

# ECONOMIC DEVELOPMENT

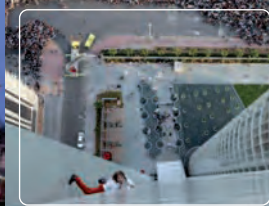


Key factors in the UAE's successful economic performance were the continued strong oil market, establishment of a number of major infrastructure projects and further expansion of free zones.





The Arab World Competitiveness Report 2007, issued by the World Economic Forum, ranks the UAE in top position among Arab countries.



## ECONOMIC DEVELOPMENT

### THE ECONOMY

THE UAE'S NOMINAL GDP GREW BY 23.4 PER CENT IN 2006 to reach Dh599.23 billion. This impressive growth rate was slightly down on the figures for 2005, which saw a growth rate of 25.6 per cent and nominal GDP of Dh485.5 billion according to Central Bank estimates. Real GDP grew by 9.4 per cent to reach Dh391.16 billion in 2006, up from Dh357.59 billion in 2005. As in 2005, the high growth rate throughout 2006 was partially attributed to increased output from the oil and gas sector, which grew by 29 per cent in terms of nominal GDP to reach Dh223.422 billion.

Key factors were the continued strong oil market, establishment of a number of major development and infrastructure projects and further expansion of free zones. Detailed strategic planning for economic growth in the coming period has also been a strong feature of financial governance during 2006/2007.

Oil and gas, primarily from Abu Dhabi, contributed 37.3 per cent to nominal GDP in 2006, helped by a high oil price that averaged US\$63.5 a barrel, up from US\$53.6 in 2005, and by increased output.

Meanwhile, the non-oil sector accounted for 62.7 per cent of nominal GDP in 2006, compared with a figure of 64.3 per cent in 2005. The slight drop in relative value of the non-oil sector is attributable to the surge in revenue from the oil and gas sector rather than any decline in value of the non-oil sector, which, in fact, increased by 20.3 per cent to reach Dh375.809 billion. Development of the relatively new private property market in the UAE supported a rise in contribution to GDP of the real estate and business services sector, which formed 12.3 per cent of the non-oil GDP, up from 11.5 per cent in 2005. Likewise, the building and construction sector continued to boom, adding 12 per cent to non-oil GDP (compared with 11.2 per cent in 2005). Continued investment in education,

'The rapid economic expansion of the UAE has continued uninterrupted for the fourth consecutive year, with non-hydrocarbon GDP growth averaging more than 10 per cent.'

IMF REPORT, OCTOBER 2007

At 9.4 per cent in 2006, GDP growth was among the highest in the world, generating over 220,000 jobs.

**NOMINAL GDP:**  
Dh 599.23 billion

**OIL & GAS:**  
Dh 223.4 billion  
37.3%

**NON-OIL SECTOR:**  
Dh 375.809 billion  
62.7%




**GDP AT CONSTANT PRICES 2004–2006 (in millions of dirhams)**

	2004	2005	2006*
Gross domestic product .....	330,511	357,588	391,160
Crude oil and natural gas production <sup>1</sup> .....	93,625	95,123	101,306
Total non-oil sector .....	236,886	262,465	289,854
Agriculture .....	9,806	10,394	10,914
Industry .....	78,593	85,674	98,907
Quarrying .....	790	845	989
Manufacturing industries.....	45,570	47,894	54,360
Electricity & water .....	6,412	7,214	8,296
Construction .....	25,821	29,694	34,445
Services .....	148,487	166,422	180,850
Trade .....	44,500	51,620	56,706
Wholesale & retail trade & repair services	38,105	44,202	48,843
Restaurants & hotels .....	6,395	7,418	7,863
Transportation, storage & communications ...	23,260	26,516	29,698
Financial corporate sector.....	22,050	25,358	28,400
Real estate .....	27,046	30,832	32,991
Government services .....	29,509	30,099	31,303
Other services .....	8,407	8,911	9,357
Less: Imputed bank service charges .....	6,285	6,914	7,605

\* preliminary figures for 2006

Sources: Ministry of Economy and Central Bank Annual Report, 2006.

Notes: 1/ Includes natural gas and petroleum processing industries.

health and social services maintained the government services sector (10.4 per cent) above the 10 per cent level of non-oil GDP. There was little change in the relative contribution of manufacturing, which stood at 19.6 per cent in 2005 and 19.5 in 2006; nor in transport, storage and communication (10.24 per cent in 2006 compared to 10.45 per cent in 2005); nor, indeed, in the electricity, gas and water sector, which stood at 2.5 per cent in both years. The wholesale and


**GDP AT CURRENT PRICES 2004–2006 (in millions of dirhams)**

	2004	2005	2006*
Gross domestic product .....	386,535	485,513	599,231
Crude oil and natural gas production <sup>1</sup> .....	123,261	173,195	223,422
Total non-oil sector .....	263,274	312,318	375,809
Agriculture .....	10,100	11,028	12,241
Industry .....	86,678	105,028	129,209
Quarrying .....	828	919	1,130
Manufacturing industries.....	50,159	61,194	73,433
Electricity & water .....	6,720	7,935	9,522
Construction .....	28,971	34,980	45,124
Services .....	166,496	193,879	231,732
Trade .....	50,801	61,944	72,969
Wholesale & retail trade .....	43,458	52,998	62,538
Restaurants & hotels .....	7,343	8,946	10,431
Transportation, storage & communications ..	27,263	32,642	38,517
Financial corporate sector.....	23,374	28,426	35,674
Real estate .....	30,018	35,920	46,121
Government services .....	32,463	34,735	39,025
Other services .....	9,239	7,607	8,706
Less: Imputed bank service charges .....	6,662	7,395	9,280

\* preliminary figures for 2006

Sources: Ministry of Economy and Central Bank Annual Report, 2006.

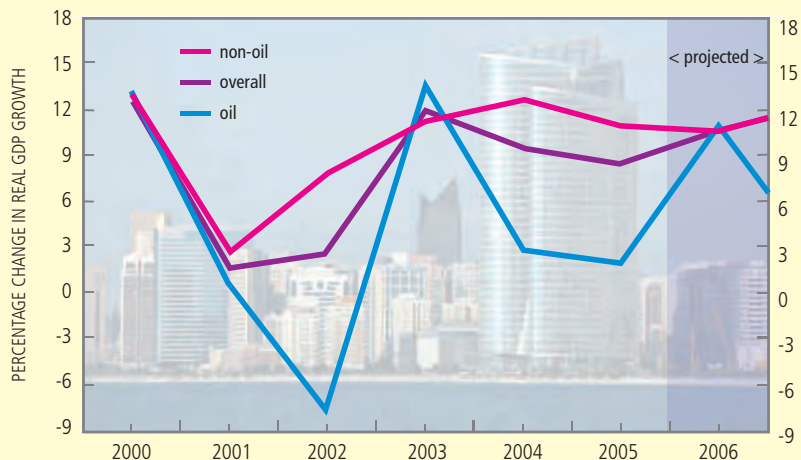
Notes: 1/ Includes natural gas and petroleum processing industries.

retail sector, at 16.6 per cent in 2006 compared to 17 per cent in 2005, experienced a slight fall in terms of its relative importance within the overall economy. Hotels and restaurants were also slightly down in 2006 at 2.7 per cent of nominal non-oil GDP compared to 2.9 per cent in 2005. Agriculture and fisheries continued a slight decline in terms of relative contribution to non-oil GDP, accounting for 3.3 per cent in 2006 compared with 3.5 per cent in 2005.



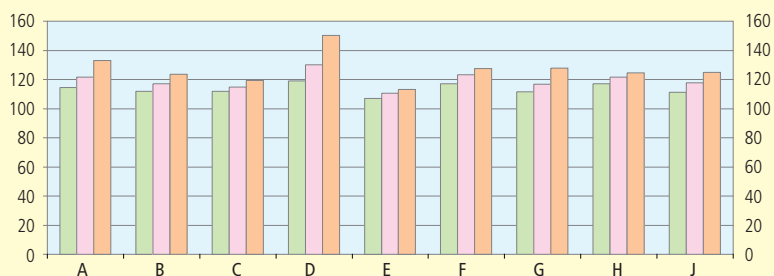


## REAL GDP GROWTH



Sources: UAE Authorities and IMF staff estimates

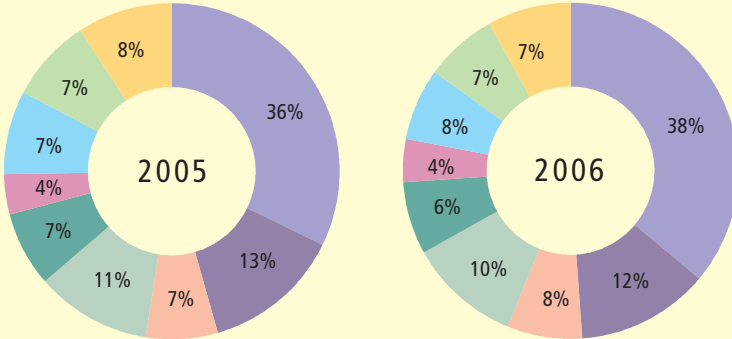
## CONSUMER PRICE INDEX BY MAJOR COMPONENTS



	2004	2005	2006
A. Consumer price index .....	114.6	121.7	133.0
B. Foodstuff, beverages and tobacco.....	112.0	117.0	123.5
C. Ready-made clothes, clothes and footwear.....	112.0	114.8	119.2
D. House rent and related housing items.....	119.0	130.1	150.1
E. Furniture and furnishing items.....	106.9	110.5	113.2
F. Medical care and health services.....	117.0	123.4	127.5
G. Transportation and communication.....	111.5	116.6	127.7
H. Recreational, educational and cultural services.....	117.1	121.7	124.6
J. Other goods and services.....	111.1	117.8	125.0

Sources: Ministry of Economy

## GDP BY SECTOR (in millions of dirhams)



Sectors	2005*	2006**
(1) Non-financial enterprises sector	427,364	531,185
Agriculture, livestock & fishery.....	11,028	12,241
Mining & quarrying.....	174,114	224,552
A. Crude oil & natural gas .....	173,195	223,422
B. Other .....	919	1,130
Manufacturing .....	61,194	73,433
Electricity, gas & water .....	7,935	9,522
Construction .....	34,980	45,124
Wholesale / retail trade & maintenance .....	52,998	62,538
Restaurants & hotels .....	8,946	10,431
Transportation, storage & communication .....	32,642	38,517
Real estate & business services .....	35,920	46,121
Social & private services .....	7,607	8,706
(2) Financial enterprises sector .....	28,426	35,674
(3) Government services sector .....	34,735	39,025
Household services .....	2,382	2,627
(less) Imputed bank services charges .....	7,395	9,280
<b>TOTAL .....</b>	<b>485,513</b>	<b>599,231</b>
<b>Total non-oil sectors .....</b>	<b>312,318</b>	<b>375,809</b>

■ Including agriculture, livestock & fishing; electricity & water; restaurants & hotels, social & personal services and household services

Source: Ministry of Economy \* Adjusted data \*\* Preliminary data



'The UAE has continued to benefit from its oil wealth, prudent macroeconomic policies, and dynamic diversification strategy.'

IMF REPORT, OCTOBER 2007

A comprehensive reform plan setting out the government's agenda for the coming three years has been announced.



Continued high oil prices further boosted the UAE's consolidated financial accounts, enabling it post a significant budget surplus for the second year in a row. The long pattern of budget deficits was originally broken in 2005 when a surplus of Dh39.475 billion was posted in sharp contrast to the Dh1.523 billion deficit of 2004. The upward trend in the consolidated government finance account continued in 2006 with the surplus figure almost doubling to reach Dh72.466 billion. The impressive surplus was directly linked to the 39 per cent surge in government revenues from Dh143.905 billion in 2005 to Dh200.705 billion in 2006. This was more than enough to offset the 22.8 per cent increase in total expenditure, which achieved another all time high of Dh128.238 billion. The non-oil sector exports also played a key role in the balance of payments, with the 2006 figure standing at Dh96.986 billion compared to Dh82.342 billion in 2005.

Balance of trade figures (FOB) achieved a surplus in 2006 of Dh207.072 billion against Dh157.154 billion in 2005. Total exports (not including re-exports) reached Dh354.428 billion in 2006, compared with Dh284.619 billion in 2005, while imports rose to Dh316.276 billion in 2006 from Dh273.583 billion in 2005. As noted above, increases in production and unit prices pushed the value of hydrocarbon exports up by 27.3 per cent in 2006, reaching Dh257.442 billion. Non-oil exports rose to Dh23.180 billion in 2006 from Dh14.650 billion in 2005, a 58 per cent increase. Non-oil re-exports fell by about 3 per cent to Dh91.163 billion, compared with Dh94.004 billion in 2005. Meanwhile, non-oil imports rose by just over 17 per cent to reach Dh284,453 million, from a figure of Dh242,421 million in 2005.

Inflation in the UAE during 2006 and 2007 was fuelled in part by the dirham-dollar peg since the latter fell against the currencies that account for the major portion of UAE imports, making those goods more expensive in terms of the national currency. Accommodation costs also contributed to a rising inflation rate that took many people by surprise, although attempts have been made to address this issue by capping rents. A survey of the world's most expensive cities by Swiss bank UBS placed Dubai in thirtieth position in 2006,



ahead of Barcelona, Berlin, Singapore, Lisbon, Istanbul, Mexico, Auckland, Athens, Moscow, Rio de Janeiro and Manama, among many others. The Government is taking measures to curb inflation and considers this to be a high priority for maintenance of a healthy economy in the UAE.

### STRUCTURAL FRAMEWORK

Economic policy approved by the Federal Supreme Council is administered by the UAE Ministry of Economy. Whilst the federal ministry sets economic guidelines and provides the essential administrative framework, individual emirates exercise a high degree of direct control over their own economies and frequently play significant roles in local business development.

The UAE is a contracting party to GATT and one of the original members of WTO. Its Constitution, Commercial Companies Law and Trade Agencies Law (*see below*) form the main structure of federal legal instruments under which business and commerce operate. Within this framework, additional laws, decree-laws, ordinary decrees, and regulations are promulgated from time to time to deal with specific issues affecting how business is conducted in the UAE.

### STRATEGIC PLANNING

As already indicated in the section on Government, both federal and local governments released strategy documents in 2007. The major economic policies listed within the federal document *Highlights of the UAE Government Strategy* are aimed at stimulating economic growth, strengthening the competitiveness of the national economy, and upgrading regulations and legislation to match current and expected economic growth. Implicit within this policy is the Government's participation in empowering UAE citizens to take the lead in developing the economy and the labour market. In order to achieve this the government is adopting a comprehensive nationalisation policy to include training, leadership development and project management.

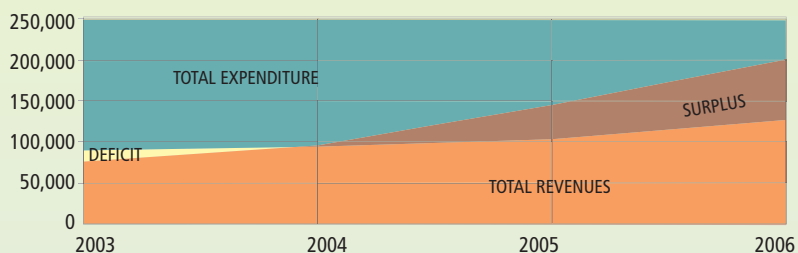
Some initiatives that were highlighted under the national strategy included establishment of a National Competitiveness Council, a

Inflation is expected to decline as a result of anticipated easing of housing shortages.



Sheikha Lubna Al Qasimi,  
Minister of Foreign Trade.




**CONSOLIDATED GOVERNMENT FINANCES (in millions of UAE dirhams)**


Items	In millions of Dh	2005*	2006**
<b>REVENUE</b>		<b>143,905</b>	<b>200,704</b>
<i>Tax Revenue</i> .....		6,810	8,490
Customs .....		3,852	4,693
Other .....		2,958	3,797
<i>Non-Tax Revenue</i> .....		137,095	192,214
Oil and Gas .....		111,377	161,516
Joint Stock Corporations .....		4,624	5,702
Other .....		21,094	24,996
<b>EXPENDITURE</b>		<b>104,430</b>	<b>128,238</b>
<i>Current Expenditure</i> .....		84,255	100,691
Salaries and Wages .....		16,654	17,764
Goods and Services .....		24,383	26,076
Subsidies and Transfers .....		18,916	30,295
Other Unclassified .....		24,302	26,556
<i>Development Expenditure</i> .....		14,042	16,748
<i>Loans and Equity Participation</i> .....		6,133	10,799
Local .....		5,725	12,765
Foreign .....		408	-1,966
<b>Surplus (+) or Deficit (-)</b> .....		<b>(+)39,475</b>	<b>(+)72,466</b>
<i>Financing</i> .....		-39,475	-72,466
Changes in net Government Deposits with Banks .....		-16,037	-4,551
Other <sup>1</sup> .....		-23,438	-67,915

Source: Central Bank Annual Report 2006 with data drawn from Ministry of Finance and Industry and Local Government Finance Departments  
 \*Adjusted data \*\* Preliminary data <sup>1</sup>Returns of government's investments.



National Statistics Office, and a Vocational Training Unit with the collaboration of the private sector. There was also a commitment to formulate federal policies for small and medium-sized enterprises in cooperation with local governments; and to prepare a federal framework for minimum regulations for both free zones and special economic zones, to encompass labour rights, conservation of the environment and other issues.

### *Abu Dhabi Strategic Plan*

The vision for the future set out in Abu Dhabi's comprehensive strategic planning policy document, *Policy Agenda 2007/2008*, prepared by the Abu Dhabi Executive Council, could provide a template for the wider economy. The agenda's stated aims are to create a secure society and a dynamic open economy based on the following pillars:

- Premium education, health care and infrastructure assets
- A large empowered private sector
- The creation of a sustainable knowledge-based economy
- An optimal transparent regulatory environment
- Complete international and domestic security
- A continuation of strong and diverse international relationships
- Emirate resource optimisation
- The maintenance of Abu Dhabi's values, culture and heritage
- A significant and ongoing contribution to the federation of the United Arab Emirates.

'The UAE has emerged as an important hub for international trade, finance, and tourism, attracting large inflows of foreign direct investment (FDI) and expatriate workers, and is increasingly playing an important regional economic role.'

IMF REPORT, OCTOBER 2007





## ESTIMATE OF UAE BALANCE OF PAYMENTS 2005–2006 (in millions of dirhams)

	2005	2006*
<b>Current Account Balance</b> .....	<b>89,495</b>	<b>129,112</b>
<b>Trade Balance (FOB)</b> .....	<b>157,154</b>	<b>207,072</b>
Total Exports of Hydrocarbon .....	202,277	257,442
Crude Oil Exports .....	159,761	213,372
Petroleum Products Exports .....	21,300	17,995
Gas Exports.....	21,216	26,075
Total of Non Hydrocarbon Exports .....	82,342	96,986
Free Zone Exports .....	63,928	75,286
Other Exports <sup>1</sup> .....	18,414	21,700
Re-Exports <sup>2</sup> .....	146,118	168,920
<b>Total Exports and Re-Exports (FOB)</b> .....	<b>430,737</b>	<b>523,348</b>
<b>Total Imports (FOB)</b> .....	<b>-273,583</b>	<b>-316,276</b>
<b>Total Imports (CIF)</b> .....	<b>-310,890</b>	<b>-359,404</b>
Other Imports <sup>3</sup> .....	-247,590	-282,995
Free Zone Imports .....	-63,300	-76,409
<b>Services (NET)</b> .....	<b>-53,559</b>	<b>-65,259</b>
Travel .....	-10,902	-14,157
Transport .....	-5,462	-8,086
Government Services .....	112	112
Freight and Insurance .....	-37,307	-43,128
<b>Investment Income (NET)</b> .....	<b>10,600</b>	<b>17,400</b>
Banking System <sup>4</sup> .....	5,500	8,800
Private Non-Banks.....	200	-600
Enterprises of Public Sector .....	24,600	30,000
Foreign Hydrocarbon Companies in UAE .....	-19,700	-20,800
<b>Transfers (NET)</b> .....	<b>-24,701</b>	<b>-30,101</b>
Public Transfers .....	-1,875	-2,025
Workers Transfers .....	-22,826	-28,076

<sup>1</sup> Including estimates of other exports from all emirates.

<sup>2</sup> Including re-exports of non-monetary gold.

<sup>3</sup> Including estimate of imports from all emirates and imports of non-monetary gold.

<sup>4</sup> Central Bank and all banks.

<sup>5</sup> Data not available at time of compilation.

\* Adjustable figures and preliminary estimates

Source: Central Bank Annual Report, 2006.

## ESTIMATE OF UAE BALANCE OF PAYMENTS, continued

	2005*	2006*
Capital and Financial Account (Net).....	-53,881	-58,987
Capital Account <sup>5</sup> .....	—	—
Financial Account.....	-53,881	-58,987
Enterprise of Private Sector.....	55,219	87,593
Direct Investment.....	26,257	7,030
Outward.....	-13,773	-40,000
Inward.....	40,030	47,030
Portfolio Investment.....	22,560	4,400
Banks.....	-12,498	35,563
Securities.....	-10,597	-12,715
Other Investment.....	-1,901	48,278
Private Non-Banks.....	18,900	40,600
Enterprises of Public Sector.....	-109,100	-146,580
Net Errors and Omissions.....	-26,112	-46,240
Overall Balance: Surplus (+) or Deficit (-).....	9,501	23,885
Change in Reserves (- indicates an increase).....	-9,501	-23,885
Net Foreign Assets with Central Bank.....	-10,166	-24,034
Reserve Position with I.M.F. ....	665	149

<sup>5</sup> Data not available at time of report.





An ambitious investment programme is currently under way to expand capacity in the tourism, transportation, manufacturing and hydrocarbon sectors.

A central core of Abu Dhabi's economic policy is to leverage the emirate's strong hydrocarbon sector to stimulate and support broader economic diversification.

The agenda outlines how it hopes to achieve a 'dynamic open economy, characterised by a vibrant diversity, transparency and sound governance' by restructuring government; outsourcing a range of government services to the private sector; introducing measures aimed at raising the contribution of the private sector to GDP; streamlining regulatory procedures, and improving essential infrastructure to enhance Abu Dhabi's position as a globally preferred destination for FDI and local investment.

Other policies outlined in the document state that Abu Dhabi will 'strategically expand the industrial sector as a tool to achieve diversification and increase the contribution of the manufacturing sector to GDP' (*see below*).

In order to both plan and monitor progress efficiently, the agenda establishes policies for enhanced gathering and usage of statistical data and improved tools and procedures for economic monitoring and management. Creation of productive employment opportunities for nationals remains a key policy involving both government and private sectors. The agenda also prioritises the need to facilitate export of capital, through targeted investments with other nations. Finally, it notes that it will increase the role of women in the workforce, with particular focus on Emirati women.

Other key initiatives outlined in Abu Dhabi's planning document for 2007/2008 recognise the importance of 'asset clustering', particularly in the fields of real estate and tourism, basic industries and petrochemicals, aviation and logistics. The document underpins the role of ZonesCorp (The Higher Corporation for Specialised Economic Zones) in promoting and managing specialised economic and industrial zones in the emirate: ZonesCorp is responsible for establishment and management of the Industrial City of Abu Dhabi (ICAD).

A central core of Abu Dhabi's economic policy is to leverage the emirate's strong hydrocarbon sector to stimulate and support broader economic diversification by strengthening downstream production capabilities and expanding the proportion of value-added exports, as well as diversifying into new industries on the back of ongoing performance in the hydrocarbon sector.



### *Dubai's Strategic Plan*

Dubai's *Strategic Plan (2015)*, which is also firmly aligned with federal government strategy, was clearly outlined in a speech by HH Sheikh Mohammed bin Rashid Al Maktoum, UAE Vice President and Prime Minister and Ruler of Dubai on 3 February 2007. The new strategy contains a number of important new elements and, unlike that of Abu Dhabi, recognises the minor importance of oil and gas production to its economic performance. In fact, Sheikh Mohammed stated in his introductory remarks: 'oil's contribution to GDP is a mere 3 per cent today. Our economic development is now supported by an infrastructure that is not directly affected by oil'. Reviewing progress in Dubai since 2000, he stated that most of the targets of the plan announced in that year had been passed long before their expected dates: 'In 2000, the plan was to increase GDP to 30 billion dollars by 2010. This figure was exceeded in 2005, with GDP reaching 37 billion dollars. The plan also included an increase of GDP per capita to 23,000 dollars by 2010. In 2005 the average GDP per capita reached 31,000 dollars. In other words, in

*Dubai's Strategic Plan (2015)* recognises the minor importance of oil and gas production to its economic performance.



Dubai's key strengths are tourism, transport, trade, construction and financial services.



five years we exceeded the economic targets that were originally planned for a 10-year period.'

Looking forward to 2015, the plan, based on expected future global trends, has as its objective the sustaining of real economic growth at a rate of 11 per cent per annum to reach a GDP of US\$108 billion in 2015, and to increase GDP per capita to US\$44,000. In order to achieve this Dubai will focus on economic sectors where it holds a strong competitive advantage and ones that are expected to grow globally. The emirate's key strengths are tourism, transport, trade, construction and financial services. At the same time, according to Sheikh Mohammed, growth enablers must not be ignored and he highlighted human capital, productivity, innovation, cost of doing business and living, quality of life, policy and institutional frameworks, and laws and regulations.

#### DIVERSIFICATION

Diversification of the economy has been a key plank of UAE policy ever since the founding of the state in 1971. Funded from oil and gas sales, new investments were made initially in hydrocarbon and energy-related industries such as aluminium and petrochemicals. However, times are changing and the dependence on oil and gas has fallen significantly. As already mentioned, Dubai's vibrant economy only receives a 3 per cent input from oil and gas. Its main businesses are in tourism, transport, trade, construction and financial services.

As stated above, Abu Dhabi, which has over 90 per cent of the UAE's oil reserves, has laid out, in the *Policy Agenda 2007/2008*, a new strategy for further diversifying its economy. It refers to diversifying into 'a raft of new areas.' In addition to exporting raw materials in the form of oil and gas, it intends to add more value to these by increasing production of refined and semi-refined products. One aspect of this involves a US\$3 billion investment to expand the capacity of Borouge's petrochemical facility to 2 million tonnes of polyethylene and polyolefin per year. On the broader economic front, the strategy document states that: 'it is important to stress that the Abu Dhabi Government's strategy of

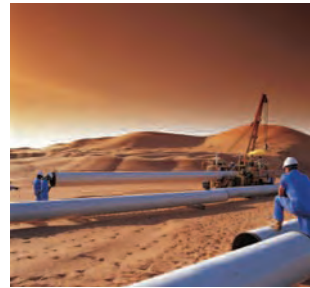


economic diversification is not misunderstood as simply 'moving away from oil and gas'. On the contrary, the continued significance of hydrocarbons to the economy is the means by which a broader diversification will be achieved and supported, and not the reason it is necessary.' It is the Abu Dhabi government's stated intention to further develop its energy sector both in terms of productivity and efficiency.

One other area of economic growth that Abu Dhabi intends to foster is tourism. This has already been proved to be an important driver of Dubai's economy and is being given increased focus in Sharjah, Ajman, Ra's al-Khaimah, Umm al-Qaiwain and Fujairah (*see section on Tourism*).

Manufacturing remains a cornerstone of economic development in the UAE. The latest technologies and state-of-the-art facilities are now a feature of the UAE's manufacturing base, which includes cement and blocks, ceramics, textiles and clothing, pharmaceuticals, gold and jewellery, and other subsectors. Excluding the oil sector, the manufacturing industries sector contribution to nominal GDP touched 19.5 per cent in 2006. But it is the services sector that now plays the major role in terms of GDP contribution. This is especially so in Dubai where it reached 74 per cent of total GDP in 2006, a ratio that is repeated in many developed economies around the world. Overall, the services sector accounts for about 72 per cent of non-oil GDP in the UAE, or 44 per cent of total nominal GDP.

A strong focus on transport in terms of ports and airports, shipping companies and airlines, together with efficient road networks, has underpinned a strategic plan aimed at creating a major transport hub between Europe and South-East Asia. The financial sector also played a valuable role in boosting the UAE economy in 2006 when banks continued to benefit from profits associated with financing applications for oversubscribed IPOs. Islamic banking has also blossomed in the UAE, while the insurance sector has shown robust growth. Projects like Dubai International Financial Centre and the country's stock exchanges in Abu Dhabi and Dubai have provided a framework for growth in the financial subsector.



Dry gas is transported by pipeline to Abu Dhabi.

'The medium term outlook is very positive with real GDP growth projected to average about 7 per cent per annum during 2008–2012.'

IMF REPORT, OCTOBER 2007





Lessons have been learned from volatility in the stock markets and measures have been put in place to create more stability.





## STOCK MARKETS

In common with other stock markets in the region, the impressive rise in the UAE markets that began in 2004 took a downward turn in 2006. The Dubai Financial Market (DFM) lost almost two-thirds of its value in 2006, while the Abu Dhabi Securities Market (ADSM) suffered a decline of around 40 per cent. But the overall strength of the markets was enhanced by the continued trend of IPOs (Initial Public Offerings), which resulted in the number of listed companies increasing from 89 to 104 at the end of 2006. Hyper-interest in these IPOs was such that they were oversubscribed by 192 times in 2006, resulting, once again, in strong returns for financing banks. Lessons were learned, both by investors and the regulatory authorities, and measures were put in place to create more stable stock markets in the coming years. The fact that P/E ratios averaged around 13.6 among listed companies at the end of 2006 gave many investors encouragement that there would be further growth in the markets.

Total trades at ADSM rose in the first half of 2007 to Dh51.5 billion, an increase of 3.7 per cent over the same period in 2006. A total of 18.3 billion shares were traded through 465,000 transactions in the first six months of the year. Net foreign investment in the bourse during the first half also saw a marked increase, rising to Dh2.9 billion from Dh918 million. During the first half of 2007 four new public joint stock companies were listed on ADSM, taking to 64 the total number of listed companies. Licensed brokers also increased to 90. At the end of September 2007 the ADSM market index had risen by 17.4 per cent since the beginning of the year, to close at 3527.75 points. High and low prices for individual shares still illustrated the roller-coaster ride that many investors had experienced, with many share prices in early October 2007 standing at around half the value of their 52-month highs.

Dubai Financial Market (DFM) experienced similar swings, but the overall outlook remained positive with major companies such as Emaar announcing ground-breaking projects. With land values soaring and development sites at a premium the decision by Dubai Holding and Emaar to enter into joint-ventures on new

Following a spectacular performance in recent years, the UAE capital markets experienced a sharp correction beginning in late 2005, along with other regional markets. The overall impact has, however, been very limited, with stock prices showing positive growth in 2007.



DFM recorded a net profit of Dh865 million for the first nine months of 2007.



'Bank assets and profits increased by about 35 per cent and 11 per cent, respectively, in 2006, despite fallout of the 2005–06 stock market correction, and banks are rapidly gaining in sophistication and international exposure'.

IMF REPORT, OCTOBER 2007

projects in Dubai helped to remove doubts over a previously mooted land-swap deal between the two companies, which has now been cancelled. The new arrangement was widely expected to increase transparency and bring advantages for both companies and their investors.

Dubai government launched Borse Dubai in August 2007 as a holding company for the government's stakes in the Dubai International Financial Exchange (DIFX) and DFM, in order to act as a platform for future growth. Following an energetic bidding war for the Scandinavian stock exchange operator and exchange technology provider OMX, Borse Dubai entered into an agreement with Nasdaq, whereby the latter would take over OMX, at the same time selling its London Stock Exchange shares to Borse Dubai and purchasing a substantial share in the holding group.

## BANKING

The UAE banking and finance sector enjoyed an extremely buoyant year in 2006. The total assets of UAE banks grew by 34.7 per cent to Dh859.57 billion, up from Dh638 billion in 2005. Foreign assets comprised 27 per cent of the total compared to 27.4 per cent in 2005. Meanwhile, the number of branches of foreign banks fell from 83 in 2005 to 81 at the end of 2006. Branches of local banks increased from 370 to 431 during the same period, whilst the number of local banks remained unchanged at 21. Two new developments were the addition of a new Islamic bank announced in Abu Dhabi and the merger of Emirates Bank International with the National Bank of Dubai.

The value of deposits, excluding the inter-bank deposits, grew by 32.5 per cent to Dh469.32 billion compared to Dh384.27 billion in 2005, and the total value of credit increased by 38.7 per cent from Dh362.63 billion in 2005 to Dh502.96 billion in 2006. The Central Bank's total assets rose from Dh80.33 billion to Dh103.23 billion during the same period, a 28.5 per cent increase. The number of people employed by banks grew by 14 per cent to 26,963 from 23,600 during the previous period.

There were also some major new developments in structure of the UAE's banks. The merger of National Bank of Dubai and



Emirates Bank International to form Emirates National Bank Dubai (Emirates NBD) created a financial powerhouse that is now the Gulf region's largest bank by asset size with an approximate market capitalisation of Dh41.3 billion. Prior to the merger, the Dubai government held 76.62 per cent of EBI and 14.25 per cent of NBD shares. The new company, Emirates NBD, is 56 per cent owned by the Dubai government and is expected to create approximately Dh195 million in additional annual revenues.

Meanwhile, the Abu Dhabi government formed a new bank aimed at providing finance for development projects. The Crescent Bank, as it has been named, is a public joint stock company, fully owned by the Abu Dhabi Investment Council (ADIC) with an initial capital of Dh4 billion divided into shares that have a nominal value of Dh1 each, in accordance with the Islamic principles (*sharia*). The bank will provide all modern banking services, including financing of commercial, investment, industrial, tourism, agriculture and real estate projects, as well as providing banking services and advice for individuals and corporate bodies.

The National Bank of Abu Dhabi established an independent wholly-owned subsidiary in Geneva under the name NBAD Private Bank (Suisse), which will be engaged mostly in private banking, applying the Swiss traditional confidentiality rules, and is the first UAE bank to have been granted a full Swiss banking licence. It already has a subsidiary trust company in the British Channel Island of Jersey, a major offshore banking jurisdiction.

## OUTWARD INVESTMENT

While foreign companies have been actively pursuing investment opportunities in the UAE, several of the UAE's private sector and government-owned investment institutions have been actively pursuing investment abroad. Overseas investments have been a critical component of the UAE's economic development strategy for decades as the country has sought to diversify where and how it invests its financial assets. The UAE Government regards such investment as a security net for future generations who will one day face a depletion of the country's energy resources.

The merger of National Bank of Dubai and Emirates Bank International to form Emirates National Bank Dubai created a financial powerhouse.



Overseas investments have been a critical component of the UAE's economic development strategy.



Abu Dhabi Investment Council works in tandem with Mubadala Development Company and International Petroleum Investment Company to generate new investment opportunities.

This strategy led to the creation of a number of government-owned investment institutions such as the Abu Dhabi Investment Authority (ADIA), the Abu Dhabi Investment Council (ADIC), Mubadala Development Company (MDC), the Abu Dhabi-owned International Petroleum Investment Company (IPIC), Dubai World, and Dubai International Capital (DIC), the global investment arm of Dubai Holding. Meanwhile, major property and leisure companies such as Damac, Emaar and the Jumeirah Group, the latter two also held by Dubai Holding, have extended their international activities as part of their strategies for growth.

The Abu Dhabi Investment Council was established in mid-2006. In August 2007 the board of directors of ADIC was reconstituted and ADIC was assigned the former remit of Abu Dhabi Investment Authority (ADIA). The objective is to create a strong investment organisation that will achieve positive results from its national and global investment strategies. The council will also work in tandem with MDC and IPIC, which invest in overseas energy assets on behalf of the emirate, to generate new investment opportunities, both regionally and globally. ADIC will be closely involved in launching major real estate and tourism projects, both within the UAE and internationally, and will seek other opportunities especially in the fields of energy and infrastructure. Recent investments by ADIA and ADIC include a US\$600 million in Apollo Management (a US-based private equity firm), 7.6 per cent stake in Egyptian company Suez Cement; an 8 per cent stake in regional investment bank EFG-Hermes; and a US\$1.2 billion purchase of a huge tract of land in Malaysia's southern state of Johor.

Recent overseas investments by Mubadala Development Company have included a strategic joint venture to develop and operate the Sangaredi Refinery Project in the Republic of Guinea; a limited-recourse financing of the greenfield Barka 2 Independent Water and Power Project (IWPP), owned by SMN Barka Power Company SAOC; the acquisition of the existing Al-Rusail Power Company SAOC in Oman; and an agreement with Sonatrach, the national Algerian oil and gas company, to develop the country's first aluminium smelter. In recent years Mubadala has also acquired a 40 per cent stake in





SR Technics, 35 per cent of the equity of Italian aircraft-maker Piaggio Aero (*see section on Aviation*), a 5 per cent stake in Italy's iconic automaker Ferrari, together with a 25 per cent of the large Dutch fleet management firm LeasePlan Corporation.

In addition, in a strategic new move, four major Abu Dhabi-based developers teamed up in an alliance targeting real estate markets overseas. The new entity, Al Maabar (or the gateway), a joint venture between Al Qudra Real Estate, Sorouh Real Estate, Aldar Properties (in which Mubadala has a 5 per cent shareholding) and Reem Investments, will dedicate its activities to real estate investment opportunities in the GCC, North Africa and Europe.

Meanwhile, Etisalat, the Abu Dhabi-based telecommunications giant, has been very active on the international front and has plans to invest over US\$25 billion in foreign projects in the coming years. The company already has major investments in mobile networks in Afghanistan, Egypt, Pakistan and Singapore. Thuraya, the Etisalat majority-owned satellite telecommunications corporation also continues to invest in global expansion of its services (*see section on Telecommunications*).

TAQA is an energy investment company founded in June 2005 in which the government of Abu Dhabi has a 51 per cent shareholding. In addition to its investments in the UAE, which are outlined in the section on Water and Electricity, the company is well on its way towards achieving its vision of becoming a global diversified energy company. By September 2007, TAQA had investments, assets and operations in Canada, Ghana, India, Morocco, The Netherlands, Russia, Saudi Arabia, the UK and the US, and it was pursuing its stated strategy to acquire additional energy facilities in the Middle East, North Africa, Europe, India, and Pakistan, in order to expand its international presence significantly.

Dubai International Capital (DIC) acquired British engineering giant Doncasters for US\$1.3 billion, invested US\$1 billion in Daimler Chrysler, acquired Britain's Tussauds Group for US\$1.48 billion and UK-based Travelodge Hotels Ltd for GB£675 million. DIC also acquired the German industrial packaging manufacturer, Mauser Group, for Dh4.25 billion (850 million euros). In February 2007



One of Dubai's major institutions involved in overseas investment is DP World, which was formed with the integration of Dubai Ports Authority (DPA) and DPI (Dubai Ports International) in order to export their success internationally.



DIC announced the closing of the initial round of its US\$2 billion Global Strategic Equities Fund (GSEF). The fund intends to make structured investments in Fortune 500 global companies. DIC is the cornerstone investor in this fund, while other investors include government investment arms, family businesses and key institutions in the UAE, Qatar and Saudi Arabia. Commitments at the first closing totalled US\$1 billion, with a second closing planned for early 2008.

International property company Emaar also provides an example of how successful strategies that have been tried and tested within the UAE are being exported to other countries as part of a far-reaching international investment programme. By September 2007 the company had a presence in 17 countries worldwide including Algeria, Egypt, India, Jordan, Lebanon, Libya, Morocco, Pakistan, Saudi Arabia, Syria, Turkey, UK, USA, Canada, Tunisia, France and Italy. It has also made a number of strategic alliances and acquisitions including John Laing Homes (US Homebuilder), Turner International (Construction/Project management), Hamptons (UK-based Real Estate agents), and Raffles Campus (Singapore-based educational establishment).

The company is also planning further investments in education throughout the MENA region and India, and establishment of a number of premium-quality hospitals and healthcare centres throughout the Middle East region. Added to that, it has formed an exclusive partnership with Giorgio Armani SPA to create an international portfolio of luxury, exquisitely furnished hotels. On the retail front, the company is aggressively expanding into the emerging markets of the Middle East, North Africa and the Indian subcontinent. It is also involved in financial services, with a significant holding in Amlak, one of the region's main Islamic financing companies. Meanwhile, Damac Properties announced plans to develop a mixed-use real estate development in Tianjin City, China, for US\$2.72 billion.

One of Dubai's major institutions involved in overseas investment is DP World, which was formed with the integration of Dubai Ports Authority (DPA) and DPI (Dubai Ports International) in order to



export their success internationally. The group's early projects outside of the UAE involved managing ports in the Middle East, India and Europe, including Jeddah Islamic Port, Djibouti, Vizag in India and Constanta in Romania. In January 2005, DPI acquired CSX World Terminals (CSX WT), the international terminal business of CSX Corporation, giving the company a strong presence in Asia with major operations in Hong Kong and China, as well as operations in Australia, Germany, Dominican Republic and Venezuela. Importantly for the future development and expansion of its network, DP World also acquired CSX WT's strong portfolio, which included the 9-berth Pusan Newport (PNC), South Korea, where DP World holds the management contract as well a significant equity interest, and other projects in the rapidly expanding markets of India and the Middle East.

The group took another giant leap forward in March 2006 with the acquisition of P&O, expanding its portfolio of terminals and adding P&O Ferries, P&O Estates and P&O Maritime Services to the group. The combined container throughput of both companies for 2006 reached 42 million TEU. The acquisition also added to a new pipeline of projects that has consolidated plans for future growth. These include projects in Peru, Djibouti, Vietnam, India, China, Turkey and the United Kingdom. The latter involves a GB£ 1.5 billion London Gateway port development.

In August 2007, Dubai World, DP World's holding company, and MGM MIRAGE announced that they had signed definitive agreements to form a long-term strategic relationship whereby Dubai World will invest approximately US\$5 billion in MGM MIRAGE, comprising a US\$2.7 billion investment in City Center and up to US\$2.4 billion in purchases of MGM MIRAGE common stock. The companies will enter into a 50/50 joint venture in the landmark City Center development in Las Vegas, United States of America, and Dubai World will acquire a significant minority equity position in MGM MIRAGE.

Other investment entities under the Dubai World umbrella include Limitless, a real estate development company with a global agenda, and global investment company Istithmar.



DP World was listed on DIFX in November 2007 in the Middle East's largest IPO to date, valued at US\$4.6 billion. DP World, wholly owned by Dubai World until the IPO, has listed 3.818 billion shares, representing 23 per cent of the company.



The UAE places a high value on FDI and has invested heavily on improving its infrastructure, simplifying its laws and regulations, and bolstering the business and investment climate in order to encourage inward investment.



## INWARD INVESTMENT

The Arab World Competitiveness Report 2007, issued by the World Economic Forum (WEF), ranks the United Arab Emirates in top position among Arab countries and in twenty-ninth position among the 40 most advanced economies. It states that 'Sound economic management has contributed to stabilising the macroeconomic environment and strengthening public institutions'. It is not surprising, then, that foreign direct investment flows into the UAE have been increasing steadily from the beginning of this decade. Currently the country is the second largest foreign investment destination in the Gulf after Qatar, according to data from the Economist Intelligence Unit and the International Monetary Fund.

The ratio of inward FDI compared to outward FDI during the period 2003/06 was five for Qatar, four for the UAE, two for Bahrain and 0.20 for Kuwait. This indicates that the UAE received four times more direct investment into UAE-based enterprises from foreign sources than its national entities spent on investment outside the UAE during the period under study. Such FDI figures play a significant role in the UAE's economy. In the period 1997/2006, the average net inward FDI flows for UAE, as a percentage of gross fixed capital formation, was 17 per cent. More important than the financial element of such investments, however, is the way in which FDI acts as a conduit for technology, management, distribution services, and information about foreign markets.

The UAE places a high value on FDI and has invested heavily on improving its infrastructure, simplifying its laws and regulations, and bolstering the business and investment climate in order to encourage inward investment. As a result, the United Nations Conference on Trade and Development (UNCTAD) classification of countries, according to their actual and potential FDI performance, rates the UAE as one of the front-runners with both high FDI potential and high actual performance.

Foreign investors are attracted by the UAE's liberal tax, investment and residency laws, as well as the country's free zones. A key player in the business of attracting inward investment is the Abu Dhabi Government-owned company, Mubadala Development Company



(MDC), which usually partners with international companies on projects taking place within the UAE, thus providing a valuable means of increasing FDI.

The UAE's strategic location and world-class transportation infrastructure also help to attract foreign investors who see the advantages of setting up headquarters in the country, using the UAE as a hub for business throughout the Middle East, Africa and Asia.

An important factor attracting companies to invest in the UAE is the existence of numerous free zones where conditions for operating business enterprises are considered highly attractive. Building on the success of the Jebel Ali Free Trade Zone, the UAE currently has a wide range of specialised free zones. Some of the zones cater to service sectors (e.g. Dubai Internet City, Dubai Media City, Dubai Healthcare City, Academic City, Dubai International Financial Centre), while others are industrial zones (e.g. Hamriyah Free Zone, Fujairah Free Zone, Ajman Free Zone and the Dubai Gold and Diamond Park). Free-zone companies may have 100 per cent foreign ownership, enjoy corporate tax holidays, no personal taxes,

The real estate market in the UAE has been buoyant in recent years. Rapid population growth, averaging 6 per cent per year, has been a major factor behind the strong demand for housing. Approximately 43,000 additional residential units per year will be needed between 2007 and 2010.

DUBAI CHAMBER OF  
COMMERCE & INDUSTRY  
AND IMF REPORT 2007



Individual emirates exercise a high degree of direct control over their own economies, and Emirati governments play significant roles in local business development.

no restrictions on the repatriation of capital and profits, and freedom from import duties or currency restrictions.

Outside the free zones, companies may still enjoy tax holidays for most sectors, no personal taxes, unfettered repatriation of capital and profits, and no currency restrictions. Foreign ownership is generally set at a ceiling of 49 per cent, though that is under review.

### E-BUSINESS

A new Arab Advisors Group major survey of internet users in the UAE reveals substantial adoption of e-commerce in the affluent and booming economy: 51.2 per cent of internet users in the UAE reported purchasing products and services online and through their mobile handsets over a 12 month-period to September 2007. Based on the survey findings, the Arab Advisors Group estimates that e-commerce users in the UAE exceed 1.16 million consumers who have spent over US\$1.15 billion during the 12 months.

Most importantly, the UAE's leading position in use of the internet to facilitate business is well illustrated by the impressive success of the online trading websites such as the government to business (G2B) and business to business (B2B) pioneer Tejari. This UAE-based company, awarded an ISO 900:2000 quality certificate in early 2007, specialises in putting government and private organisations in touch with suppliers of goods and services. It has conducted more than 77,000 deals on line with a value of more than US\$4 billion. It is the Middle East's leading B2B online marketplace, providing an online business platform used by more than 80,000 member companies. In 2006 more than US\$1.3 billion worth of business was transacted through Tejari, marking a 33 per cent rise in trading volume. Growth in its core trading partner base grew by approximately 40 per cent. By mid-2007 the company, with the aid of a franchising model, had expanded into 12 countries across the Middle East, South Asia, and North Africa. The company has a strongly innovative ethos, continually exploring new avenues for growth. In 2006 Tejari launched an online real estate portal by the name of *Simsari* where investors and consumers can find, finance and buy Middle East properties over the internet.





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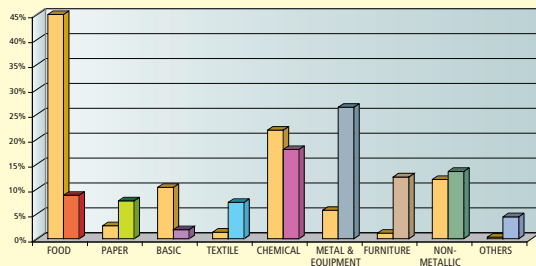




## RELATIVE DISTRIBUTION OF INDUSTRIES & INVESTMENTS (as percentages)

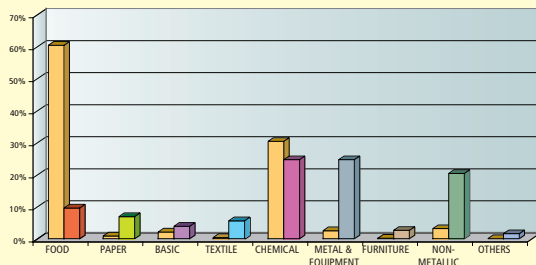
### UNITED ARAB EMIRATES

SECTOR	INDUSTRIES	INVESTMENTS
Food	45.0	8.7
Paper	2.6	7.6
Basic	10.3	1.8
Textile	1.3	7.3
Chemical	21.8	17.9
Metal & Equip.	5.7	26.4
Furniture	1.1	12.4
Non-metallic	11.9	13.5
Others	0.3	4.4



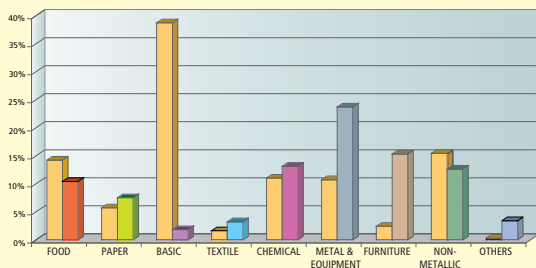
### ABU DHABI

SECTOR	INDUSTRIES	INVESTMENTS
Food	9.6	60.4
Paper	6.9	0.85
Basic	3.9	2.1
Textile	5.6	0.39
Chemical	24.7	30.39
Metal & Equip.	24.7	2.51
Furniture	2.6	0.16
Non-metallic	20.4	3.16
Others	1.6	0.4



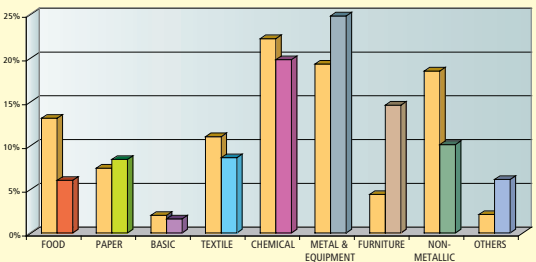
### DUBAI

SECTOR	INDUSTRIES	INVESTMENTS
Food	10.4	14.2
Paper	7.5	5.7
Basic	1.8	38.7
Textile	3.2	1.6
Chemical	13.1	11.0
Metal & Equip.	23.7	10.7
Furniture	15.3	2.4
Non-metallic	12.6	15.4
Others	3.4	0.3



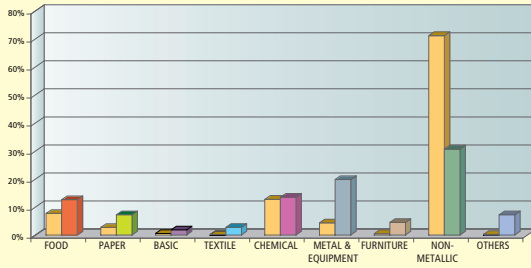
### SHARJAH

SECTOR	INDUSTRIES	INVESTMENTS
Food	6.0	13.1
Paper	8.4	7.4
Basic	1.6	2.0
Textile	8.6	11.0
Chemical	19.8	22.2
Metal & Equip.	24.8	19.3
Furniture	14.6	4.4
Non-metallic	10.1	18.5
Others	6.1	2.1



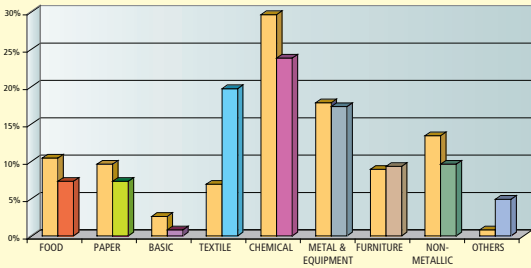


RELATIVE DISTRIBUTION OF INDUSTRIES & INVESTMENTS (as percentages)



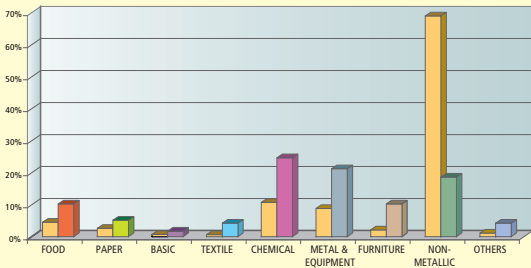
RA'S AL-KHAIMAH

SECTOR	INDUSTRIES	INVESTMENTS
Food	12.6	7.7
Paper	7.2	2.73
Basic	1.8	0.52
Textile	2.7	0.14
Chemical	13.5	12.73
Metal & Equip.	19.8	4.31
Furniture	4.5	0.49
Non-metallic	30.7	71.14
Others	7.2	0.22



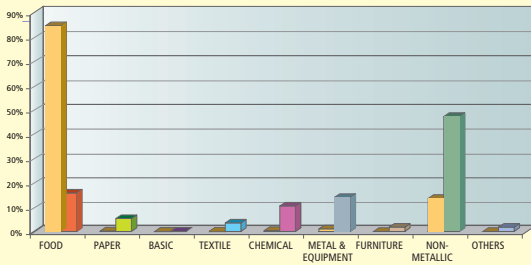
AJMAN

SECTOR	INDUSTRIES	INVESTMENTS
Food	7.3	10.4
Paper	7.3	9.6
Basic	0.8	2.6
Textile	19.7	6.9
Chemical	23.8	29.6
Metal & Equip.	17.3	17.8
Furniture	9.3	8.9
Non-metallic	9.6	13.4
Others	4.9	0.8



UMM AL-QAIWAIN

SECTOR	INDUSTRIES	INVESTMENTS
Food	10.2	4.5
Paper	5.1	2.6
Basic	1.7	0.7
Textile	4.2	0.6
Chemical	24.6	10.7
Metal & Equip.	21.2	8.8
Furniture	10.2	2.1
Non-metallic	18.6	68.9
Others	4.2	1.1



FUJAIRAH

SECTOR	INDUSTRIES	INVESTMENTS
Food	15.8	84.64
Paper	5.3	0.2
Basic	-	-
Textile	1.8	0.05
Chemical	10.5	0.38
Metal & Equip.	14.0	1.08
Furniture	1.8	0.02
Non-metallic	47.3	13.61
Others	1.8	0.02



The UAE has signed several free trade agreements and embarked on negotiations for others.

## TRADE

Free trade is considered to be *a sine qua non* for improving competitiveness and productivity. The UAE considers that high tariff barriers and technical barriers to trade would only result in a stagnant and inefficient private sector. It is in this spirit that the UAE has signed several free trade agreements (FTA) and embarked on negotiations for others, either individually or through the GCC. Bilateral preferential agreements signed with Syria, Jordan, Lebanon, Morocco and Iraq accord both the UAE and its co-signatories preferential access for certain specified goods. The FTA between the GCC and the EU, in final stages of negotiation during 2007, covers market access for industrial and agricultural products, trade in services, intellectual property, rules of origin, government procurement, investment and legal and institutional arrangements. It is expected to boost trade between the two regions from its current level of 40 billion euro to at least twice that figure.

A comprehensive FTA that had been under negotiation for over two years with the United States of America stalled in March 2007. Whilst informal discussions were continuing, both sides acknowledged that there were some difficulties in reaching an agreement. US-UAE talks were also affected by the political controversy over DP World's forced sale of US container terminals managed by P & O, which it had acquired, after a Congressional controversy over a perceived 'security threat' if an Arab company managed American ports. According to US figures, trade was US\$13.3 billion in 2006, with the UAE importing US\$11.92 billion worth of American goods.

Goods imported into the UAE from countries with most favoured nations (MFN) status are subject to the GCC Common External Tariff (CET), which averaged around 5 per cent in 2006. Over 400 basic food items and pharmaceuticals are duty free. Tobacco products attract up to a 100 per cent tax rate, depending on the item.

With the exception of oil, gas and petrochemicals, the primary export centres in the UAE are free zones that provide logistical, administrative and financial advantages for exporting or re-exporting



علامة الجودة الإماراتية  
Emirates Quality Mark



companies. As already indicated, these free zones are exempt from the licensing, agency, emiratization, and national majority-ownership obligations that apply in the domestic economy. There are many success stories among the companies operating from the UAE's free zones, with major enterprises using the UAE as a base to compete efficiently in the international market place.

Turning to the actual trade figures for 2006, on the non-oil imports side, machinery and electrical equipment accounted for the greatest single share of imported goods valued at Dh66.439 billion, followed by precious or semi-precious stones, precious metals and metals plated with precious metals, natural and cultured pearls, with other jewellery-related materials amounting to Dh52.475 billion. Not surprisingly, considering the focus on transport facilities in the UAE, the category including vehicles, aircraft, ships and other transport items followed these two major import classes, reaching Dh36.786 billion. Meanwhile, base metals and articles of base metal reached Dh32.689 billion; chemical products Dh15.754 billion; textiles Dh14.805 billion; plastics and rubber articles Dh10.693 billion; followed by vegetable products, prepared foodstuffs, precision instruments, stone and cement, live animals and animal products, mineral products, and other imported goods.

On the non-oil export side, the highest values were the natural or cultured pearls, precious or semi-precious stones, precious and semi-precious metals, jewellery and coins category at Dh5.092 billion, followed by base metals and articles of base metals at Dh4.489 billion. Plastics and rubber exports reached Dh2.860 billion and prepared foodstuffs Dh2.576 billion. Other significant value exports were mineral products (Dh1.060 billion); chemicals and chemical products (Dh997 million); textiles and textile products (Dh980 million); machinery and electrical goods (Dh969 million); and vehicles, aircraft, vessels etc (Dh709 million).

## COMMERCIAL LAW

The close relationship between local traders and international manufacturers in the UAE is regulated by the Commercial Agencies Law, which was revised in June 2006 to bring greater clarity into

The UAE took advantage of its established oil and gas operations to develop related industries, such as petrochemicals, fertilisers, cement, and aluminium.



The UAE is a global trading hub for gold, other precious metals, pearls and jewellery.



Revisions to the Commercial Agencies Law support an open economy that encourages local and foreign investment.

the situation and to ensure that matters of dispute can be fairly dealt with by the UAE courts. Revisions introduced into the law support an open economy that encourages local and international investment from people of all nationalities. The new law allows principals and agents the freedom to mutually agree the duration and other terms of their contracts. Once the signatories to a commercial agency agreement have set a specific duration for their contract, the executive authority (Ministry of Economy) will allow the agency to be terminated or deregistered at the end of its term. If the contract does not define a fixed term, the agency agreement will be deemed to exist for an indefinite period. In the event of any dispute arising in connection with the contract, the matter is now brought before the courts for a decision.

Federal law No. 10 for 2007 amends some provisions of Federal Law No. 8 for 1984 on commercial companies. The law provides for a new definition of local family-owned businesses that convert into public companies. Article 1 of the law provides for the addition of a new article that defines a local family business as a company fully owned by members of one family extending up to the fourth generation, regardless of the nature of the company. The law also allows local family-owned businesses that convert into public companies to retain a maximum stake of 70 per cent and to list a minimum stake of 30 per cent.

Federal Law No. 13 of 2007 dealt with commodities that are subject to import and export control procedures. The law authorises the concerned authorities to ban or restrict the importing, exporting or re-exporting of any commodity for reasons related to safety, public health, environment, natural resources, national security or for reasons related to the UAE's foreign policy, taking into account any restrictions which may currently be imposed on those commodities by laws already in effect and by the existing powers of the concerned authorities, and in compliance with the international treaties that the UAE has already ratified or joined. This new federal law seeks to standardise such procedures throughout the UAE, since different regulations in individual emirates would not provide the desired result of banning or restricting a particular commodity and could disrupt trade in the country as a whole.





The law also provided for the establishment of a new control body: the National Commission for Commodities Subject to Import, Export and Re-export Control, to be headed by a representative of the Ministry of Economy (MoE). The Commission has been tasked with cooperating and coordinating with relevant authorities on the rules introduced to control imports and exports in compliance with the new law. Any local body or department that has reasons to ban or restrict a certain commodity will recommend the commission to do the same nationwide. The commission will also inspect the procedures that are currently in place in the country and which form the base for any possible bans or restrictions on any commodities. The law also sets out procedures for control of the issue of import and export licences, in particular the period set to consider applications and any complaints from applicants against decisions by the relevant body to cancel licences.



Sustained investment in manufacturing has resulted in a 42.2 per cent increase in industrial establishments over a five-year period.

## INDUSTRIAL DEVELOPMENT

Record investment in the UAE's manufacturing sector, reaching Dh70.4 billion in 2006, underpinned the confidence among both government and the private institutions in the potential for growth in manufacturing throughout the UAE. The 2006 figure represented 12.2 per cent of GDP and a 3 per cent increase over the investment made in this sector in 2005. By far the greatest share of the finance emanated from UAE-based investors who accounted for 86 per cent of the total, while FDI, at Dh7.74 billion, amounted to 11 per cent and Gulf investors accounted for 2.9 per cent. Three-quarters (75 per cent) of investment in manufacturing was directed at the food industry, while the chemical industry was second favourite at 22 per cent. Most of this investment was carried out in Abu Dhabi where a figure of Dh38.6 billion amounted to 54.8 per cent of the total, while Dubai attracted Dh16.3 billion or 23.2 per cent.

Sustained investment in manufacturing has resulted in a 42.2 per cent increase in industrial establishments over a five-year period. Much of the small and medium-size enterprise (SME) activity has been based in industrial quarters of Dubai and Sharjah, while Abu Dhabi has concentrated on developing its own industrial city.

### INDUSTRIAL CITIES

Recognising that industrial development requires a coordinated infrastructure, the UAE has focused on a number of 'industrial cities' where all the necessary support facilities are provided and where clustering of production units creates time- and cost-saving synergies.

Much of Abu Dhabi's progress in promoting industrial growth, spearheaded by the Higher Corporation for Specialised Economic Zones, has been directed at the establishment of industrial cities in the emirate, ICAD I, ICAD II and ICAD III. HCSEZ acts as a catalyst and enabler, providing investors with an integrated state-of-the-art infrastructure and services in these specialised business-friendly economic zones. It aims to attract and promote industries that are knowledge-, energy- and capital-intensive.





The Higher Corporation for Specialised Economic Zones aims to attract industries that are knowledge, energy and capital intensive.



ICAD II is the first infrastructure project in Abu Dhabi to be completed using the Public-Private Partnership Model.



Minimum bureaucracy and maximum efficiency are two of the prime factors that have attracted companies to site their projects in the ICAD centres. Swift issuance of government permits and licences, allocation of suitable land for factories, a fully developed infrastructure and a wide range of dedicated business support services are further aspects listed as key to the success of the ICAD programme. Key sectors positioning themselves in ICAD include basic metals, building products and construction materials, oil and gas services, agriculture and food processing, paper and wood products, automotive industries, logistics services, high-tech industries, financial services, pharmaceutical and medical companies, and chemical and petrochemical industries.

Dubai Industrial City aims to increase the emirate's self sufficiency in light and heavy manufacturing. The project, under development by Dubai Holding's company, Tatweer, will cover just over 52 million square metres and is due for completion by 2015. By mid-2007 the project had rented out all its land and announced that 30 new factories were to be built by the end of the year, by which time the first industrial investor will start production. Efco of India committed to build a US\$250 million (Dh917.5 million) plant for food and drink manufacture. ETA Ascon agreed to invest US\$125 million (Dh458.7 million) in a plant engaged with the vehicle and lift industry. Al Attar Company is building four factories for metallurgy, glass and furniture, with a US\$50 million (Dh182.5 million) investment. The first road in the industrial city, stretching 10.5 kilometres, was due for completion by the end of 2007 and the interior roads should be completed in several phases ending in mid-2009.

#### THE GENERAL HOLDING CORPORATION

The General Holding Corporation (GHC) is the largest industrial conglomerate within the UAE and is a vehicle through which the Abu Dhabi government implements its industrial diversification programmes. It has been involved in establishment of a number of capital intensive, large-scale facilities, such as the Emirates Iron and Steel Factory, promoting production of key raw materials which in turn create downstream opportunities that the private sector can exploit through new joint ventures.



GHC's aim is to leverage Abu Dhabi's energy, capital resources and political stability to create new local, regional and international opportunities for the emirate's private sector. The corporation, together with the Higher Corporation for Specialised Economic Zones, is responsible for devising and implementing Abu Dhabi's industrial diversification strategy and the establishment of clusters of industry within specialised economic zones. In addition to Emirates Iron and Steel Factory, GHC owns the National Petroleum Construction Company (NPCC), Emirates Cement Factory in Al Ain, Emirates Concrete with bases in Al Ain and Mafraq, a 50 per cent stake in Ducab, Anabeeb Pipe Factories and Emirates Foodstuff and Mineral Water Company (Agthia), which in turn owns majority stakes in Al Ain Mineral Water Company and Grand Mills for Flour and Animal Feed Company. GHC, through its ownership of Al Foah Palm Cultivation Developing Company, also owns some major date producers, including Emirates Dates Factory at Al Saad with annual capacity of 20000 tonnes yearly, Al Marfa Dates Factory with capacity of 10000 tons yearly and Al Foah Farm with a cultivated area of 1321 hectares. Discussions on a joint venture aluminium smelter project with the international mining firm Rio Tinto were proceeding towards completion by late 2007.

#### THE UAE OFFSETS GROUP

The UAE Offsets Group (Offsets) was established in 1992 to implement the UAE Offsets Programme and to act as a conduit between international contractors and the local private sector for the creation of commercially viable, profitable and sustainable joint ventures. It is now playing a pivotal role as a think-tank for setting up joint ventures. Offset has implemented over 33 successful ventures with a combined paid-up capital of over Dh5 billion (US\$1.3 billion). It has also created four joint stock companies with thousands of citizens as shareholders, and brought in technical expertise and know-how for establishment of new business ventures ranging from shipbuilding, aircraft leasing and fish-farming to district cooling, agriculture, waste management and energy.

The UAE Offsets Group has created four joint stock companies with thousands of citizens as shareholders and has brought in technical expertise and know-how for establishment of new business ventures.





The Alfiah Fund is an investment vehicle whereby defence contractors can earn credits based on the fund's performance.

Offsets plays the role of a conduit between the joint venture partners. Participating ventures should yield profits of up to 60 per cent of a contract's value over a period of several years – the typical duration of an offset obligation is seven years – to earn offset credits that are evaluated at several milestones during the life of each offset project. The performance of the joint ventures is closely monitored and if defence contractors fail to fulfil obligations they are required to pay liquidated damages of 8.5 per cent on the unfulfilled portion of the obligation.

Examples of some Offsets ventures include: Abu Dhabi Risk & Treasury Systems LLC, Berlitz Abu Dhabi, Danway Fusion Glass, Gulf Energy Maritime, Fibrex Co WLL, Project Blue, Schmidlin, Safewater Chemicals, Alfiah Investment Company, GECO, Trakker ME, and National Training – Tadreeb.

For defence contractors with small obligations, Offsets has formed the Alfiah Fund. This is an investment vehicle whereby defence contractors can earn credits based on the fund's performance rather than setting up independent offsets projects. The Alfiah Fund, managed by the First Gulf Bank (FGB), is capitalised at US\$10 million and seeks to maximise returns from a diversified portfolio of investments in civilian ventures under the Offsets programme. Initial investment by the fund in a single project ranges from US\$500,000 to US\$3.5 million.



## MUBADALA DEVELOPMENT COMPANY

Mubadala Development, an investment company wholly owned by the Abu Dhabi government, has a mandate to form new companies or to acquire stakes in existing companies in the UAE or abroad and to focus on generating sustainable economic benefits for Abu Dhabi Emirate through partnerships with local, regional and international investors. The company invests in a wide range of sectors, including energy, utilities, real estate, public-private partnerships, and basic industries and services. It has been a particularly active and innovative company and now holds major investments in a wide range of fields throughout the world.

Dolphin Energy, owned 51 per cent by Mubadala, is responsible for the Dolphin Gas Project, the first cross-border natural gas network in the GCC. Natural gas from Qatar's North Field passes through Dolphin's giant gas processing plant at Ra's Laffan. The plant strips out valuable commercial by-products and the resulting dry gas is transported by pipeline to Abu Dhabi via Dolphin's 370-kilometre export pipeline. This innovative and brave venture is transporting up to 2 billion cubic feet per day of natural gas from Qatar to the UAE and will also supply gas to Oman. Valuable by-products such as condensate, ethane, propane and butane are also produced at the plant in substantial quantities, for sale to customers in the region and worldwide.

Mubadala's varied business interests include, among others, shareholdings in 'district cooling' company, National Central Cooling Company (Tabreed); property company, Aldar Properties PJSC; shipping company, Eships (formerly CCU); shipbuilder, Abu Dhabi Ship Building Company (ADSB); aviation and pilot training company, Horizon International Flight Academy; the UAE University Development and Management Project in Al Ain; Imperial College London Diabetes Centre in Abu Dhabi; IT company, Injazat Data Systems; automobile companies, LeasePlan Corporation and Ferrari; and Al Hikma Development Company that is developing a modern campus for the UAE University on a BOOT (Build Own Operate and Transfer) basis. Through its 100 per cent owned subsidiary Liwa Energy, it also has oil and gas interests in Oman and Libya.

The Dolphin Gas Project is the first cross-border natural gas network in the GCC.





Dubal announced plans to invest Dh905 million in capacity expansion as demand grows for its products in the UAE and neighbouring countries.





## ALUMINIUM

Dubal is ranked as the seventh largest global producer in the industry with a production capacity expected to reach 1 million tonnes by the end of 2008. It exports 43 per cent of its output from the Jebel Ali smelter to the Far East and ASEAN countries, of which approximately 48 per cent is foundry alloy, 47 per cent extrusion billet and 5 per cent high purity aluminium.

But not all of the aluminium related action is taking place in Dubai. In February 2007 Abu Dhabi's Mubadala signed a JV agreement with Dubal to establish Emirates Aluminium Company, which is planning to build, at a cost of Dh29.36 billion, the largest single aluminium smelter in the world capable of producing more than 1.4 million tonnes a year. As noted above, Abu Dhabi's General Holding Company, GHC, is also negotiating with Rio Tinto for a second smelter complex in Abu Dhabi, likely to be located near the oil industry centre of Ruwais.

There have also been significant investments in aluminium related projects outside of the UAE. These include the Mubadala, Dubal and Sonatrach JV to develop Algeria's first aluminium smelter with a capacity to produce around 700,000 tonnes of high grade primary aluminium per year, largely for export. Meanwhile, Abu Dhabi Water and Electricity Authority (ADWEA) is in a partnership with Oman Oil Company and the multinational aluminium company, Alcan, to construct a new 325-kilotonne aluminium smelter on the Batinah coast of Oman, at Sohar.

## ELECTRIC CABLES

Dubai Cable Company (DUCAB) manufactures low- and medium-voltage electric cables and is a 50:50 joint-venture between the Dubai and Abu Dhabi governments. The company announced plans to invest Dh905 million in capacity expansion as demand grows for its products in the UAE and neighbouring countries. By mid-2007, output at the company's Dubai and Abu Dhabi factories was on a 30 per cent per year growth curve, aided by substantial investments in new production facilities. Ducab is expanding the existing Abu Dhabi plant's low-voltage cable output by 20,000



Dubai Cable Company has recently expanded its business into new export markets in Iran, India, Jordan and Tanzania.

tonnes with an investment of Dh410 million. It will also spend Dh120 million on the Jebel Ali medium-voltage cable plant to boost output by 14,000 tonnes. At present Ducab's total annual production capacity is 125,000 cable tonnes. Meanwhile, the company's Dh125-million copper rod plant in Abu Dhabi was due to come on-stream in December 2007.

Ducab produces around 100,000 tonnes of copper rods used in making cables. Raw material costs have impacted on the balance sheet with copper, whose price has risen sharply over the past three years, accounting for about 50 per cent of the manufacturing cost. Ducab supplies 70 to 80 per cent of its output locally and the rest is exported, mainly to other Arab countries, India, Iran and Pakistan. The cable market has been growing at an estimated rate of 15 to 20 per cent per year across the GCC. The company's sales have grown 40 per cent year-on-year and similar growth was projected in 2007. Ducab expected its 2007 revenues to grow to more than Dh2.2 billion compared with Dh1.57 billion in 2006. The company's major supply contracts include projects such as Burj Dubai, Palm Jumeirah, Dubai Marina, Dubai International Airport, Delhi Metro and Qatar Petroleum.

## STEEL

It is estimated that the UAE will use between 44 and 66 million tonnes of steel reinforcement products in the next 15 years. It presently uses 3.8 million tonnes of 'rebar' a year compared with Saudi Arabia's five million. Rebar accounts for the major portion of steel imported into the region because of its use in concrete reinforcement. Dubai's iron and steel trade registered a 32.5 per cent jump in 2006 compared to 2005: a total of 8.1 million tonnes of iron and steel worth Dh30.1 billion passed through Dubai's entry points during 2006, as against 6.6 million tonnes (worth Dh22.7 billion) a year earlier. The sharp rise in volumes was the result of the growth in the construction sector, especially the giant real estate projects and infrastructure work on airports, roads, bridges, power lines and the metro.

In early 2006 Abu Dhabi-based General Holding Company (GHC) approved a plan to augment production at its Emirates Iron and



Steel factory expansion plans will increase annual output capacity to approximately 2 million tonnes of rebar and wire rod.



Steel Factory from 600,000 tonnes to 2 million tonnes per year at a total cost of US\$700 million (Dh2.6 billion). The plant's production touched around 600,000 tonnes in 2005, although the original production capacity of the factory was estimated at 500,000 tonnes per year. The new expansion, commencing development in 2007, will enable the company to be listed within the privatisation programme of the factories owned by GHC as an independent company without the need for it to be merged with other companies.

Another new steel plant, with a production capacity of 400,000 tonnes per year, is under construction by Gulf Steel Industries Company (Gulf Steel), the UAE's leading private sector steel manufacturer, in Abu Dhabi. The project entails establishment of a new steel rolling mill at Musaffah ICAD II (Industrial City of Abu Dhabi), Abu Dhabi. The facility, occupying an area of 55,000 square metres, will bring the company's manufacturing capacity to 550,000 tonnes per year from a previous figure of 150,000 tonnes per year. The plant is expected to be fully operational in the last quarter of 2008 and will hire over 200 employees. The same developer is planning two other manufacturing plants with a combined capacity of 600,000 tonnes per year at the ICAD 1 in Musaffah.

## PETROCHEMICALS & FERTILISERS

The UAE's oil and gas industry has spawned a major associated petrochemicals industry that produces a variety of materials including plastics, melamine, fertilisers and urea. Abu Dhabi has several major petrochemical and fertiliser industrial complexes: the Ruwais Fertiliser Industries Company (Fertil), the Abu Dhabi Polymers Company (Borouge), and Abu Dhabi Fertiliser Industries Company (Adfert).

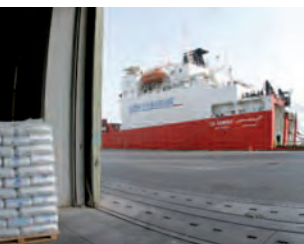
### *Fertil*

Abu Dhabi is facilitating further growth of this sector, both as a result of expanding existing facilities and through establishment of new projects that will produce derivatives such as melamine, polyethylene (PE), polypropylene, polyvinyl chloride (PVC), vinyl chloride monomer (VCM), linear alpha olefins and aromatics. Prior

Abu Dhabi is planning to grow its petrochemicals industry, both as a result of the expansion of existing facilities and through the establishment of new projects.



Borouge has significant expansion plans. In June 2007 it signed contracts valued at approximately US\$3.1 billion for Borouge-2, its major expansion project at the company's production facilities in Ruwais.



to new developments, in mid-2006, Fertil was producing 1850 tonnes per day of urea and 1340 tonnes per day of ammonia. Of this it was exporting 100,000 tonnes per annum of liquid ammonia and more than 625,000 tonnes per annum (tpa) of urea. The recent expansion programme at Fertil, due for completion by the fourth quarter of 2008, should add 1.2 million tpa of urea to its production. In addition to enabling useful utilisation of flue gas CO<sub>2</sub>, the new technology will also make a welcome contribution to environmental preservation through reduction of CO<sub>2</sub> emissions.

### *Plastics*

Borouge, a joint venture between Abu Dhabi and Austrian oil firm OMV, in which the government of Abu Dhabi has a major stake, is a leading supplier of value-adding specialist plastics materials for applications such as water, gas and industrial pipe systems, power and telecommunications cables, advanced packaging, medical devices and automotive components. The petrochemical complex at Ruwais, which cost an estimated US\$1.2 billion to develop, includes a 600,000 tpa ethane cracker that supplies ethylene feedstock to two 225,000 tpa polyethylene units. It produces up to 580,000 tonnes of Borstar bimodal high-, medium-, and linear low-density polyethylene per year. Combining good processability with excellent mechanical properties, Borouge Borstar products are claimed to be stronger, lighter, environmentally friendly and more malleable than conventional polyethylene, resulting in material savings of up to 30 per cent.

Notwithstanding its excellent results to date, Borouge has significant expansion plans. In June 2007 it signed contracts valued at approximately US\$3.1 billion for Borouge-2, its major expansion project at the company's production facilities in Ruwais. Preliminary work began mid-2007 and both contracts are scheduled for completion in 2010. This will be one of the world's largest plastics projects and will triple production capacity at the existing Ruwais facility. It will increase Borouge's annual production capacity to 2 million tonnes of polyolefins, including for the first time, polypropylene. Borouge 3 is also under consideration and a melamine plant is under study.



The ground-breaking expansion project comprises an ethane cracker that will produce 1.4 million tonnes of ethylene per annum and the world's biggest 752 kta olefins conversion unit. Its two Borstar enhanced polypropylene PP plants will have a combined annual capacity of 800,000 tonnes, while the Borstar enhanced PE plant will have an annual capacity of 540,000 tonnes.

Meanwhile, Borouge announced a decision to build its first overseas plant in China to take advantage of high demand for plastics in the automobile industry in Asia's fastest growing economy. Borouge's Shanghai facility will have a capacity of 50,000 tonnes, with scope for further expansion. The polypropylene plant is expected to start production in early 2010.

## CEMENT

The UAE cement sector, one of the oldest manufacturing industries in the country, continues to thrive both within the UAE and internationally. In April 2006 cement production was estimated at 14.7 million tonnes. Limestone is available locally and local factories produce clinker, Portland cement and white cement. Approximately 70 per cent of the market is concentrated amongst the top six companies. There are around eight integrated cement companies (with clinker and grinding facilities) in the UAE and another four to five grinding units. By late 2006 the Union Cement Company (UCC) had become the largest player in the market.

Abu Dhabi Investment Authority (ADIA) acquired a 7.6 per cent stake in Egyptian company Suez Cement, which is one of the biggest cement companies in the region, while other investments and acquisitions overseas are announced on a regular basis. In mid-2006 the Emirates Cement Factory, owned by Abu Dhabi's General Holding Company, announced a new plant with a capacity of 3.1 million tonnes per year to be set up in Fujairah. Also in 2006 Ro'ya Industrial Company announced that it would establish the Ro'ya Cement Factory in Hamriyah Free Zone at a cost of Dh1.5 billion and a planned production capacity of 3.6 million tonnes a year. Pioneer Cement Industry Company also announced a new project for Ra's al-Khaimah with a 1 million tonnes production capacity.

Cement consumption in the UAE is expected to double to 26.2 million tonnes in 2011 from 13.3 million tonnes in 2006. Supply growth will probably outpace demand with 15.6 million tonnes per year of new production capacity being added between 2007 and 2009.



The UAE Ministry of Health has been encouraging local firms to make medicines available at more reasonable prices within the UAE.



The Ra's al-Khaimah Company for White Cement and Construction Materials recorded a Dh34.5 million net profit for the first quarter of 2007, a 221 per cent increase over the corresponding period of the previous year. The company suffered a Dh28.4 million loss in the first quarter of 2006 due to losses on its investments when the local financial markets fell sharply.

### PHARMACEUTICALS

Pharmaceutical Products Federal Law No. 4 of 1983 is the main law regulating the pharmaceutical industry. The Ministry of Health is responsible for licensing pharmaceutical companies, both in the customs territory and in the free zones. Pharmaceutical imports account for about 1 per cent of the entire import bill of the country. Despite a developing manufacturing base within the UAE, the local market remains 80 per cent dependent upon imported medicines, whilst most of those produced in the UAE are primarily for export. The establishment of special free zones such as Dubai Healthcare City (DHC) has provided a boost for local production.

The UAE Ministry of Health has been encouraging local firms to make medicines available at more reasonable prices within the UAE. At the present time there are about ten pharmaceutical and related products manufacturing companies in the UAE. The leader is Gulf Pharmaceutical Industries, known as Julphar, which is based in Ra's al-Khaimah. Julphar is a composite corporation having nine manufacturing plants, located both in the UAE and internationally. In addition it has several wholly-owned subsidiaries that work as independent entities and provide a large network for distribution, warehousing, transportation and pharmacy management in UAE as well as in Oman. The company's two latest plants, Julphar 8 and 9, are expected to boost sales to Dh2.25 billion in the coming five years. But that is not the end of Julphar's expansion plans. It has five other plants in the pipeline for Ra's al-Khaimah alone, while new factories are planned for Sudan, Afghanistan, Morocco and Bangladesh as part of its efforts to increase output outside the UAE. The Ra's al-Khaimah government has granted Julphar 139,360 square metres of free land and another 92,903 square metres to carry out its expansion plan.



Until recently Julphar was the only significant UAE-based manufacturer, but it has been joined in the last few years by relative newcomers, including Neopharma in Abu Dhabi, Globalpharma and Gulf Injects in Dubai and Medpharma in Sharjah.

Neopharma is a large-scale producer of tablets, capsules and liquid orals, and Abu Dhabi's first state-of-the-art pharmaceutical facility, which cost around US\$25 million to build. Its plant, spread over an area of 100,000 square metres, encompasses two independent production blocks – one dedicated for the manufacture of general products and the other exclusively used for manufacturing betalactam products.

Globalpharma, making a wide range of products including tablets, capsules, dry syrups, liquid oral syrups and suspensions, is a subsidiary of Dubai Investment PJSC. Situated in Dubai Investment Park, it has two separate manufacturing units, for penicillin and non-penicillin products, with the utilities in a separate block.

Gulf Inject manufactures intra-venous (I.V.) fluids using the 'form-fill-seal' technology, which is widely accepted as the safest and most aseptic technology for the of manufacture I.V. fluids. Manufacturing facilities conform to the US Federal Standards 209 E.

The UAE also has three manufacturing facilities for the production of disposable medical syringes in Dubai, Sharjah and Abu Dhabi.

## CERAMICS

RAK Ceramics now accounts for 5 per cent of the total world production of ceramic tiles and it owns a 50 per cent stake in a 15 million pieces per year ceramic tableware company. The company's UAE factories are located 20 kilometres south of Ra's al-Khaimah City, along the highway to Dubai. While it runs the business from its UAE base, it has also established an extensive international network of factories. In July 2007 RAK Ceramics reported monthly record sales of Dh155.59 million from its RAK plants, breaking an earlier record also set in 2007. The company has been continually focused on enhancing its performance, both in terms of quality of products and its sales results. It sponsored the LEAF (Leading European Architects Federation Awards) in Dubai in 2006 and in London in 2007. It also sponsored the globally recognised CityScope

Globalpharma, making a wide range of products including tablets, capsules, dry syrups, liquid oral syrups and suspensions, is a subsidiary of Dubai Investment PJSC.





Architectural Awards in Dubai in October 2007. The company has innovative new designs in tiles and sanitaryware, all developed with an insight into consumer needs.

### GOLD & JEWELLERY

The UAE is the Gulf's centre for the import and re-export of gold, with Dubai alone bringing in 489 tonnes of gold in 2006 and exporting 274 tonnes. The emirate's gold imports for the first half of 2007 were up 14.4 per cent at 278 tonnes, although exports during the same period fell 12.3 per cent to 142 tonnes. Dubai is a long-established market for gold bullion and jewellery, wholesale and retail, fuelled by strong demand from the Arab world and India, the world's main gold market. Dubai's new gold futures exchange (DGCX) is seeking to become a major commodities centre.

In 2006 the Dubai Metals and Commodities Centre (DMCC) changed its name to the Dubai Multi Commodities Centre (DMCC) in order to reflect its broader brief as an exchange for a variety of commodities in addition to gold and silver. By late 2006 DMCC had almost a thousand registered free-zone businesses in various commodity sectors, including gold and precious metals, diamonds and coloured stones, tea and energy.

In 2006 the UAE accounted for more than US\$6 billion of the US\$146 billion global jewellery market and almost a third of the regional total. The gemstones sector is playing an increasingly important role in this trade. The Dubai Diamond Exchange (DDE) acts as the sole gateway for imports and exports of both polished and rough diamonds in the UAE. The latter are controlled under implementation of the 'Kimberley Process Certification Scheme' in the UAE. This is a UN initiative designed to tackle the problem of 'conflict diamonds' and involves the issue of a certificate by the diamond office at the source to certify that diamonds have been mined under legitimate conditions. The UAE is one of the five largest trading centres in the world for rough diamonds with trade being worth over US\$3 billion annually, compared to a worldwide trade of US\$13 billion a year.

The Dubai Gems Club (DGC), launched under the auspices of DMCC in mid-2006, is an exclusive trading platform dedicated



The Dubai Gems Club (DGC), launched under the auspices of DMCC in mid-2006, is an exclusive trading platform dedicated to gemstones. Membership was initially restricted to about 25 companies.



to gemstones. Membership was initially restricted to about 25 companies with priority given to registered members of the DMCC free zone. Respecting the privacy of traders, in keeping with the international norms of the coloured stones and diamonds trade, Dubai Gems Club does not disclose statistics or details of trade transactions conducted through the Club, unless specially requested by the traders themselves. Housed in the premises of the Dubai Gem Certification Unit, Dubai Gems Club also offers members easy access to the world's first ISO-certified gem certification service for diamonds, gemstones, pearls and jewellery items from globally recognised certification bodies.

There are approximately 350 outlets in Dubai's Gold Souq and between them they display about 20 tonnes of jewellery at any given time.

Abu Dhabi Ship Building Company is the region's only specialist naval and paramilitary shipbuilder.

## MARITIME INDUSTRIES

### ABU DHABI SHIP BUILDING

In August 2007 Abu Dhabi Ship Building (ADSB), the region's only specialist naval and paramilitary shipbuilder, signed a contract for the refit of ten coast guard patrol boats with Bahrain's Ministry of Interior. The contract marked ADSB's first export order for refits from another GCC country. The composite patrol boats will be delivered to the ADSB shipyard in Mussaffah, Abu Dhabi, where work will continue over a two-year period in the company's new 4000-square-metre air-conditioned composite workshop facility.

The vessels will undergo complete refurbishment, including new propulsion and auxiliary machinery, accommodation facilities and navigation equipment. In mid-2007 the order book value for new vessels and refit projects at ADSB was in excess of US\$1 billion and the company forecasted continuing growth as its business expands throughout the GCC market. The company was established in 1996 by the UAE Offsets Group (UOG) and has built a strong reputation for high quality construction and repair of both military and commercial vessels. ADSB is owned 10 per cent by the Abu Dhabi government, 40 per cent by Mubadala Development Company, and 50 per cent by more than 6000 UAE national shareholders. It is a Public Joint Stock Company (PJSC) listed on the Abu Dhabi Securities Market (ADSM).

### DUBAI DRYDOCKS

The extension to Dubai Dry Docks was opened in February 2007, adding a fifth dry dock to the company's already impressive infrastructure and marking a new phase in the company's capacity to build and commission giant ships and oil tankers.

Considered as one of the market leaders in ship repair and conversions, Dubai Drydocks, also concluded an agreement with Singapore-based Navig8 to build four medium range (MR) product tankers, with an option for four more vessels. The deal is valued at US\$175 million and is the largest order signed to date by Dubai Drydocks. Steel cutting for the first of the four confirmed 50,000





Dubai Maritime City (DMC), the world's first purpose-built maritime centre and member of the Dubai World Group of companies, has recently commenced work on the third and final phase of the project, which includes infrastructure development.





The facilities offered at the new Dubai Maritime City site will include a yacht-repair and maintenance facility in response to the anticipated growth of the leisure marine industry.

dwt chemical carriers is scheduled to begin in May 2008. The vessels will be delivered between 2009 and 2010. The option for the four additional tankers was due to be considered by December 2007.

### DUBAI MARITIME CITY

The vision of Dubai Maritime City has been launched as a formidable force within the ship-repair arena. With relocation of the pre-existing Jadaf Dubai ship-repair yard, the industrial heart of Dubai Maritime City is firmly established. Creation of this industrial facility is the first phase of this dynamic project. Moving from its old home inland along Dubai Creek, the new peninsular location will offer unrestricted open-sea access to the Arabian Gulf, along with all the benefits of working beside the neighbouring business units of Dubai Dry Docks and Port Rashid. Dubai Maritime City will not only cater for ship repair: in response to the needs of its industrial partners, it will also house yacht repair and manufacture, as well as a whole host of ancillary industrial maritime parts, supplies and services. The industrial workshops, warehouses, showrooms, stores and shops will be designed and built with their maritime function and use firmly in mind.

The facilities offered at the new Dubai Maritime City site will enable businesses to expand their scope of services. Heavier capacity ship lifts, able to support 3000- to 6000-tonne loads, will allow for the docking and undocking of larger vessels. The open sea access and dedicated purpose-built industrial areas will provide the infrastructure to maintain and strengthen the UAE's stronghold in the ship-repair market.

The yacht-repair and maintenance facility is a response to the anticipated growth of the leisure marine industry. Equipment and machinery suppliers will be clustered close by, for easy access and mutual benefit. In addition, commercial areas will support associated maritime services such as marine insurance, chartering and brokerage.

Meanwhile, the extensive waterfront residential projects created by sister company Nakheel and other developers will support growth and demand for the leisure marine industry.



## AVIATION

The Middle East aviation industry is growing considerably faster than the global average. Total movements rose by 5.1 per cent worldwide in 2006 whereas the 120 million passengers that travelled in and out of the Middle East region represented 8.2 per cent growth. Indeed, the region ranks as the second fastest-growing aviation market in the world after the Asia-Pacific region. It is hardly surprising then that 50 per cent of all new aircraft orders were placed in the Middle East, since nearly a third of the world's population is within a four-hour flight of the UAE and regional passenger growth is about twice the global average.

### ETIHAD

A centrepiece of Abu Dhabi transport policy, the Abu Dhabi-based national carrier Etihad Airways, was launched in 2003 to play a key role in the emirate's broader ambitions in tourism and business. In the meantime, the airline has grown at a breakneck pace taking its fleet to 37 leased and owned aircraft in September 2007, 13 of which (including four A340-600s, six A330-200s, three A320s) were delivered in 2007. A further three narrow-bodied Airbus A320s are expected early in 2008. In addition, under the auspices of a ten-year network plan, which anticipates network capability, traffic flows, and bilateral agreements, the airline placed an order for five wide-bodied A330-200s, four A340-600s and three A330-200Fs at the 2007 Paris Air Show. Etihad will also receive four superjumbo A380s in 2013 under a revised delivery schedule.

The airline, which served 3 million passengers in 2006, expects to handle 4 million in 2007 and approximately 20 million by 2018. In fact, the company carried over 1.9 million passengers during the first half of 2007, compared with 900,000 during the same period of 2006, an increase rate of 111 per cent. Having commenced flights to 45 destinations in 45 months, new routes added in 2007 included Kuala Lumpur, Sydney, Dublin, Milan, Brussels, Toronto and Shanghai.

The robust growth experienced so far has also seen staffing rise, with the Etihad workforce increasing by 63 per cent in 2006 to 3470



A centrepiece of Abu Dhabi transport policy, the Abu Dhabi-based national carrier Etihad Airways, was launched in 2003 to play a key role in the emirate's broader ambitions in tourism and business.



Dubai-based Emirates has attained the status of a world-class carrier in a little less than a quarter of a century, flying to 93 destinations in 59 countries.



Emirates signed contracts worth US\$34.9 billion for 120 Airbus and Boeing aircraft at the Dubai Airshow in November 2007.

employees. Etihad again augmented its workforce dramatically in 2007 as it took delivery of its new planes, cabin crew staff levels rising from 1200 to 2000 by the end of 2007.

For the immediate future, Etihad will continue to operate at a loss as it finances an aggressive expansion programme although, following a period of consolidation, the company expects to break even in 2010.

The airline is spending Dh183.6 million (US\$50 million) on its new headquarters and training facilities near Abu Dhabi International Airport. The training facility will house four simulators, and full-scale interiors of a Boeing 777-300ER and Airbus aircraft. In the meantime, the first intake of UAE national cadet pilots, chosen by Etihad following extensive assessments, commenced training at the Horizon Academy in Al Ain in June 2007.

## EMIRATES

Dubai-based Emirates has attained the status of a world-class carrier in less than a quarter of a century, flying to 93 destinations in 59 countries. Record figures have been maintained by taking the airline into new markets and increasing capacity on existing routes. Fleet expansion has been a major component of this strategy. The airline is currently the eighth largest carrier by international traffic in the world. However, the addition of 55 new A380 superjumbos, commencing in August 2008, to its fleet of 108 aircraft has led Boston Consulting Group (BCG) to speculate that it could become the world's largest long-haul carrier by 2012 (by seats).

Emirates currently operates 26 777-300ER aircraft, mainly on long-haul routes. The airline has 57 Boeing 777s pending delivery, including 12 additional 777-300ERs valued at US\$3.2 billion. The Boeing 777-200LR made its debut for Emirates on the airline's non-stop Dubai to Sao Paulo route launched on 1 October 2007, representing the first non-stop air link between the Middle East and South America. The same aircraft type will also be used on the Dubai to Houston service, which commenced on 3 December.

Emirates has also launched a fleet review in preparation for carrying an expected 45 million passengers a year by 2025, up from



just under 20 million forecasted for the period from March 2007 to March 2008 and is also evaluating bids from both Boeing and Airbus for a significant mid-size aircraft order to take its expansion plans beyond 2012.

Emirates Group, of which the airline is a major component, posted a 23.5 per cent increase in profit to Dh3.5 billion (US\$942 million) for the financial year ending 31 March 2007. Revenues rose by 28.4 per cent from Dh24.2 billion (US\$6.6 billion) to Dh31.3 billion (US\$8.5 billion). Direct contribution by the Group to the UAE economy during the fiscal year 2006/2007 stood at Dh 14.5 billion (US\$4 billion) as compared to Dh21.7 billion (US\$5.9 billion) in indirect contributions.

Emirates has been at the forefront of staff training at its own academy for some time and it has now signed a contract with CAE of Montreal for the purchase and installation of a CAE 7000 Series Boeing 777-300ER full-flight simulator (FFS) to support the airline's flight training requirements for its fleet of Boeing 777-300ER aircraft. The deal, including buyer-furnished data and equipment, is valued at more than US\$14 million (C\$15 million).

## AIR ARABIA

Sharjah-based Air Arabia, which was established in 2003 as the first low-cost carrier in the Middle East and North Africa, continues to thrive, receiving a number of accolades in 2007, including a special certificate from Airbus for achieving the highest average level of A320 fleet utilisation between 2005 and 2006, and a second award from Airbus for Operational Excellence 2005/2007, for airlines operating fewer than 50 A320 aircraft. Air Arabia also won the 2007 World Airline Award for 'Best Low-Cost Airline in the Middle East.'

The company's net profit for the first nine months of 2007 stood at Dh280 million (US\$76.3 million), a 331 per cent increase compared to Dh65 million (US\$17.7 million) for the same period in 2006. During the first nine months of 2007, the company registered a turnover of Dh889 million (US\$242.2 million), up 68 per cent from Dh528 million for the first nine months of 2006. The airline served 1,954,982 passengers during this period, a 55 per cent

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Air Arabia announced at the Dubai Airshow that it had signed a firm contract for 34 Airbus A320 aircraft with an option for 15 more.

increase on the same period in 2006. The financial results for the first nine months of 2007 represent the continuation of a trend of profit and growth for the carrier. In 2006, Air Arabia recorded a net profit of Dh101 million (US\$27.5 million), up 222 per cent from Dh 31.3 million (US\$8.52 million) in 2005.

In pursuance of the budget-market strategy, Air Arabia intends to add 34 to 40 new aircraft to its existing fleet of ten leased A320s by 2016. In addition, it will broaden its scope of operations and invest in the infrastructure associated with the fleet expansion, including the development of two additional hubs, possibly in South Asia, the Middle East or the Mediterranean region.

Air Arabia's routes include destinations in the Middle East, North Africa, the Indian subcontinent and central Asia and the airline intends to include new destinations and frequencies in the Indian subcontinent, Middle East, Mediterranean and South Asia.

Air Arabia concluded a Dh2.5 billion IPO for 55 per cent of its stock and made a promising debut on the Dubai Financial Market in 2007. The company intends to use the proceeds from the offering, in addition to bank financing, to fund its fleet expansion.

#### RAK AIRWAYS

At the time of writing, RAK Airways, a prospective fourth national airline, was hoping to commence operations from Ra's al-Khaimah Airport with two Boeing 757-200 aircraft that have been leased from Iberia. Confusion over delay of the launch led to replacement of the CEO. Initially RAK Airways will fly to India and Iran and will use leased aircraft for the first three years.

#### NEW UAE CARRIER

Plans are also in place to launch a fifth airline, this time flying out of Fujairah. Financed by an Indian businessman, Kang Pacific Airlines hopes to tap into the growing demand for air services to specific destinations. Initially intending to serve the Philippines, Bangladesh, India and Sri Lanka, Kang Pacific also plans to operate flights to the UK. The airline will operate as a hybrid between a budget and a full service carrier, using primarily leased aircraft and initially flying under an AOC issued by the Philippine government.



## ABU DHABI AIRCRAFT TECHNOLOGIES

Abu Dhabi Aircraft Technologies, formerly GAMCO, located at Abu Dhabi International Airport, was established by the government of Abu Dhabi in 1987 to provide high-quality, cost-effective maintenance services for a wide range of aircraft, components and engines and is the leading provider of maintenance, repair and overhaul (MRO) services in the region. Wholly-owned by the Abu Dhabi government's investment arm Mubadala, the company provides MRO services to over 80 commercial and military customers around the world and is anticipating further growth in the future. It is currently designing a three-bay hangar to facilitate maintenance of wide-bodied commercial aircraft.

In 2007 the company was awarded a contract to perform heavy maintenance on the Hercules C-130 aircraft owned by the Tunisian Air Force. The company also completed work for the new air carrier L'Avion (Elysair), which commenced operations between Paris and New York. The company was also awarded a five-year, Dh343 million contract by the UAE Air Force and Air Defence to carry out maintenance on their fleet of Hawk aircraft, consolidating Abu Dhabi's position as a major aircraft maintenance and repair hub.

## MUBADALA'S AEROSPACE STRATEGY

In addition to its 100 per cent ownership of GAMCO outlined above, Mubadala holds other significant aerospace assets, including a 100 per cent holding in Horizon Flight Training School, a 35 per cent holding in Piaggio Aero Industries and a 40 per cent stake in Swiss aircraft and engine services provider SR Technics. Mubadala is now formulating an aerospace strategy which will see it significantly increase its investment in the aerospace industry, placing Abu Dhabi centre stage in the region as a major producer in the industry.

Mubadala's strategy is to negotiate investment and technology-sharing partnerships with leading international businesses that complements its existing aerospace holdings. In this context, Mubadala signed a memorandum of understanding (MoU) at the Paris Air Show 2007 with Boeing, setting up a framework under which Boeing provides strategic guidance to Mubadala on the

In November 2007 GAMCO was repositioned as Abu Dhabi Aircraft Technologies. The new company is targeting a US\$800 million revenue stream by 2012 and has a US\$500 million agreement with Etihad for MRO services.





Mubadala signed an MoU with Boeing, setting up a framework under which Boeing provides strategic guidance to Mubadala on the implementation of its aerospace ambitions.

implementation of its aerospace ambitions. Primarily, the MoU allows for the joint identification of potential partners and suppliers that would become directly involved in the production of advanced material aerospace components and raw materials in Abu Dhabi. Together with Mubadala, Boeing will also help to develop an Abu Dhabi-based aerospace research and development centre.

Human resource development is a key focus of the MoU. UAE technical and design engineering capability will be enhanced through the aerostructures joint venture, while the proposed research and development facility will provide an outlet for academics and chemical engineers in the UAE to exercise their capabilities for advanced material applications.

Mubadala also signed a MoU at the Paris Air Show with US industrial major Lockheed Martin, signifying the companies' mutual interest in exploring ways in which they can collaborate on and address sustainment, maintenance, repair and overhaul, engineering and technical support of military aircraft across several platforms. Lockheed Martin will also investigate the possibility of participating with Mubadala in its other aerospace development activity, with particular attention to research and development.

## DAE

Dubai Aerospace Enterprise (DAE) was established in 2006 as a major component of the UAE's efforts to create a global aviation conglomerate. DAE investors include Emaar Properties, Istithmar, Dubai Airport Free Zone Authority, Dubai International Capital, Dubai International Financial Centre, the Government of Dubai, Mubadala and Amlak Finance. DAE divisions include aircraft leasing; manufacturing and assembly; aviation education for pilots, technicians and engineers; airport development; aircraft maintenance and support; and a consultancy wing.

From its inception, DAE aggressively pursued its global goals, but not without some minor setbacks. The company's US\$1.8 billion acquisition of Standard Aero Holdings Inc, which overhauls engines and turbines used in small jets, and Landmark Aviation, an aircraft maintenance company from the Carlyle Group, was subject to a

In November 2007 DAE signed a purchase agreement for 100 aircraft worth US\$13.7 billion with Boeing, as well as an initial agreement to buy as many as 100 aircraft from Airbus for US\$13.5 billion.



90-day review by the Committee of Foreign Investments in the United States (CFIUS) in 2007, triggering memories of the political fall-out from DP World's purchase of the US port operations of P & O in 2006.

The two American companies constitute DAE's second and third acquisitions following the purchase of Zurich-based SR Technics, an independent provider of MRO services in 2006 for 1 billion euros (Dh4.9 billion). However, a bid to acquire Pegasus Aviation Finance, the aircraft leasing unit of Oaktree Capital Management, fell through. At the time of going to press, DAE was close to agreeing the purchase of US\$1.5 billion of aircraft, kick-starting its plane leasing business to compete with global players such as GE.

DAE signed a MoU with Boeing in June 2007 under which the two companies are to form a joint steering committee to oversee a number of projects where the companies can explore opportunities for long-term strategic collaboration.

DAE also has plans to purchase a portfolio of airports around the world, particularly in emerging markets in China, India and the Middle East. However, it abandoned its bid for a majority stake in Auckland Airport, New Zealand, in September 2007.

## BUSINESS AVIATION

Statistics issued by the Middle East Business Aviation Association (MEBAA) indicate that a fleet of 300 business aircraft of different types and capacities operate in GCC countries, 43 of which are in the UAE. The association estimates that the annual growth in the Middle East business aviation sector is in the region of 15 to 20 per cent with investment in the sector hovering at US\$500 million, 30 per cent of which is in the UAE. This is expected to double during the next three years due to the accelerated economic growth in the region.

Royal Jet, an international luxury executive flight services company headquartered in the UAE, is one of the foremost companies in this sector. Established in 2003, Royal Jet has expanded its current fleet of executive jets with the addition of a fifth Boeing Business Jet (BBJ), confirming the company as the

Two American companies, Standard Aero Holdings Inc. and Landmark Aviation were purchased by DAE in 2007.

Royal Jet has unveiled a five-year expansion plan aimed at achieving turnover of US\$500 million by 2012.





largest BBJ operator in the world. Overall, the company's fleet has grown from eight to 12 fixed-wing aircraft and a VIP helicopter.

Emirates Investments Group has also launched a new company Empire Aviation Group (EAG) to operate in the business aviation sector, both in aircraft sales and general aviation. Under an agreement signed at the Paris Air Show, EAG will act as Hawker Beechcraft Corporation's (HBC) international sales representative in Bahrain, Oman, Qatar and the UAE. Hawker specialises in business and trainer aircraft.

## OIL & GAS

The UAE pumped around 2.53 million barrels of oil per day (b/d) in 2006, somewhat less than its production capacity of 2.9 million b/d, and has plans to raise its daily production capacity to 3.5 million b/d by 2009 and to over 5 million b/d by 2014. The country's proven crude oil reserves stand at 97.8 billion barrels, or slightly less than 8 per cent of the world's total reserves. Abu Dhabi holds 94 per cent of this amount, or about 92.2 billion barrels. Dubai contains an estimated 4 billion barrels, followed by Sharjah and Ra's al-Khaimah, with 1.5 billion and 100 million barrels of oil, respectively.

Dubai produces around 140,000 b/d of oil (6 per cent of the country's production) and substantial quantities of gas from offshore fields (with a major condensate field onshore); Sharjah is the third UAE hydrocarbon producer. On the East Coast, Fujairah is the second largest bunkering port in the world (handling about 1 million tonnes of fuel from neighbouring countries per month). Natural gas has been gaining in importance as a local energy source, particularly with the Dolphin Energy gas pipeline from Qatar coming on-stream, and it is increasingly used by households and local industries, including for power generation and water desalination. Exports of gas have also increased.

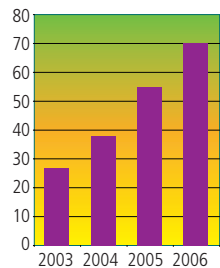
Oil and gas production in Abu Dhabi is primarily handled by the Abu Dhabi National Oil Company (ADNOC), or by subsidiaries in which ADNOC is the majority shareholder in partnership with international companies. The sharp rise in oil and gas prices on world markets, which began in 2004, continued through 2006 and into late 2007, resulting in higher than anticipated revenues from oil and gas sales. The industry is making significant investments to upgrade drilling, processing and transport facilities so that strong demand can be adequately met. A measure of just how important the UAE's oil production is in terms of world supply is illustrated by the fact that the UAE is the world's sixth largest oil exporter and supplies 26 per cent of Japan's oil imports.

Natural gas has been gaining in importance as a local energy source, particularly with the Dolphin Energy gas pipeline from Qatar coming on-stream, and it is increasingly used by households and local industries, including for power generation and water desalination.

**Oil production:**  
2.53 million  
barrels/day 2006

**Oil reserves:**  
97.8 billion barrels

**Abu Dhabi's  
Oil reserves:**  
92.2 billion barrels



Oil and gas revenues in billions US\$.

(Source: IMF Report October 2007)



The UAE has plans to raise its daily oil production capacity to 3.5 million barrels per day by 2009.



## OIL

*Lower and Upper Zakum*

ADMA-OPCO aims to boost oil output capacity at its Lower Zakum oilfield by 100,000 b/d by 2010. The field produced around 280,000 b/d in 2006. The project will take capacity at the field from a projected 325,000 b/d in 2008 to 425,000 b/d in 2010.

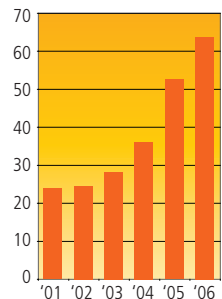
Meanwhile, in early 2006 ExxonMobil was formally awarded a 28 per cent equity interest for 20 years in Abu Dhabi's Upper Zakum oilfield, the world's fourth-largest oilfield. ADNOC retained a 60 per cent share in the field and Japan Oil Development Company (Jodco) continues to hold the remaining 12 per cent. Upper Zakum contributes significantly to Abu Dhabi's production and has potential for substantial production growth. ExxonMobil, with ADNOC and Jodco, will provide support to the joint operating company Zadco, which aims to increase production to around 750,000 b/d from a level of around 550,000 b/d in 2006. The US company is establishing an ExxonMobil Technology Centre in Abu Dhabi to apply the industry's most advanced technology to Upper Zakum in areas of reservoir management, well management and production operations. It will also provide support for training and personnel development.

*Umm Shaif Oil Production*

In late 2006 Abu Dhabi Marine Operating Company (ADMA-OPCO) signed the Engineering, Procurement & Construction (EPC) Agreement for the Umm Shaif gas injection facilities (USGIF) project with Hyundai Heavy Industries (HHI) of South Korea. The project will enhance oil production with an average of additional 50,000 b/d by the beginning of 2010 from the offshore Umm Shaif Field, which was the first UAE oilfield to come into production. This target will be achieved through gas injection of approximately 600 million standard cubic feet/day into Arab C and D reservoirs. The new oil separation facilities will handle the anticipated increase in gas/oil ratio (GOR) and produced water from reservoir fluids.

This is a major development project costing around US\$1.6 billion and includes three new platforms and associated subsea pipelines

On 5 December 2007 an extraordinary meeting of Opec officials took place in Abu Dhabi at which the decision was made to maintain output at current rates. UAE Energy Minister Mohammed bin Dha'en Al Hamili stated that Opec is building its production capacity to calm the markets.



Abu Dhabi crude oil export price averages 2001–2006.



In April 2007 Dubai Petroleum PC ended its role as operator of Dubai's oilfield, marking the end of Dubai's first offshore oil concession and the beginning of a new phase in which the Emirate of Dubai is directly controlling its offshore oil resources.

along with cables, new bridges and tie-ins work at Umm Shaif Supercomplex (USSC), in addition to major modifications of three existing gas wellhead towers in Umm Shaif Field. The Compression Platform (CP-1), to be located north-east of USSC, is the heaviest with an estimated total weight of 16,000 tonnes. The topside alone weighs more than 13,000 tonnes. A bridge platform weighing more than 8000 tonnes will connect the accommodation and utilities platforms. The third platform, weighing more than 9000 tonnes, will be located 100 metres away from USSC and will accommodate oil separation facilities. It will be linked to a new water disposal well. The 23 kilometres of subsea pipelines vary in size from 15 to 75 centimetres in diameter. Planned completion date is mid-2010.

#### *Maintenance Work*

In October 2007 the UAE shut down nearly a third of its oil output for maintenance work to take place in the major offshore fields. The country's output prior to the shutdown was around 2.54 million b/d and this was reduced by between 600,000 and 800,000 b/d. Output from the Upper Zakum field was reduced to around 180,000 b/d from around 530,000 b/d for about two and half weeks, whilst output from the 280,000 b/d Lower Zakum field was completely shut for around three weeks. It was a planned synchronised shutdown and necessary as part of the work to expand output from the fields. Additional work took place at the 200,000 b/d Umm Shaif field, temporarily reducing output there by around 180,000 b/d.

#### *AABAR*

Aabar (Aabar Petroleum Investments Company PJSC), based in Abu Dhabi, is the Middle East's first publicly listed company operating in the oil and gas sector. Since its establishment in 2005, Aabar has grown quickly to implement its global growth strategy, which is aimed at investing in, or partnering with, oil and gas companies with a proven track record. Its main operations, through a Singapore-based subsidiary, Pearl Energy, acquired in early 2006, are in oil and gas exploration and production in South-East Asia, with interests in Indonesia, the Philippines, Vietnam and Thailand,



although it has announced plans to expand into the Middle East region. Aabar previously owned Dalma Energy a drilling company with its operations spread across the Middle East and sub-continental region. On 29 July 2007 it announced agreement for the sale of Dalma, which had been contributing approximately 22 to 23 per cent of Aabar's total net revenue.

## DUBAI OIL RESOURCES

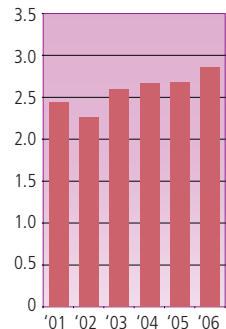
In April 2007 Dubai Petroleum PC ended its role as operator of Dubai's oilfield, marking the end of Dubai's first offshore oil concession and the beginning of a new phase in which the Emirate of Dubai is directly controlling its offshore oil resources. Dubai oil will continue to be freely traded in the international oil market under contracts established by the government and Dubai Petroleum Establishment (DPE), a new entity wholly-owned by the Dubai government. Petrofac, a UK-based company with extensive operations in the UAE, has been awarded a contract to operate the offshore fields for DPE.

### *Habshan to Fujairah Pipeline*

Work has begun on a strategic project that will pump oil from Habshan, in Abu Dhabi, across the country to the bunkering port of Fujairah, thus by-passing the Straits of Hormuz. The Abu Dhabi-based International Petroleum Investment Company awarded the engineering and design contract of the US\$1 billion, 360-kilometre crude pipeline project to Worley Parsons in September 2007. The 48-inch pipeline will have a capacity to pump 1.5 million b/d. The project is due for completion by the second half of 2009. Germany's ILF Consulting Engineers was awarded a contract to manage the project.

## OIL REFINERIES & THEIR PRODUCTS

Downstream development of refineries, petrochemical plants, and other related industries has created an integrated oil and gas sector. The UAE currently has five refineries with a combined capacity of more than 1.14 million b/d. The progressive build-up of refining capacity since the 1980s has made the UAE a sizeable



Millions of barrels of oil per day 2001–2006.



Takreer's refining capacity is now over 500,000 b/d, making it a major regional operator. Other refineries are in Dubai, Sharjah and Fujairah.

net exporter of refined products; although their share in the total oil exports remains modest at about 10 per cent, it is on an upward trend. Furthermore, Abu Dhabi has been considering plans to further increase refinery capacity at Ruwais and also to build a new refinery at Fujairah. Four of the existing five UAE refineries are owned by the respective emirates; two are operated by Abu Dhabi Oil Refining Company (Takreer) and owned by ADNOC.

Takreer's refining capacity is now over 500,000 b/d, making it a major regional operator. Other refineries are in Dubai, Sharjah and Fujairah. Owned by Dubai Emirate, the Emirates National Oil Company condensate refinery (ENOC), which has a capacity of 120,000 b/d, began operations in Dubai in May 1999. The Fujairah and Sharjah refineries were not operating in 2006/07.

Petrol or gasoline prices are fixed by the UAE Government and are the same throughout the country. Gasoline of 95 and 98 octane is sold at fixed prices (Dh6.25 and Dh 6.75 a gallon in 2007), whilst all other domestically refined products such as diesel, jet oil, naphtha, bunkering oil, etc are sold at market rates. The 2007 price for diesel was Dh7.8 a gallon. Around 6 million tonnes of refined products per annum are sold domestically, while twice that quantity is exported.

### *Fujairah Refineries*

In May 2007 commodities trader Vitol Group International purchased a major stake in the Fujairah government-owned Fujairah (Metro) Refinery, with the deal involving the construction of new storage tanks and re-opening of the refinery. Pending possible construction of a new refinery in Fujairah (*see below*), the Fujairah Refinery remained the only oil facility in the eastern coast of the UAE. Fujairah, on the Gulf of Oman just outside the shipping 'bottle-neck' of the Straits of Hormuz, is one of the world's largest ship refuelling centres. The existing refinery, which was built on a very spacious area that could accommodate future expansion, has two units with a refining capacity of 82,000 barrels per day and storage capacity of over 3 million barrels. The refinery has access to the ultra-modern bunkering facilities and services of the Fujairah seaport, which has three quays with a total length of





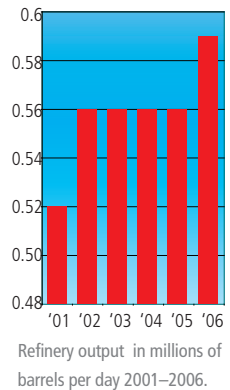
840 metres and 20 gantries for loading and unloading fuel. The refinery has, however, been mothballed for some time.

The new 1.5 million b/d pipeline from Habshan to Fujairah is likely to be complimented by a further refinery. An initial agreement in July 2006 between the International Petroleum Investment Company (IPIC) of Abu Dhabi and ConocoPhillips for a feasibility study on a 500,000 b/d refinery failed to materialise, but studies were being evaluated in late 2007 for a 350,000 b/d refinery, possibly to be wholly-owned by IPIC.

#### *Fujairah Oil Treatment Plant*

The commissioning of the first phase of Sulphco's 180,000 b/d crude oil processing plant in Fujairah took place in August 2007. Sulphco, responsible for design of the patented Sonocracking technology, began testing the new facility on 5 August 2007 with a run of 285 barrels of heavy oil (less than 13 degree API gravity, sulphur content 2.63 per cent by weight) through a 5000 b/d skid. Six of these operating in parallel comprise a 30,000 barrel per day commercial unit.

The oil was supplied by a tank truck through external piping into the plant, with flow rates averaging 2500 b/d and peak rates as high as 3500 b/d. More than 50 samples were collected under various combinations of power settings, water content and flow rates, with the goal of optimising system performance. The samples were then sent to an outside laboratory for testing.





ADNOC and its subsidiaries have led the way in terms of environmental protection and 'greener' solutions to industrial projects. Part of this policy has been a constant striving for cleaner fuels.

The unusual plant run by Fujairah Oil Technology, a 50:50 joint venture between Nevada-based SulphCo Inc. and the Fujairah government, is the first such heavy oil facility in the Middle East and is capable of treating 210,000 barrels per day. SulphCo's patented process employs ultrasound technology to 'desulphurise' and hydrogenate crude oil and other oil-related products. The company's technology upgrades sour heavy crude oils into sweeter, lighter crudes, producing more gallons of usable oil per barrel. The reported cost of treating a barrel of crude is around US 20 cents per barrel while the upgrade value of the oil is boosted by US\$10 per barrel. Subject to success of the existing plant, there were plans to install a fully commercial plant using this technology in Fujairah.

#### *Environmental Measures*

In an effort to limit sulphur levels in the environment, the UAE Government issued directives to restrict sulphur in fuel to only 500 ppm from July 2007. In line with this policy, Emirates General Petroleum Corporation, Emarat, began marketing low sulphur gas oil (also known as diesel fuel or D-2 fuel) through its retail outlets.

ADNOC and its subsidiaries have led the way in terms of environmental protection and 'greener' solutions to industrial projects. Part of this policy has been a constant striving for cleaner fuels. It was with this in mind that Takreer recently installed a new catalytic reformer plant with a capacity of 12,000 b/d and an isomerisation plant with a capacity of 19,000 b/d, improving the quality of refined gasoline and increasing capacity. The new units reduce aromatics and benzene content enabling production of higher grade fuels. Sulphur levels have also been lowered further by introduction of a new gas oil hydrotreater of 15,000 b/d capacity and also revamping the existing 22,000 b/d gas oil hydrotreater by changing the catalyst. The 'greener' diesel complies with UAE legislation and with the latest international specifications that are due to come into force in 2010.

#### *Reduce, Recover, Reuse*

Takreer recently acquired the cooperation of Japanese companies to enhance flare gas recovery. Agreements were signed by Takreer



with the Japan Cooperation Centre, Petroleum (JCCP) and the Toyo Engineering Corporation (TEC). The flare gas recovery project is expected to take 25 months at a total cost of US\$15.622 million. Implementation of the projects will reduce the emission of noxious pollutants, particularly combustion emissions such as nitrogen oxides (NOx), carbon monoxide (CO) and carbon dioxide (CO<sub>2</sub>). It also makes financial sense and is in line with the general trend of 'Reduce, Recover and Reuse', which is a catchphrase adopted by refineries worldwide.

### *Bi-fuel Vehicles*

The government of Dubai is converting its taxi fleet into hybrid cars, helping to establish the UAE as a leading country in promoting a sustainable public transport system. Hybrid cars, which use electric energy in addition to conventional fuels, are highly effective in reducing transport-related environmental emissions worldwide.

Dual fuel engines, using both compressed natural gas (CNG) and conventional gasoline (petrol), are also being tested by ADNOC. It is possible to switch between the fuel types whilst driving. With a range of 450 kilometres using only CNG, plus 400 kilometres on gasoline, the total range without the need to refuel is over 800 kilometres. ADNOC Distribution believes that this type of car can result in a significant reduction in harmful emissions and environmental pollution. Savings due to the lower price of CNG compared to gasoline should encourage consumers to favour bi-fuel and CNG-powered cars. CNG refuelling services are being installed at ADNOC stations throughout Abu Dhabi. Sharjah is also promoting natural gas vehicles and ADNOC Distribution set up a number of stations there for gas conversions of cars and fuelling of converted vehicles. A gallon of natural gas costs Dh4 and converting a car costs less than Dh5000.

### GAS

The UAE is pumping billions of dollars into projects to boost its hydrocarbon production, establish more gas-related industries and increase oil extraction from its fields by gas injection. With its proven gas wealth exceeding 6 trillion cubic metres at the

Savings due to the lower price of CNG compared to gasoline should encourage consumers to favour bi-fuel and CNG-powered cars.



The Habshan Gas Complex Expansion (HGCE) involves installation of enhanced gas processing facilities at Habshan to process additional associated gas produced by ADCO through their crude oil expansion projects at Bab and Bu Hasa and to introduce operational flexibility between Bu Hasa and Habshan.



beginning of 2007, the UAE is the fifth largest gas power in the world and is one of the top LNG producers. Its sprawling LNG complex on Das Island produces in excess of 8 million tonnes per year. Increasing quantities of gas are being used to enhance oil recovery by injection into underground reservoirs.

The two Abu Dhabi companies directly involved in natural gas industry are Abu Dhabi Gas Industries Company Ltd (GASCO), onshore, and Abu Dhabi Gas Liquefaction Company Ltd (ADGAS), offshore. GASCO was founded in 1978 to process the associated gas of Abu Dhabi's onshore gas and then pump it to Ruwais Gas Liquefaction Plant where it is fractionated and exported. ADNOC utilises part of the GASCO-produced gas locally.

In recent years several major projects have been completed by GASCO. These include Ruwais Digital Control System (2001), Asab Gas Development Phase I (2001, 2000), Ruwais Upgrading Project including Digital Control System (2001), Maqta-Jebel Ali Gas pipeline project (2002), Onshore Gas Development Phase II (2002), Bu Hasa Integrated Control System (2005), and Habshan Ethane Recovery Maximisation (2005).

In 2007 GASCO had projects costing more than US\$4 billion under development and scheduled for completion by the end of 2008. These are briefly discussed below.

The Onshore Gas Development Phase III (OGD-III) Project is designed to process 1306 million standard cubic feet per day (mmscf/d) of condensate rich gas (from the Thamama "F" reservoir) at Habshan and to produce 11,800 tonnes per day (t/d) of NGL (including 3400 t/d ethane) and 130,000 b/d condensate. Residue gas will be re-injected back into the reservoir for pressure maintenance purposes (gas cycling). EPC implementation of this OGD-III project is planned for completion by April 2008.

The Ruwais third NGL Train is designed to process the additional 24,400 t/d of NGL produced from OGD-III, AGD-II (Asab Gas Development – Phase II) and other projects and to produce about 6400 t/d of raw ethane for transfer to the petrochemical plant at Ruwais (Borouge), 6000 t/d each of propane and butane and 5800 t/d of pentane plus products. The project essentially comprises a new NGL fractionation train and new storage tanks for propane,

butane and pentane plus. EPC implementation is expected to take place by May 2008.

AGD-II is designed to recover 400 t/d of NGL from the sour condensate-rich gas from the existing Asab Gas Plant (AGP). Residue gas will be re-injected back into the reservoir for pressure maintenance purposes (gas recycling). Main facilities include two trains for gas treatment and two for NGL recovery together with a new NGL pipeline from Asab to Habshan and other required facilities. EPC implementation of the AGD-II Project is scheduled for completion by September 2008.

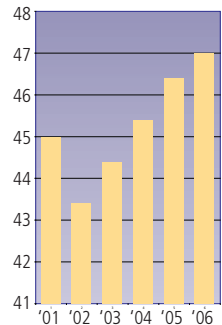
The Habshan Gas Complex Expansion (HGCE) involves installation of enhanced gas processing facilities at Habshan to process additional associated gas produced by ADCO through their crude oil expansion projects at Bab and Bu Hasa and to introduce operational flexibility between Bu Hasa and Habshan. The project also includes installation of an acid gas enrichment unit (AGEU) for processing acid gas from OGD-III facilities as well as installation of two additional sulphur recovery units (SRU). EPC implementation of the project is due for completion by June 2008.

The Offshore Associated Gas Project (OAG) envisages transporting the excess offshore associated gas from Das Island through a 200-kilometre-long, 30-inch diameter offshore/onshore pipeline and to process it at Habshan. It will establish a strategic link between the offshore and onshore facilities. The project is being implemented through three separate EPC packages: one for the Das Island facilities, one for the offshore pipeline, and one for the Habshan facilities and onshore pipeline.

In addition to the above major developments, GASCO is preparing a master plan for the company and is involved with the Bu Hasa upgrade project, the Asab and Bab integrated control systems, the Bu Hasa-Habshan gas pipeline, gas supply to Al Ain Air College, replacement of NGL pipelines, a new lean gas station at Bu Hasa and development of non-process buildings at Habshan.

GASCO's fellow company involved with Abu Dhabi's gas resources ADGAS is the Gulf pioneer in the field of gas liquefaction. Its plant on Das island is unique worldwide in its ability to process both associated gas, which is a by-product of oil extraction operations,

In early 2007 ADGAS awarded Technip a lump-sum turnkey contract worth approximately US\$610 million for gas compression plants and associated facilities to be located at Das Island. The plant's facilities, which include compressor and booster stations, fuel gas treatment and gas dehydration units, will treat 211 mmscf/d of associated gases produced by offshore fields in Abu Dhabi.



Natural gas production in billions of cubic metres.



Dolphin Energy's major strategic initiative involves the production and processing of natural gas from Qatar's North Field.

and natural gas extracted as a free product from gas reservoirs. ADGAS Plant's feedgas, both associated and non-associated gas, comes from Abu Dhabi's offshore fields. The company's plant comprises three process trains with an average annual production of 8 million tonnes of liquefied natural gas, liquefied petroleum gas, pentane and liquid sulphur.

In early 2007 ADGAS awarded Technip a lump-sum turnkey contract worth approximately US\$610 million for gas compression plants and associated facilities to be located at Das Island. The plant's facilities, which include compressor and booster stations, fuel gas treatment and gas dehydration units, will treat 211 mmscf/d of associated gases produced by offshore fields in Abu Dhabi.

Meanwhile, Abu Dhabi is considering using its abundant sour gas stocks to meet fast-growing domestic gas demand from power stations, homes and industries. With this in mind ADNOC is planning development of a major project to tap into the sour gas resources at the Shah field. Exxon Mobil, ConocoPhillips, Royal Dutch Shell and Occidental Petroleum submitted bids to ADNOC on the project in August 2007, with an announcement on the chosen partner expected before the end of the year. The project is expected to deliver a minimum of 500 cf/d of gas, with future development of another major sour gas reservoir, at Bab, also under long term consideration.

### *Dolphin Gas Project*

Dolphin Energy's major strategic initiative involves the production and processing of natural gas from Qatar's North Field, and transportation of the dry gas by subsea pipeline across joint UAE-Qatari waters to the UAE. The project began full operations in 2007, with gas flowing through its pipeline from the Qatar gas field to the UAE. A development and production-sharing agreement was signed in 2001 between the UAE Offsets Group and the State of Qatar, under which, initially, up to 2 billion standard cubic feet of natural gas were to be supplied from Qatar to the UAE daily. Dolphin's main customers are Abu Dhabi Water and Electricity Authority (ADWEA), the Union Water and Electricity Company, the Oman Oil Company, and the Dubai Supply Authority. Dolphin's main shareholder is the



Abu Dhabi government, with 51 per cent ownership, and two foreign partners, Total and Occidental Petroleum, each with 24.5 per cent of the equity.

The company's first initiative, the Al Ain to Fujairah pipeline, came on-stream in January 2004. The pipeline supplies the Fujairah Water and Power Plant on the UAE's East Coast, initially with natural gas from Oman, and subsequently with Dolphin gas from Qatar. In May 2005, Dolphin began to supply natural gas to Ra's al-Khaimah. The gas is delivered via a tie-in near Qidfa between Dolphin's Al-Ain – Fujairah pipeline and the existing Emarat gas pipeline network. In early September 2007 the company signed a gas sales agreement with Oman Oil Company (OOC) to deliver an average 200 million standard cubic feet of gas per day (mmscf/d) to OOC from early 2008.

### *Dana Gas*

Dana Gas is the first regional private-sector natural gas company in the Middle East, established with over 300 founder shareholders from across the Gulf Cooperation Council (GCC) region, and some 425,000 investors from over 100 nationalities worldwide who submitted applications of over US\$78 billion over ten days in the company's regional IPO in late 2005. Headquartered in Sharjah, the company is listed on the Abu Dhabi Stock Market (ADSM) and possesses a network of offices in Saudi Arabia, Egypt, the UK, and Canada, with further offices opening throughout the Middle East. Dana has assets and projects in gas exploration and production, processing, transportation and marketing in several countries, and aims to play a major role in the rapidly growing natural gas business throughout the Middle East–North Africa (MENA) region across the entire natural gas value-chain. It plans to expand its activities in all elements of the value-chain, including upstream exploration and production; through the midstream transmission and distribution of gas, including LNG trading; and downstream into gas-related industries and petrochemicals.

In addition to working on implementation of existing projects in the UAE, Dana Gas recently acquired Centurion Energy, a Canadian company with interests in Egypt, for US\$950 million, marking its

Dolphin's main shareholder is the Abu Dhabi government, with 51 per cent ownership, and two foreign partners, Total and Occidental Petroleum, each with 24.5 per cent of the equity.





Dana Gas and Emarat commenced operations of the first phase of the Hamriyah gas pipeline.

strategic entry into exploration and production and providing it with substantial oil reserves and further exploration potential of 26,300 square kilometres. It had immediate plans to drill 15 new wells in Egypt and announced its first successful oil strike at its Al Baraka-1 exploration well drilled in Komombo Concession in Upper Egypt in early September 2007.

The company also formed a new joint venture with Emarat to build, own and operate a 48-inch common-user gas pipeline with capacity of 1 billion cubic feet per day, to serve customers in the UAE. It also completed an acquisition to lead a consortium for development of the Gulf of Suez Gas Liquids Plant in partnership with the state-owned Egyptian Natural Gas Holding Company (EGAS) with processing capacity of 150 mmscf/d of natural gas and production of approximately 120,000 t/y of propane and butane in liquid form. The year also saw Dana Gas enter into strategic alliances with a number of companies from the region and internationally, including an alliance with Single Buoy Mooring (SBM) to develop a network of floating LNG receiving terminals, starting with a US\$200 million project in Pakistan.

### *Hamriyah Gas Pipeline Project*

Dana Gas and Emarat commenced operations of the first phase of the Hamriyah gas pipeline project in June 2006. The project involves jointly developing the region's first common-user pipeline for gas transportation to power stations and industrial customers, and is being built, owned and operated jointly by the two companies in a 50:50 partnership. The first phase of the project involved the construction of a 10-inch pipeline connected by a hot-tap to an existing Emarat pipeline and pressure-reducing station, delivering gas to the new Hamriyah power station belonging to Sharjah Electricity and Water Authority (SEWA).

The second phase involves building a 30-kilometre, 48-inch, common-user gas pipeline from the Sharjah gas hub at Sajaa to the Hamriyah Free Zone (HFZ), with a capacity of 1 billion cubic feet per day, to serve power plants of the Federal Electricity and Water Authority of the UAE (FEWA), SEWA and industrial customers in the Hamriyah Free Zone.



### *RAK Petroleum*

Established on 27 September 2005, and partly owned by the Ra's al-Khaimah Government through Rakgas, RAK Petroleum acquired in early 2007 the majority of the exploration and production assets of UAE-based Indago Petroleum. Another planned acquisition, of Gulf Keystone Petroleum, a firm with UAE links and with assets in Algeria, was not completed, following a failure to reach agreement with Algerian authorities. Shortly after the breakdown in GKP talks, RAK Petroleum announced that it had US\$300 to US\$800 million earmarked for acquisitions and was hunting for oil and gas assets in the Arab region and neighbouring countries. One area of interest is believed to be East Africa.

Prior to being bought out by RAK Petroleum, Indago Petroleum entered into a joint petroleum concession agreement with the Ra's al-Khaimah government over the offshore Saleh field and relinquished the Ra's al-Khaimah onshore licence. The Saleh concession area encompasses a field located 42 kilometres offshore and is a multi-well, multi-platform development that has been producing since 1984. After peaking at approximately 70 mmscf/d gas rate and 13,000 b/d condensate rate in 1986 the production has declined as a result of pressure depletion and encroaching water. Saleh production now currently averages approximately 100 b/d of condensate and small amounts of gas. The gas/condensate product is treated at the onshore processing plant in Ra's al-Khaimah operated by Rakgas, which also processes production from the Indago-operated Bukha field, where significant new gas and condensate reserves were discovered in early 2007.

### *Umm al-Qaiwain Gas Field*

The concession for the Umm al-Qaiwain gas field is held in partnership between Atlantis Holding Norway AS, a wholly-owned subsidiary of Chinese giant Sinochem Corporation, and the Abu Dhabi government-owned Mubadala Development Company (MDC), under an agreement signed with the emirate in December 1999. The development of the field involves construction of an automatic loading quay and the laying of a 75-kilometre underwater





pipeline between the offshore wells and the delivery facility. In February 2007 Adyard LLC completed fabrication, load out and transportation of a jacket and topsides for an offshore platform for this project.

#### ALTERNATIVE ENERGY

To help meet the demand for renewable energy resources, Abu Dhabi is leveraging its substantial resources and expertise to develop the technologies of the future.

Interest from both the government and the private sector in Abu Dhabi in sustainable energy has led to the establishment of Abu Dhabi Future Energy Company (ADFEC), which is planning to invest several billion dollars in new projects in the next few years. The company is working with international partners on a range of projects, including ones to produce a clean bio-fuel; development and installation of photovoltaic systems in the region; carbon capture and storage (CCS) for enhanced oil recovery in Abu Dhabi, and other important environmental initiatives described elsewhere in this book.



ADFEC drives the Masdar Initiative, a multi-billion dollar, multi-faceted response to the need for a global focus on the development of advanced energies and sustainability-related technologies. Masdar Special Free Zone (SFZ) will promote synergy between academic resources, research facilities, industry, the financial community, entrepreneurs and family businesses.

The UAE sees renewable energy sources as complimentary to traditional hydrocarbons, given the rapid growth in overall world energy demand. To help meet this demand, Abu Dhabi is leveraging its substantial resources and expertise in the world's energy markets to develop the technologies of the future.

Supported by partners that include many major energy and technology bodies such as BP, Shell, Occidental Petroleum, Total, Mitsubishi, Mitsui, GE, and Rolls-Royce, the Masdar Initiative will focus on the development and commercialisation of advanced innovative technologies in renewable energy, energy efficiency, carbon management and monetisation, efficient water usage and desalination.

The new entity will operate in close cooperation with ADNOC, ADWEA, the Environmental Agency–Abu Dhabi (EAD), the Abu Dhabi Education Council and other relevant government departments. The project is expected to start by 2009 and begin to show results by 2015.

## TOURISM

As already outlined, tourism development is a major focus of the UAE's strategic policy for economic diversification. This is not surprising considering the country's ideal location, its benign climate for much of the year, its wonderful coastline, precipitous mountains and vast expanse of desert. Building on these natural assets as well as a secure and safe hospitable environment, each emirate is renewing efforts to invest in tourism-related infrastructure, including airports and aviation, hotels, golf courses, luxurious resorts, shopping malls, cultural centres, vast entertainment complexes and theme parks.

Mubadala is also investing globally in promising energy and sustainable-technology companies through the US\$250 million Masdar Clean Tech Fund.

The World Travel & Tourism Council (WTTC) predicted that travel and tourism in the UAE will generate US\$33.9 billion in economic activity in 2007.

It is sometimes difficult to comprehend the scale of development in these areas, but there is no mistaking the vision and determination with which the projects are being pursued. Many of these developments form part of huge mixed-use projects (*see Urban Development*) and the Government's open-door policy has encouraged the private sector's contribution.

Out of a total of Dh1 trillion committed to tourism-related projects in the GCC that are scheduled for completion by 2018, the UAE accounts for Dh858 billion or 85 per cent of investment. The figures exclude infrastructure costs such as power plants and transport networks. An area of 558 million square metres is earmarked for tourism development in the UAE accounting for more than 75 per cent of the combined land area currently under development for tourism in the GCC.

The World Travel & Tourism Council (WTTC) predicted that travel and tourism in the UAE will generate US\$33.9 billion in economic activity in 2007. The direct and indirect impact of tourism is likely to contribute 11.9 per cent to GDP and 348,000 jobs (11.3 per cent of total employment) in 2007. According to WTTC forecasts, the UAE's tourism sector is expected to grow by 9.5 per cent in 2007 and by 4.9 per cent per annum, in real terms.

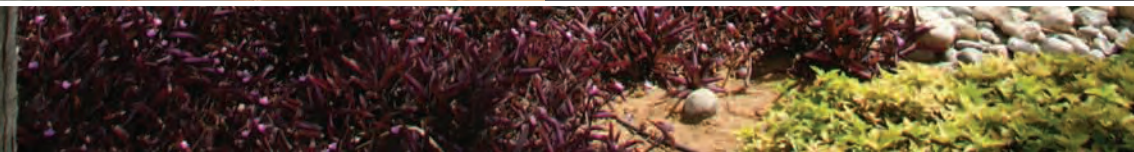
Projections for growth to 2016 are in the region of Dh170.7 billion. This is about 18 per cent of the total travel and tourism demand generated in the Middle East. Although the WTTC ranked the UAE thirty-eighth among 174 countries, the travel and tourism industry's contribution to the country's GDP largely remained low at 1.1 per cent or Dh5.4 billion. This is expected to rise in nominal terms to Dh13.6 billion or 1.4 per cent by 2016.

WTTC has estimated the growth of the sector in the UAE at about 5 per cent between 2007 and 2016, higher than the Middle East's 4.4 per cent and global average growth of 4 per cent. It is estimated that travel and tourism generated 8.3 per cent of total exports or Dh37.1 billion in 2006, growing in nominal terms to Dh62 billion in 2016. Capital investment in the industry is estimated to have crossed Dh30 billion, or 28.2 per cent of total investment attracted by the country. By 2016, the WTTC anticipates that it will reach





Tourism is a main focus of the UAE's economic development programme. Each emirate is renewing efforts to invest in tourism-related infrastructure, including airports and aviation, hotels, leisure resorts, sports complexes and entertainment centres.



According to the 2007 Country Brand Index (CBI), the UAE is one of the world's top two shopping havens, and is among the top three countries with the highest potential to become a major tourist destination in the next five years.

Dh55.2 billion. The industry employed 294,000 people in the UAE in 2006. This represented 11.7 per cent of total employment, or one in every 8.5 jobs. By 2016, this should total 376,000 jobs, 10.9 per cent of the total employment or one in every 9.2 jobs.

Given the level of investment, combined with the country's natural assets, it is not surprising that the World Economic Forum's (WEF) Travel & Tourism Competitiveness Index (TTCI) 2007, which explores the factors and policies driving travel and tourism competitiveness in nations worldwide, ranked the UAE eighteenth out of 124 countries, ahead of well-established tourism destinations, Cyprus, Portugal and Greece in the 124-country survey. The UAE was also 'the top Arab country' and the region in general was ranked third, ahead of the rest of Asia.

In addition, the UAE walked away with 43 of the 65 awards presented at the first edition of the World Travel Awards (WTA) in the Middle East and Africa, which took place in Abu Dhabi in May 2007. Dubai was ranked the leading business destination in the Middle East, whilst Abu Dhabi won the award for the leading new destination.

Marketing and promotional activities are obviously a key feature of successful tourism development. This brief has been carried out in a very committed manner by Abu Dhabi Tourism Authority (ADTA), Dubai's Department of Tourism and Commerce Marketing (DTCM), Sharjah Commerce and Tourism Development Authority (SCDTA), Ra's al-Khaimah Tourism, and Fujairah Tourism Board. In addition, non-government organisations such as Emirates Group, Etihad Airways, Abu Dhabi National Hotels Company, Rotana Hotels and Resorts and Jumeirah, frequently feature at fairs at home and abroad, presenting the country to the world at large.

#### ABU DHABI

Abu Dhabi is embarking on an ambitious strategy to develop the emirate as an exclusive, high-end tourist destination that is expected to attract 3 million visitors per year by 2015 to its 'stunning natural, man-made and cultural assets'. As Abu Dhabi's *Policy Agenda 2007/2008* points out: 'Tourism is a critical element



Downtown Dubai

in the overall development of Abu Dhabi. It will stimulate and diversify the economy, generate new private sector opportunities, and elevate the Emirate's international standing. Under the strategy, visitors will be drawn by what will be the region's most distinctive and comprehensive set of cultural institutions, by a large and diverse selection of luxury hotels, by its world-class airport and airline, by easy access to a complete range of convention and business services, by the serenity of its desert, by the beauty of its beaches, by its unique heritage and by the warm hospitality of the Arabian Peninsula.'

Besides the obvious appeal of the emirate's location, climate, culture and existing tourism infrastructure, the agenda also points out that Abu Dhabi possesses the political will, financial resources and leadership to manage challenges and deliver a dedicated and effective tourism strategy that identifies the emirate as 'a unique and distinctive offering' complementing other regional destinations.

ADTA, the statutory body established in 2004 with wide-ranging responsibilities to execute and oversee the emirate's bold tourism strategy, works closely with hotels, airlines, destination management companies and other travel-related organisations in Abu Dhabi to promote the emirate and raise its international profile as an upmarket destination offering superb facilities for the visitor. The authority was awarded the World Travel Award for the 'Best Promotion Agency' in 2007 for its efforts. Nevertheless, the Abu Dhabi government intends to 'invest heavily and consistently in destination marketing and promotion'. This includes building a professional, international marketing capability and ensuring it has the necessary resources to support the emirate's broader tourism strategy. Estimates suggest an initial promotional budget of around US\$20–25 million (Dh73.4 billion–Dh91.75 billion) per year to achieve the targets outlined in the strategy. In line with this component, the ADTA has recently opened its first international offices in London and Frankfurt, directly targeting two of its key markets. ADTA is also working on improvement of tourism services, through hospitality training, updated hotel classification and associated initiatives.



From 'Abu Dhabi 2030' Urban Development Plan.

Abu Dhabi has developed a sophisticated brand identity relevant to tourism, business and government that defines 'how we should project ourselves to the outside world and how we should interact as an Emirate'.





Tourism-related projects planned or under construction in Abu Dhabi include world-class cultural zones in addition to a long list of amenities and hospitality projects, as well as exhibitions and conference centres.



ADTA figures show that international tourist arrivals to Abu Dhabi rose by 12 per cent to 1.34 million in 2006 compared with 1.21 million in 2005. Hotel guest nights recorded an 11 per cent growth to 3.9 million as opposed to 3.5 million in 2005. UAE citizens accounted for 29 per cent of total room guests in 2006. European visitors came second with 27 per cent, followed by Arabs at 21 per cent. Asian and African hotel guests constituted 18 and 5 per cent respectively. British nationals topped the list of foreign tourists accounting for 35 per cent of visitors, followed by Germany at 31 per cent. The US is in third place at 7 per cent.



Tourism in Abu Dhabi Emirate achieved a 19 per cent increase in revenues in 2006, posting Dh1.8 billion in profits as compared to Dh1.5 billion in 2005. This was reflected in the hotels' occupancy rate, which remained around 84.4 per cent throughout 2006 against 78.4 per cent in the previous year.

The 2006 figures reflect a 17 per cent year-on-year growth during the ten years from 1997 to 2006, rising from 344,385 tourists in 1997. The steady rise in tourism to the emirate prompted the hospitality sector to announce plans to expand its capacity by about 12,000 rooms during 2007 with plans for more than 20,000 rooms





by 2015, although these projections are increasing all the time with many new hotels coming on-stream.

Key targets for the Abu Dhabi tourism strategy for 2015 are:

- Leisure tourist numbers to reach up to 1.2 million visitors per year.
- Business tourist arrivals to reach 1.55 million people per year.
- In the MICE segment, by focusing on a few, but large, exhibitions, Abu Dhabi numbers are expected to reach up to 240,000 visitors (in terms of hotel guests) per year.
- 60 new hotels to be constructed in Abu Dhabi.
- Hotel receipts should increase fourfold by 2015, from around Dh1 billion in 2005 to around Dh4 billion.
- Cumulative investment in accommodation will reach Dh11 billion.
- Around 21,000 employment opportunities will be created in the hotel industry.
- An expanded tourism industry is projected to generate Dh26 billion of investment opportunities and an estimated 43,000 new jobs.

Tourism-related projects planned or under construction in Abu Dhabi include world-class cultural zones in addition to a long list of amenities and hospitality projects, as well as exhibitions and conference centres. Many of these impressive schemes are described in the Urban Development section of this *Yearbook*. However, the launch by ADTA's investment and development arm the Tourism Development and Investment Company (TDIC) of the culturally-based Dh100 billion Saadiyat Island project in 2006 deserves special mention. This project has attracted billions of dirhams of investment in hotels and resorts and is one of the largest tourist developments in the region. The inclusion of some of the world's most famous creative institutions in the plans will ensure that Saadiyat becomes a cultural destination par excellence (*see Culture & Heritage*).

The TDIC acts as a master developer for a range of large-scale tourism projects, and works closely with private sector developers, whose involvement is a key priority of the government's broader tourism strategy.

In addition to the plethora of projects planned for the capital city and adjoining areas, the Emirate of Abu Dhabi, which occupies

Tourism in Abu Dhabi Emirate achieved a 19 per cent increase in revenues in 2006.



70 per cent of the country's land mass, is also focusing on some of its outlying areas that are blessed with considerable natural beauty and significant historical sites but are lacking in tourism infrastructure. As part of this strategy the emirate has plans to develop a unique multi-experience, eco-tourism and cultural destination centred on a number of islands lying off its remote and unspoilt western coastline. The Dh11.5 billion project will involve development of tourism infrastructure that will include hotels, parks and unique historical sites, in addition to a whole range of tourist facilities.

The first phase of the project will be completed in 2010. It is hoped that the islands will attract more than 250,000 visitors annually when phase one is completed, and the number is expected to increase to 1 million by 2017.

Qasr Al Sarab is a luxury five-star Arabian retreat being developed by ADTA south of Liwa on the edge of the Empty Quarter (Rub al-Khali).





Jumeirah, Dubai Holding's hospitality subsidiary and a major player in the high-end hospitality sector in Dubai and the international market, will manage the new Dh3 billion beachfront Etihad Towers as the Group's first hotel in the UAE capital.

Again building on a prized natural resource, the timeless desert, Qasr Al Sarab is a luxury five-star Arabian retreat being developed by ADTA south of Liwa on the edge of the Empty Quarter (Rub al-Khali). Being built along the lines of a desert fortress, Qasr Al Sarab will be located 7 kilometres from the main Hamim Highway crossing the Rub al-Khali, made famous in the West through the adventures of Sir Wilfred Thesiger, who crossed the inhospitable desert expanse in the 1940s. Construction began in May 2007 and is scheduled for completion within two years.

A castle of another kind, this time in Abu Dhabi City, Emirates Palace Hotel, which opened its doors to the public in 2005, won multiple prizes at the fourth MENA Travel Awards in May 2007, the prestigious regional awards that recognise excellence in hospitality industry, including platinum citations in the following categories: 'Best Conference/Convention Centre', 'Best 5-Star Leisure Hotel', 'Best 5-Star Business/Corporate Hotel'. Built in the style of a majestic Arabian Castle rising from the desert sands, Emirates Palace, operated by Kempinski, is situated on a 1.3 kilometre stretch of private beach and surrounded by hectares of manicured lawns.

Jumeirah, Dubai Holding's hospitality subsidiary and a major player in the high-end hospitality sector in Dubai and the international market, will manage the new Dh3 billion beachfront Etihad Towers as the Group's first hotel in the UAE capital. Scheduled to open in late 2010, the 60-storey luxury hotel tower will comprise 400 beautifully appointed guest rooms and suites as well as 200 fully-serviced apartments. In addition, the development will include a shopping boulevard, extensive conference and banqueting facilities, a spa and sport and recreation facilities.

## DUBAI

The hospitality industry in Dubai is already thriving with high occupancy rates and record average earnings per room experienced in 2006. Hotel revenues increased by 22.78 per cent in 2006. Dubai also saw an increase of about 6.5 per cent in the number of tourists who stayed at city hotels. Lodging and non-lodging revenues of hotels and hotel apartments amounted to Dh10.83 billion in 2006 compared to Dh8.82 billion in 2005. Dubai hotels attracted 6.5





million guests in 2006 against 6.1 million in 2005. The tourism department aims to bring in 6.8 million tourists to the city in 2007, not including visiting friends and relations who do not stay in hotels.

Dubai had a total of 415 hotels and hotel apartments in 2006, offering 40,862 rooms, an increase of 6.9 per cent over 2005. The guest nights rose by 7.9 per cent to reach 17.59 million in 2006 against 16.3 million in 2005. In 2006 around 40 per cent of hotel capacity in Dubai was rated as five-star and the average room rate for Dubai's hotels went up to Dh575 in 2006, compared to Dh512 in 2005, according to DTCM estimates.

Approximately 5900 hotel rooms were added to Dubai's existing capacity in 2007, resulting in the emirate's hotel sector peaking at 439 hotels and service departments. Analysts predicted that the addition of such a large inventory would help to re-establish stability in room rates and ease the acute shortages that have been hampering visitor growth.

The expansion programme is however, far from over. An additional 22,000 hotel rooms will be available in Dubai by the end of 2008 and the emirate is expected to have 389 hotels and 131 hotel apartments by the end of 2015. The target is to attract 15 million tourists at this point. However, tourism projections predict that the number of hotel rooms could exceed 127,000 by 2016 when 51 properties planned as part of the Dh100 billion Bawadi hospitality and leisure project in Dubailand will be ready. Bawadi is expected to contribute 60,000 hotel rooms, including 6500 in the Asia-Asia, the world's biggest planned hotel.

While many guests continue to stay at high-end accommodation and many of the new hotels under construction are at the luxury end of the market, statistics show a growing demand for lower-priced accommodation prompting the building of some budget hotels. In March 2007 the foundation stone was laid for the first of six easyHotels to be built in the emirate, based on the easyHotel model introduced in Europe in 2005. InterContinental Hotels also opened its first Holiday Inn Express in Dubai in 2007. Ibis, an economy brand of Accor, the giant French hotel company, which already has one hotel in Dubai, planned to open a 480-room hotel

A shortage of hotel rooms has slowed Dubai's tourism growth, with many openings delayed in 2007. Expected hotel launches for 2008 include the 1539-room Atlantis resort on the Palm Jumeirah and 18 other hotels with around 6500 rooms and apartments.



Dubai Creek Golf and Yacht Club.





in December 2007 and a 365-room hotel in 2008. Meanwhile, Whitbread's budget brand, Premier Travel Inn, Britain's biggest hotel chain, is building a 300-room hotel at the Dubai Investments Park. Two Four Points by Sheraton are opening in Dubai, along with two W hotels, one at the Dubai Festival City and the other at the Palm Jumeirah, and Starwood opened another 300-room beachfront hotel in Mina Seyahi in late 2007.

### NORTHERN EMIRATES

The Northern Emirates are also capitalising on record occupancy rates and are building tourism infrastructure at an ever-increasing pace, including new shopping malls, hotels and hotel apartments. Figures released by Sharjah Commerce and Tourism Development Authority (SCTDA), show that the volume of tourists to the emirate in 2006 was in the region of 1.3 million, compared to 600,000 tourists in 2001. The overall occupancy rate in the emirate's hotels and hotel apartments reached 82 per cent. To accommodate the increase in the number of tourists, the emirate has augmented the size of its hospitality workforce, in addition to its number of hotels and hotel apartments.

While the total number of hotels and hotel apartments increased to 74 in 2006 (24 hotels and 50 hotel apartments), the pace was stepped up in 2007 with 15 new hotels entering the market (2 hotels and 13 hotel apartments) in the first quarter of 2007 alone, taking the total number of hotel facilities in Sharjah to 89 hotels and hotel apartments (26 hotels and 63 hotel apartments) and over 7000 rooms.

Ajman, Umm al-Qaiwain and Ra's al-Khaimah are all developing their rich tourism potential, promoting major mixed-use projects and adding hotel rooms to their existing accommodation bank at a significant rate. (*See Urban Development for additional projects with tourism emphasis.*)

In Fujairah, Iberotel Miramar Al Aqqah Beach Resort, which opened in September 2007, and Iberotel Royal Miramar Resorts, which opens in 2009 with a total investment of nearly Dh735 million (US\$200 million), will add 700 rooms to the growing tourism industry in Fujairah.

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industry in Fujairah. The third component of this development, a retail facility by a lagoon, will be operational by 2010. All are part of the Egyptian company's plans to set up six hotels in the UAE with an investment outlay to the tune of Dh1.2 billion. Other developments include Mina Al Fajer Resort, which will have a 200-room, five-star hotel managed by Fairmont Hotels and Resorts.

## REAL ESTATE

The UAE has a hugely dynamic real estate sector, developments in the property market going hand-in-hand with growth in tourism, trade and services. In particular multi-billion dirham mixed-use developments that integrate amusement, recreation and leisure as important components are all designed to promote the Emirates as a major tourist hub and aid in economic diversification.

To date, Dubai has led the development drive. However, the other emirates are rapidly catching up, especially Abu Dhabi, which is engaged in development projects worth Dh991 billion (US\$270 billion), including at least Dh500 billion (US\$ 136.2 billion) worth of real estate, although this figure is changing by the minute.

Risks in the local real estate market are considered to be low compared with other regional markets and investment in real estate in the UAE has generated annual revenues of between 20 and 30 per cent, one of the highest rates in the world. In fact, Abu Dhabi was one of the world's fastest-growing office rental markets in the year to May 2007, according to data from global property services firm CB Richard Ellis, with rents more than doubling in the period. Many of the emirates are now enacting legislation regulating the market, some setting a ceiling on rent increases.

The promulgation of new property laws in the individual emirates, regulating the sale and lease of land and buildings to citizens and expatriates, kick-started the property boom. The regulations vary from emirate to emirate, with some, including Dubai, permitting foreign residents to purchase freehold properties in designated areas, whilst others, such as Abu Dhabi, limit the acquisition of property



Burj Dubai, the tallest building in the world, under construction in October 2007.



by expatriates to leasehold properties. The land departments in each emirate are now endeavouring to frame regulations that will eventually create a unified property law.

Commercial developments in the real estate sector are discussed in the chapter on Infrastructure.

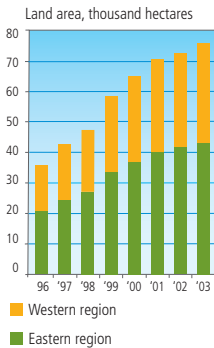
## AGRICULTURE & FISHERIES

In previous Yearbooks we have described the impressive growth in the UAE's agriculture. This has led to self-sufficiency in certain fruits and vegetables and those who said it could not be done have been proved wrong. However, as we have also noted, this success has been at the cost of a large quantity of fresh water and the Government has now reappraised the priority that has been given to overcoming the environmental realities that the UAE's very dry climate dictates in terms of farming development. Yes, it can be done but is it the best use of energy and increasingly valuable fresh water? That is not to say that agriculture is being put on the back burner in terms of economic development: it is still considered a vital part of the economic mix, but the focus has shifted to find more efficient means to produce food and reduce the quantities of fresh water that are consumed by the process.

The total cultivated area has increased by 26 per cent on average each year since 1989. The expansion in the agricultural sector over the last 20 years has been supported by large government subsidies. There are now over 25,000 private farms. However, expansion is currently restricted due to exhaustion of groundwater supplies.

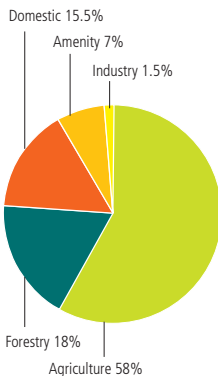
Abu Dhabi's Environment Agency (EAD) has been looking closely at the water-balance in the UAE and has collected an extensive amount of data to back up its advice to government. Historically, groundwater sources supplied all of Abu Dhabi's water. But groundwater levels have been significantly lowered because water consumption has increased sharply over the last 20 years and groundwater withdrawals have, until recently, been uncontrolled.

Soil salinity has been steadily rising in some agricultural areas



Agricultural land expansion in Abu Dhabi Emirate.

Source: Environment Agency – Abu Dhabi



Water consumption by sector in Abu Dhabi Emirate.

Source: Environment Agency – Abu Dhabi



as fresh groundwater resources have been over-exploited and the salinity of pumped groundwater has increased. Higher soil and water salinity have adversely affected crop yields and limited the types of crops that can be grown.

There are cultural as well as economic dimensions to this story. For the last 3000 years, *aflaj* have supported oases in the Al Ain region and elsewhere close to, or in, the mountains, and they have supported important cultural environments. But today, because the groundwater table has declined, only two out of the seven operating *aflaj* in Al Ain, for example, maintain a natural flow and consequently the oases they were built to irrigate are diminishing.

Hay harvest on an irrigated farm in the Liwa.



The government's experimental and demonstration farms in the Al Dhaid region grow a wide variety of crops under controlled conditions.



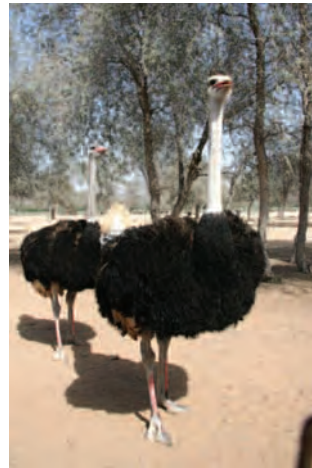
Meanwhile, measures aimed at overcoming environmental limitations can themselves make matters worse, not better. In the Ajban area, soil has been imported to make agriculture possible. The imported soil was deposited on top of non-permeable rock. Since irrigation water has not been allowed to drain away, the soil has become waterlogged, creating difficulties for plants.

The EAD *State of the Environment Report* puts the position quite clearly: 'The UAE's water consumption rate is one of the highest in the world and about double that of developed nations in Europe. Irrigation in the agriculture, forestry and amenity plantation sectors accounts for a massive 82 per cent of total water use, the remainder being domestic and industrial consumption. Since groundwater contributed about 80 per cent of the water used for irrigation purposes, fresh and brackish groundwater resources will probably be depleted in 50 years from now if water continues to be abstracted at the current rate.'

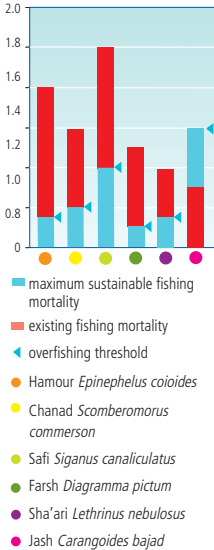
At present, an on-going, nation-wide programme for the reuse of waste water enables in excess of 338 million cubic metres of recycled water to be used in landscaping and greenbelt areas per year. Part of the same programme has resulted in the uptake by farmers of modern irrigation systems such as drip and bubbler techniques across 86 per cent of the UAE's cultivated areas.

The task of water management on a federal level is undertaken by the General Water Resources Authority, which also coordinates with the other interested agencies and formulates rules and regulations on matters relating to water, including registration of the water-well drilling companies and licences for drilling (*see section on Electricity and Water*).

But by no means all agriculture in the UAE takes place in Abu Dhabi and parts of the Northern Emirates are blessed with higher rainfall levels. The country produces dates, green fodder, vegetables, and fruit (mainly citrus and mangoes) together with livestock in the form of goats, sheep, camels, cows, and horses, as well as meat and poultry, eggs, and milk. It is one of the world's top breeding centres for Arabian horses. At present the UAE is 100 per cent self-sufficient in dates, 83 per cent in fresh milk, 50 per cent in vegetables, 38 per cent in eggs, 28 per cent in meat, and 18 per cent in poultry.

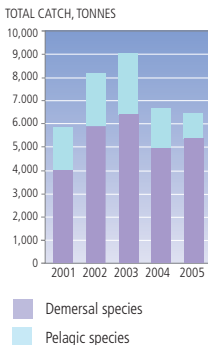


Ostrich farming is now taking place in the UAE. Since ostriches occurred here naturally in the past, the climate and terrain are considered to be particularly suitable for raising them on a commercial scale.



Overfishing in Abu Dhabi

Source: Environment Agency – Abu Dhabi



Fish catch in Abu Dhabi Emirate.

Source: Environment Agency – Abu Dhabi

## HELPING FARMERS

Government assistance to UAE farmers includes investment and production subsidies; reclamation and distribution of agricultural land; provision of necessary equipment and training; large-scale planting of palm trees to create suitable shaded areas for farming; provision of fresh water and seeds; provision of, and guidance on, the timely use of fertilisers; and marketing support. Livestock producers receive a free veterinary service for treatment and vaccination of their animals. Fodder farms that supply most of the animal feed requirements are supported with free land, seeds, fertilisers, and free irrigation. Sales of fodder in Abu Dhabi are organised by the Abu Dhabi Municipality.

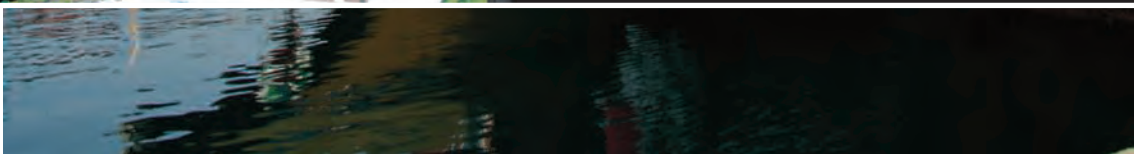
Research focuses on four main areas: increasing the production of palm trees, dates, and fruit such as citrus and mangoes; fodder, pastoral, and wild plants; long-term research on agricultural diseases; and research on plants grown in greenhouses. The Ministry of Environment and Water (MEW) is also financing research on the types of fodder that can withstand the country's climatic conditions and survive on little water. Studies are under way on combating salinity and the capacity of different types of fodder plants to withstand high salt content in the soil. Research is also encouraged on biological control methods as an alternative to the use of insecticides to combat agricultural diseases. Other research concerns the production of alternate vegetable products in greenhouses. The UAE also hosts the International Centre for Biosaline Agriculture, an applied research and development centre located in Dubai that aims to develop and promote the use of sustainable agricultural systems that use brackish water to grow crops.

## FISHERIES

Marine and fisheries resources have always occupied an important place in the UAE and still do so today. Apart from supporting a traditional way of life that can be traced back to archaeological sites in the region dating from 7500 years ago, these resources still provide an important source of income, food and recreational opportunities for many residents of the country. Typical of the global



The UAE is taking steps to counteract the impact of over-fishing that has led to a reduction in fish stocks. the bulk of UAE fish caught commercially fall into one of four local species: *shaari*, *hamour*, *farsh* and *jash*.





Abu Dhabi fish market.

trend, and in response to a growing demand for fishery and marine products, the last three decades have seen increased exploitation of UAE fisheries and marine resources. During this period, the traditional commercial fishing sector has substantially invested in modern fishing fleets. Meanwhile, the advent of a modern way of life and a growing tourism industry has augmented the use of fisheries and marine resources for recreation.

Figures and information provided by Abu Dhabi's Environment Agency (EAD) reveal a picture of what has been happening to a key part of the UAE's marine resources and highlight the challenge faced by the fishing industry. To quote just two of these: fishing mortality for *hamour* between 2001 and 2006 was more than ten times the optimum sustainable level, and fishing mortality for *farsh* between 2002 and 2006 was more than seven times the optimum sustainable level.

It is a story that is repeating itself around the world. The stock size of *hamour* was still at a critically low level in 2006 and showed no sign of recovery despite the implementation of restrictions on fishing in 2003. Although slightly lower, similar trends were observed with the *farsh* and *sha'ari*. Alarminglly the existing mean size at first capture of *farsh* has not increased since the introduction of escape panels in 2003 and it is considerably lower than the mean size at which first sexual maturity occurs. More positively, the mean size at first capture for *hamour* increased from 22.6 to 32.9 centimetres (total length) between 2003 and 2006, following management regulations aimed at modifying selectivity. This increase in the mean size at first capture is nevertheless still below the mean size at first sexual maturity of 43.5 centimetres (total length).

Species composition of the catch is closely related to the fishing gear used and differs considerably among boat types. Four species groups: *shaari* (28 per cent), *hamour* (23 per cent), *farsh* (19 per cent) and *jash* (19 per cent) represent the bulk of fish landed by launches, which included only bottom dwelling species, whereas landings by *tarad* fishermen were dominated by a single, pelagic species: *kana'ad* (44 per cent). Other major species groups landed by *tarads* were: *jash* (12 per cent) and *shaari* (11 per cent).