of boat building in the UAE, but in an ultra-modern way. It builds luxury and working motor yachts for local, regional and international markets. Production began in 1982, and one of its most recent lines is the Millennium 118 series. The company already sells its boats and yachts to 40 countries worldwide. With a price tag of US$7 million, the Millennium 118 Super Yacht is designed and built to international standards and provides the ultimate in luxury. The vessel has been given class A-1 certification by the American Shipping Bureau and the first boat into the water, bought by the US-based South Florida Yachts, was displayed at the Fort Lauderdale International Boat Show in 2001.

Garment and Textile Industries

Sharjah and Ajman have the heaviest concentration of clothing factories, with some also located in the Jebel Ali Free Zone. With the exception of four large manufacturing units, the rest of the units are small enterprises, each with a capital of less than half a million dirhams. The bulk of the production is exported to the US and the EU. It is considered the second biggest manufacturing industry in the country after aluminium, constituting about 16 per cent of the non-oil industry exports.

The sector has gone through a relatively difficult period in recent years, marked by a general decline in fabric demand. From 1996 to 1999, the import of textile fabric declined by 2.7 per cent. Silk imports during the period were down by 24 per cent, wool by 10 per cent, cotton by 2 per cent, other natural fabrics by 35 per cent, man-made fabrics by 4 per cent, and man-made staples by 19 per cent. Official figures place Saudi Arabia as the largest buyer in the re-export trade from Dubai, with Iran lying second. However, these figures do not include the substantial volume of personally carried goods to Iran.

Demand for home furnishing textiles has bucked this trend, showing healthy growth, thanks to the active construction industry. The construction of a purpose built free zone in Dubai, dedicated to the textile industry, is likely to bring a major boost to the sector in the coming years. Five million square feet of land in the Ra's al-Khor area of Dubai has been allocated for the Textile Village project. The facility can accommodate 295 showrooms and stores, available in three sizes, of 2500, 5000 and 10,000 square feet. The village will operate under the laws governing free zones. The Textile Village is not expected to have a negative effect on the textiles business elsewhere in the UAE since it is primarily intended for traders and importers.

Other Manufacturing Industries

Other significant contributors to non-oil exports from the UAE are corrugated cartons, metal scrap, snack foods, plastic products, paints, lubricants and some consumer chemicals. In contrast to the sector's leading industries discussed above, these industries are not primarily geared towards exports, but rely on exports, mostly within the region, to offload their surplus capacity, and are primarily engaged in the domestic market.

The 20 paint plants in the country produce 100,000 tonnes of paint a year and about quarter of their products are exported. Although most of the basic materials required for production are imported, the high water content in most of the paints makes it economical to manufacture them locally in order to reduce the transportation costs.

Another success story is the Julphar Pharmaceutical Company, based in the northern emirate of Ra's al-Khaimah. Opened in 1980, the firm now has a total labour force of 855 and a capital investment of Dh155 million. Its second production plant, Julphar 2, began operations in 1999. Specialised in the production of antibiotics, this unit has an annual production capacity of over 80 million injections and capsules, and exports widely throughout the region.

The UAE has 183 food processing and beverage factories, with total capital investment of Dh2.1 billion. These include a big sugar factory and several flour mills as well as four plants for processing vegetables and the harvest from the country's date palms. The UAE is now one of the largest producers of dates in the world. Two new date processing plants, at Mirfa, west of Abu Dhabi, and at Al Sa'ad, near Al Ain, have recently come into production, at a capital cost of Dh168 million and Dh151 million respectively. The Al Sa'ad plant has a capacity of 20,000 tons a year. Many of the other food processing plants, however, are much smaller, and involved in processing items such as meat, fish, milk, dairy products, vegetable oil processing, fruit canning and soft drink production.

COMMUNICATIONS INDUSTRY

Telecommunications Business

A sophisticated telecommunications network connects UAE locally and abroad. The number of telephone lines rose to 2.4 million, and Internet subscribers to 210,000. The telecommunications industry has also helped to create a new export market for the UAE which is the key venue for the Thuraya satellite telecommunications company, an affiliate of local telecommunications firm ETISALAT. Linked to service providers throughout North Africa, the Middle East and West Asia, Thuraya is marketing its telecommunications facilities and products to a global audience, helping to boost the country's export business in a new and innovative way.

Information Technology

The UAE's focus on information technology (IT) is a two-pronged strategy aimed, in the first instance, at increasing administrative efficiency and boosting general awareness of the benefits of IT to business and social development within the UAE and, secondly, at creating the right conditions for clusters of IT companies and experts to settle in the UAE, thus benefiting the national economy. These strategies are evident in the accelerating rate of adoption of IT by government and business throughout the country, by the very high rate of Internet usage at all levels of society, and by the success of the flagship IT free-trade centres of Dubai Internet City (DIC) and Dubai Media City.

By late 2001 Dubai Internet City and Dubai Media City were home to 4000 IT staff and 450 companies. They are on course to fulfil their target of attracting over 30,000 knowledge workers within the next five years. Participants in the new centres include Microsoft, Hewlett-Packard, IBM, Reuters, CNN and Middle East Broadcasting Corporation (MBC). DIC has started several new initiatives to stimulate growth for the region's New Economy such as a joint venture with IBM to offer IT infrastructure and regional network services.

Dubai Ideas Oasis (DIO) – the third entity of the Dubai Technology and Media Free Zone – was launched with an initial capital of US$30 million. It follows a different business model from that of its two sister companies, concentrating on new ideas, attracting venture capital and creating a green-field site where ideas proliferate. The company has secured investment and/or expertise from Visa International and Accenture, both of which will advise and guide companies from conception to implementation stages, in some cases providing seed money and taking a share in the start-ups.

TOURISM

Tourism is now one of the fastest-developing components of the UAE economy. The basic ingredients of tourism – a warm sunny climate, a beautiful natural environment and a rich culture – were all present in the UAE before it launched its major tourism development programme over a decade ago. The fact that it offers a peaceful, safe environment, and is strategically located on the main air route between Europe to the north-west and Asia, Africa and Australia to the east and south were key factors that made UAE tourism development a viable business strategy. All that was required was to build the

facilities to match, and tap into, the huge potential. This took a great deal of vision and courage since when the whole process began the worldwide tourism industry was more than a little sceptical that a small Arab country should be aiming to become an international travel and tourism centre, challenging some of the most popular and well established destinations. The critics underestimated the underlying strength of the UAE's attractions and the determination of its leaders to make tourism a success.

TOURISM MARKETING

Today, the UAE expects tourism and the travel market to play a major role in future development. Most of the focus of this effort has taken place in Dubai but other emirates are also important since they offer an additional range of destinations, activities and experiences.

Advertising is a vital element in marketing the UAE as a tourist destination. The 'Cultural Voyage' TV advertising campaign, broadcast on CNN International, has been jointly funded by Dubai Department of Civil Aviation and Dubai Duty Free. The campaign is expected to reach 241 million viewers in Europe, Africa, Asia, the Middle East and Latin America and will run for two years. It consists of 24 different vignettes, or mini-documentaries, covering themes on the rich cultural heritage of Dubai and the UAE, encompassing falconry, henna, pearl diving, perfumery, Arabian horses, architecture, dhow building, Arabian music and dance.

Dubai's marketing of its tourism attractions and facilities has been highly professional and effective. The holding of special events such as Dubai Shopping Festival and Dubai Summer Surprises helps to focus efforts on bringing people to Dubai during particular periods.

Other emirates have learnt much from Dubai's success in this field. Sharjah Commerce and Tourism Development Authority (SCTDA) ran a campaign that commenced in June 2001 entitled 'Where Else but Sharjah', with the aim of creating awareness of what Sharjah has to offer. Some of the emirate's key attractions are its heritage sites, learning centres and 14 museums. Another goal of the campaign was to promote Sharjah's traditional markets – especially the Souq al-Arsah, the Blue Souq and Gold Souq.

Development of the tourism infrastructure on the East Coast is primarily the responsibility of the Fujairah Tourism Bureau, with a particular focus being on attracting visitors from Russia and Germany, as well as from within the UAE and the rest of the Gulf region. Attention has been paid to the geographical

diversification of tourist-related investment, with an increase in hotel beds in Fujairah city being paralleled by development in the northern part of the Emirate, near Dibba. In November 2000, a contract was signed with the TUI group of hotels from Germany to set up a Dh300 million tourist complex in Al Aqqah, just south of Dibba.

Abu Dhabi has recently upgraded a number of its five-star hotels, while several more are being expanded or are being planned. The Abu Dhabi National Hotels Company (ADNHC) increased its spending on services and tourism facilities over the last year. The company currently owns and administers five five-star hotels in Abu Dhabi and Al Ain, in addition to six other hotels and resorts of various standards. Also active in hotel management are the National Corporation for Hotels and Tourism (which, like the ADNHC, is owned partly by the government and partly by the private sector) and the Rotana Group. Another important new feature for visitors to Abu Dhabi, as well as for city residents, has been the opening during the course of 2001 of two large shopping malls, the Abu Dhabi Mall, in the downtown area, and the Marina Mall, on the rapidly-developing breakwater area, opposite the Corniche.

The Cruise Liner Market

Not all of the UAE's tourists arrive by air. Development of a dedicated cruise liner facility in Dubai has encouraged many cruise ships to place the UAE on their itineraries. The 3300 square metre cruise terminal is the only dedicated cruise facility in the Arabian Gulf, and is attracting more cruise liners to visit the UAE. Given the excellent air communications the port visits are often used to take on or disembark passengers as well as crew members.

In 1999, 26 ships called on Dubai, and only six ships had passenger exchanges. In 2000, 15 out of the 26 cruise liners berthed at Port Rashid underwent passenger exchanges. The economy benefits from the length of a ship's stay in a port as the passengers book tour packages and spend money on shopping. Since 1997 the average stay of a cruise liner in Dubai has increased from 0.8 days to 2.47 days.

Hotel Industry

The Dubai hotel industry's revenues in 2000 were over Dh2.6 billion compared to Dh2.3 billion in 1999. Occupancy rates in five-star hotels reached 72.80 per cent. The emirate has 25 five-star hotels, 26 four-star, 31 three-star and the

others are graded as two-star and listed hotels. In August 2001 there were 287 hotels in Dubai. Together, these provide 20,032 rooms, accounting for 66.69 per cent of the national figure, with 33,036 beds, which represent 67.23 per cent of the total number of hotel beds in the country. In 2000, 2.8 million guests stayed in Dubai.

The events of 11 September 2001 resulted in a serious downturn in the tourism industry in Dubai with many hotels offering specially discounted rates to boost occupancy. However, the underlying strength of the tourism industry in Dubai and elsewhere in the UAE is such that recovery had already begun by late 2001.

NEW TOURISM PROJECTS

Two new hotels are being built in Dubai, at an estimated cost of US$160 million (Dh584 million), in the Dubai World Trade Centre (DWTC) complex next to the planned convention centre. They are due to be completed by September 2003, when the IMF-World Bank annual meeting is scheduled to take place in Dubai, The larger of the two hotels will be a 440-room, four-star hotel and the other will be a 220-room two-star hotel. A 3500-seat convention centre, a multi-storey car park and a podium are being constructed especially for the international meeting.

In Abu Dhabi, a new five-star hotel is planned for the Abu Dhabi World Trade Centre, of which construction is due to commence during 2002. This is intended to be used both by tourists and by business visitors. New projects are also being planned in Fujairah, while a new Hilton Hotel was opened in Ra’s al-Khaimah in late 2001.

Palm Island Tourism Project

Construction progress at Dubai’s prestigious US$3 billion Palm Island Project is being shown online with live coverage at Burj al-Arab and Jebel Ali using specially installed cameras. The innovative project comprises two identical islands built in the shape of palm trees and both will be protected by artificial barrier reefs. Each island will take about two years to complete, requiring 80 million cubic metres of rock and sand. The man-made islands will measure 6 kilometres by 200 metres, with the barrier reef extending for 11 kilometres. The breakwater will hold up to 41 offshore hotels; the 17 ‘fronds’ that emanate from each ‘trunk’ will support 2000 residential units together with some condominiums; while the ‘trunk’ itself will have five shopping

centres, aquariums, multiplexes, two marinas, and the region's first water theme park. The second island will be built to the south-west of Jebel Ali Port, about 21 kilometres south along the coast from its sister island off the Jumeirah beach.

Dubai Festival City

Dubai Festival City comprises a US$1.65 billion project, set for completion in 2004, that will include an 8000-seat open-air amphitheatre, 80 restaurants, shops, hotels, offices, apartments, and 10,000 square metres of space allocated for cinemas, another 10,000 square metres for cultural activities, and 30,000 square metres for additional family entertainment.

Snow World

This is a new leisure complex under construction in Dubai. It is being built adjacent to Emirates Lakes on the Sheikh Zayed Road leading from Dubai to Abu Dhabi. The first phase of the project will provide a kilometre-long ski slope and will be opened during Dubai Summer Surprises 2003. The second phase includes a shopping centre and a 2000-vehicle parking area. The third phase will provide squash, bowling and gym halls and a new 180-room hotel.

Khalifa Park

The Khalifa Park in Abu Dhabi, due for completion in July 2003, is to be built in the old airport area, on the inner (eastern) end of Abu Dhabi island, close to the Corniche Al Qurm (Mangrove Corniche). When completed, it will be the first of its kind in the Middle East. It will house a marine natural history museum, several public gardens and oases, a mosque, a huge open-air theatre and a festival stand. The museum will incorporate a tunnel, depicting cultural, historical and exploration aspects of the UAE, taking visitors back in time. These leisure and entertainment facilities are part of the Abu Dhabi Municipality's plans to provide more recreational centres in the capital, thus helping to promote tourism in the emirate.

AGRICULTURE & FISHERIES

Give me agriculture and I'll secure a civilisation.
SHEIKH ZAYED.

National production of vegetables in the UAE meets 83 per cent of the country's needs; dates production totally fulfils requirements and excess quantities are exported; UAE farms meet 80 per cent of the fresh milk requirement and the country is totally self-sufficient in fish production.

In an overview of the country's agricultural development in late 2001, Minister of Agriculture and Fisheries Saeed Al Raqbani noted that the UAE's achievements in the field of agriculture must be measured against the climatic realities of virtually no regular rainfall and very high summer temperatures. 'For a country that was renowned for its expansive deserts and barren mountains to turn itself into one of the world's most innovative agricultural centres is no mean feat,' the Minister said. 'Nevertheless this is exactly what the UAE has achieved. It is highly respected in the international community, and held up as an example to other countries, for overcoming many of the hurdles facing agricultural development and even building up a healthy export market for certain produce.'

'The country's agricultural development is a continuously evolving process and as we look back over the achievements of the past year, we are also conscious of the strong influence that Sheikh Zayed has had on these developments. Ever since his days as the Ruler's Representative in Al Ain, he has been directly engaged in making the most of the UAE's limited water resources. Initially this meant clearing out old *falaj* channels and digging new ones to bring life-giving water to small plantations shaded by carefully nurtured date palms. More recently it has involved the search for, and discovery of, new underground water reservoirs as well as construction of massive desalination plants. And every year for the past 30 years there has been a major tree-planting campaign, helping to turn the desert green and providing shaded fields where vegetables and fruit trees can be cultivated,' Al Raqbani said.

In recognition of Sheikh Zayed's crucial contribution in this field a number of prestigious international awards have been presented to him including a gold medal from the Food and Agricultural Organisation and a World Food Day Award medal.

Annual rainfall in the UAE averages out at approximately 115 millimetres, although much of the country has been affected by a serious drought since the winter of 1997–1998. The highest annual rainfall on record was 1957, when 344 millimetres was registered. Ground water reservoirs, fed by huge underground aquifers that have stored water for hundreds or even thousands of years, are of crucial importance. Once the water has been sourced, whether from underground, or from secondary use treatment plants, it is carried through extensive pipe networks to where it is required for irrigation. The process has been so successful that local people are strongly encouraged to develop their own farms, often on previously owned government lands that are prepared for farming and then given, free of charge, to local families.

There is, however, a widespread recognition of the necessity to ensure that fossil groundwater supplies are not depleted too rapidly, and, wherever possible, methods of agriculture that use minimal amounts of water for irrigation are employed. During late 2001, Abu Dhabi's Environmental Research and Wildlife Development Agency (ERWDA), commenced work on a detailed study of traditional water sources, including wells in the desert and ancient rainwater catchment systems, to see if there were ways in which the old techniques could be carefully utilised as part of an overall water management programme.

The measure of land area used in calculating farm size in the UAE is the donam. One donam is equivalent to 1000 square metres. In 2000 there were about 2.7 million donam under farm cultivation, compared to a figure of 250,000 donam 20 years ago. In the same period date palm trees have increased from 18 million to over 40 million.

AGRICULTURE RESEARCH

Research and experimentation in the UAE's agricultural sector is given a high priority since there are many challenges to be met. Experts at the Dibba Fruit Research Station are growing new species of date palm and citrus fruit trees that produce higher yields. Thousands of new species of date palm are also being grown there under experiments conducted at the Plant Tissue Culture Laboratory. The station covers 90 hectares, 60 of which are planted with fruit trees. Another nine hectares are used for experiments on newly introduced citrus trees. The station's Plant Tissue Culture Laboratory started its work in 1996 and is attempting to produce virus-free citrus and date palm saplings. Experts are also working at the Biological Control Laboratory to find better alternatives to pesticides. Both nematodes and a fungus are being successfully employed in the fight against the red palm weevil.

FISHING

Although the UAE's waters abound in fish and catches have significantly increased over the past 25 years from 64,000 tonnes in 1976 to over 117,000 tonnes in 2000, there are limitations to what can be achieved through harvesting wild stocks. The Government has taken a multi-pronged approach to fisheries development in the country. In addition to a long-standing policy of providing grants for fishermen to buy boats, engines and fishing nets, they have introduced rules that require UAE nationals to captain all vessels fishing in local waters. This not only helps to boost employment and support emiratisation but is also intended to provide some control over the fisheries practices employed by fishing crews. Given the fact that experienced national fishermen are mostly found among the older generation and that many of these people are seeking to retire from the hardships of fishing, the rule has caused some difficulties within the industry, resulting in licensed fishing vessels remaining in port. Whilst this is regrettable for the commercial fishing companies involved, it may have helped to reduce pressures on certain fish stocks. Catch per unit effort has declined, suggesting that certain stocks are over-fished, and a detailed scientific study of fish stocks, in particular in the offshore waters of Abu Dhabi, was instigated during the course of 2001.

Stock Enhancement

In an effort to increase wild fish stocks several innovative programmes have been introduced that involve seabed architecture – creating new homes for fish to hide in and surfaces on which their algal food can settle and grow. The practice began some years ago with the intentional sinking of old ships on sandy seabeds where there were relatively few habitats for fish other than the traditional sand-dwellers to live. Dramatic increases in reef-fish populations around these purposely sunken wrecks spawned projects aimed at enhancing stocks of particular fish species by providing more individually designed habitats and refuges. Old concrete water drainage pipes of various diameters are now being deployed as artificial habitats to encourage fish to inhabit areas of seabed. But it is not just the seabed that has been targeted with a view to attracting fish. Special Fish Aggregating Devices (FADs) have been used in the sea off Khor Fakkan. These anemone-like structures, made by unwinding minute strands of polypropylene ropes, float in the water column and attract plankton on which fish fry and juveniles feed. The area containing the FADs has been sealed off from fishing activity with the agreement of the fishermen

themselves. Encouraged by the project's success, the fisheries team has recently introduced new FADs made from green palm leaves. Underwater surveys have revealed the presence of many young rabbitfish and other species taking refuge among the rope strands and palm leaves.

Mariculture

Management of fish stocks and enhancement of natural marine environments are just two of the strategies being employed to ensure that fish are available to meet present and future needs in the UAE. The third strategy is relatively new in the Emirates but is based on many years of research and development work that has been carried out, both in the country and internationally. Marine fish farming in the Arabian Gulf is dependent upon plentiful and reliable supplies of young fish that can be stocked into tanks, ponds, pens or floating cages for on-growing. Marine fish hatcheries in the UAE have recently become a viable option and their success will revolutionise the country's fishing industry in the years ahead.

The International Fish Farming Company (Asamak) has received approval from the UAE Ministry of Agriculture and Fisheries to produce commercial quantities of fish juveniles at a new purpose-built marine hatchery to be built adjacent to the Umm al-Qaiwain Marine Resources Research Centre. The hatchery is expected to produce some 25 million finfish juveniles annually. It forms an essential element in Asamak's plans to increase national fish production dramatically through the introduction of large-scale fish farming. The company already has on-growing facilities at Ra's al-Khaimah and Fujairah but is dependent upon imported fingerlings for stocking these. The Dh18 million Fujairah project is engaged in rearing juveniles to market-size fish in 25 hectares of offshore cages near Dibba. A 5000 square metre onshore supporting facility, together with a packaging plant, complete the project, which has a capacity to grow and handle 2000 tonnes of fish annually.

Both this farm and the one in Ra's al-Khaimah currently obtain their seed stock from hatcheries in Kuwait and Europe but Asamak has now taken a major stake in the Kuwait hatchery while it also has the technical support of its Greek partner, Nireus SA. Production also started in 2001 at Asamak's cage farm in Oman where the target is to reach 2460 tonnes annual output by 2004.

Asamak's recent moves are aimed at creating real commercial value from years of work that has taken place at the Umm al-Qaiwain Marine Resources Research Centre. The latter cultures rabbitfish (locally known as *safi*), grouper

(known as *hammour*) and the sea bream in experimental and pilot-scale quantities rather than as a full-blooded commercial operation. It also carries out studies on shrimps. A mangrove afforestation programme is another fisheries project undertaken by the centre. It is aimed at protecting the coastline and increasing fish nursery and feeding areas. The research centre will continue to operate alongside Asamak's new commercial venture.

Fish Markets

Dubai fish market is going through a major overhaul and redevelopment aimed at improving the experiences of shoppers visiting the market to buy fresh fish. A fish museum forms part of the facelift to the market, which is frequented by the emirate's residents and tourist alike. It will feature the types of fish available in the Arabian Gulf, the history of fishing in the UAE in general and Dubai in particular, types of fishing boats and the equipment used by fishermen. The project also includes expansion of the sales area by adding 52 shopkeeper benches and re-location of the fish gutting area.

Other fish markets throughout the country are maintained by the local Municipalities, often in association with co-operatives of local fishermen and the Ministry of Agriculture and Fisheries, with data being regularly recorded on the total catch as well as on the species involved. Under the prevailing fisheries legislation, a lower limit has been set to the size of fish that can be caught and sold, and enforcement of this legislation has led to confiscations and fines being imposed on some fishermen.

Conservation

An awareness that the UAE's fish stocks are heavily dependent upon preservation of their spawning, nursery and feeding areas has led to increasing government focus on preservation of key coastal zones. Recently, for example, Ra's al-Khaimah Municipality banned fishing at all the emirate's creeks and warned of heavy penalties for violations. Explaining its actions, a spokesman for the Municipality said that the Marine Resources Research Centre in Umm al-Qaiwain, part of the Ministry of Agriculture and Fisheries, releases large quantities of rabbitfish larvae and fry into the creeks which are vital nursery grounds for these commercially important species.

Another important conservation initiative was announced in January 2001, with the issuing of a decree by Abu Dhabi Crown Prince Sheikh Khalifa bin Zayed that designated a large area around the islands of Marawah and Bu

Tini, west of Abu Dhabi, as a marine protected area. Under the terms of the decree, all commercial and non-commercial fishing is banned in the area covering 4255 square kilometres, which is also home to a large population of dugongs and turtles and contains the UAE's largest seagrass beds, an important breeding ground for fish stocks. The reserve will be managed by the Environmental Research and Wildlife Development Agency (ERWDA).