



Section Three

Engines of Abu Dhabi's Future
Economic Growth

The Abu Dhabi
Economic Vision 2030

Engines of Abu Dhabi's Future Economic Growth

To achieve its vision for 2030, Abu Dhabi will continue to diversify its economy, investing in those capital-intensive, export-oriented sectors in which it has or can build a competitive advantage.

The oil sector and related activities have historically formed the bulk of Abu Dhabi's economic activity. While Abu Dhabi has a healthy overall trade surplus, the Emirate has a "deep" non-oil trade deficit which reached about USD 21 billion in 2006. Economic diversification is a key pillar of the Economic Vision 2030 and the Emirate is setting ambitious targets for the performance of the non-oil sector.

The oil sector will continue to grow to meet international demand and will form a major element of the Emirate's economy. In parallel, Abu Dhabi will focus on developing other sectors which, combined, are planned to grow at an aggregate annual rate exceeding 7.5%. This growth should help the Emirate achieve a neutral non-oil trade balance.

Abu Dhabi will create a suitable environment that will allow businesses and sectors to develop. Eventually, those sectors where the Emirate has a competitive advantage at a global level will thrive. A number of sectors are already emerging that build on current strengths, have good growth potential and are aligned with the Emirate's broader agenda.

Specifically, the following sectors are expected to provide the growth that will be necessary to achieve the Emirate's agenda of economic diversification and to successfully target both

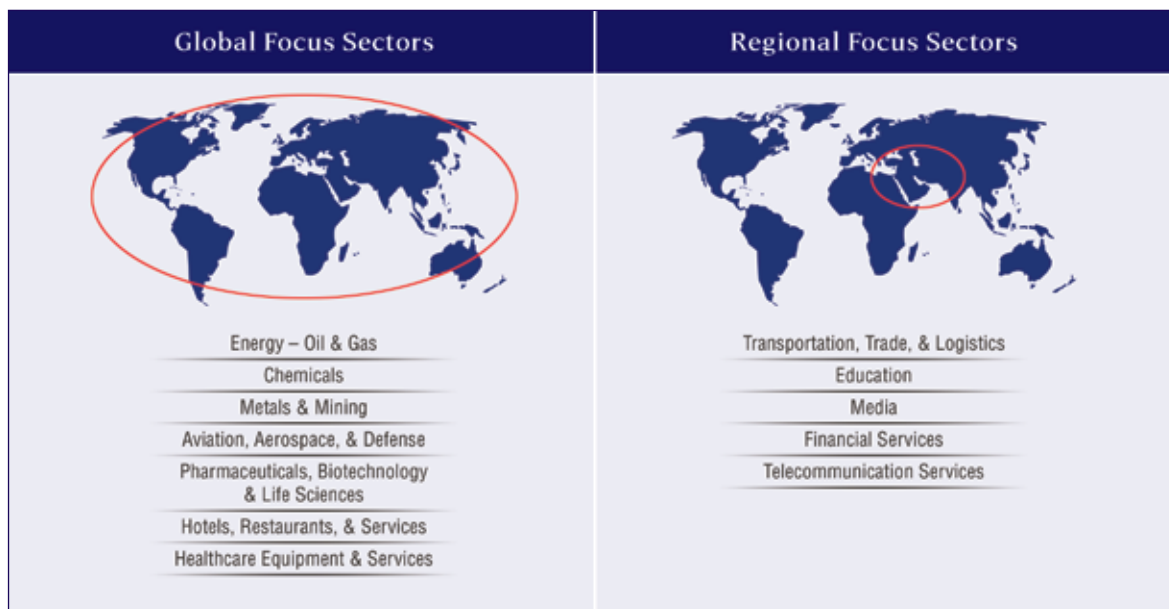
regional and global markets:

- Energy – Oil & Gas
- Petrochemicals
- Metals
- Aviation, Aerospace and Defence
- Pharmaceuticals, Biotechnology, & Life Sciences
- Tourism
- Healthcare Equipment and Services
- Transportation, Trade, & Logistics
- Education
- Media
- Financial Services
- Telecommunication Services

Abu Dhabi will focus on developing sectors which, combined, are planned to grow at more than 7.5% a year.

Energy – Oil and Gas

Abu Dhabi is one of the world's most important hydrocarbon suppliers, ranked among the top five exporters of crude oil and top 25 exporters of natural gas. The Emirate's participation in the oil and gas sector spans the entire range of activities, including exploration, production, transport, refining



and marketing of oil and gas. It also covers the fabrication of high-value energy-related equipment and the provision of related services. The global hydrocarbon market is enormous, with expected revenue of \$2,150 billion in 2007 and relatively high profitability of 15% , a margin which Abu Dhabi easily exceeds given its exceptionally low production costs and vast economies of scale.

Hydrocarbons have formed the backbone of the Abu Dhabi economy for more than three decades. Crude oil exports have been and will remain, the largest source of income, underpinning the development and prosperity that has been achieved in recent times. Natural gas exports, primarily to Asian markets, have also made an important economic contribution, while domestic natural gas supplies have been leveraged to feed numerous industrial activities, as well as Abu Dhabi's utilities, which must supply power and water to a growing population. Given its vast oil and gas reserves, Abu Dhabi possesses and will maintain an exceptionally strong competitive advantage in this sector.

Despite its mature character, there remain excellent opportunities for growth in Abu Dhabi's

oil and gas sector, including in the areas of exploration, production, refining and transport.

Exploration and Production:

The Abu Dhabi National Oil Company (ADNOC) is leading a number of initiatives in order to increase production, with an objective of raising crude production to more than 3.5 million barrels per day over the next decade. These initiatives include the redevelopment of currently producing fields, as well as the development of smaller fields that had not previously been placed into production. Such developments will require significant capital investment, but promise commensurately high rates of return on that investment.

Simultaneously, ADNOC is working to increase natural gas production via the development of technically-challenging sour gas reserves, as well as the potential substitution of carbon-dioxide and nitrogen to replace significant volumes of natural gas that are currently being reinjected into the Emirate's oil fields in order to maintain the necessary production pressure. Such solutions, particularly carbon-dioxide injection will create important synergies with other energy-related

undertakings within the Emirate, such as the Carbon Capture and Sequestration (CCS) project, which is part of the Masdar initiative being led by the Abu Dhabi Future Energy Company

Abu Dhabi entities, including Mubadala Development Company, The International Petroleum Investment Company (IPIC), and the Abu Dhabi National Energy Company (TAQA) are also pursuing exploration and production opportunities beyond the borders of the UAE, including in North Africa, Central Asia and the North Sea.

Refining:

The Abu Dhabi Oil Refining Company (TAKREER) and IPIC are pursuing new projects in the refining sector, which will nearly triple the Emirate's current refining capacity of 485,000 barrels per day. These projects, which include the expansion of the existing Ruwais refinery within the Emirate of Abu Dhabi, as well as the construction of a new refinery within the Emirate of Fujairah represent a tangible example of the application of Abu Dhabi's future strategy of expanding its participation along the entire hydrocarbon value chain.

As with the upstream oil and gas sector, Abu Dhabi, led by IPIC is also making significant investments in refining facilities outside the emirate, including in Asia, North Africa and Europe.

Transportation:

Abu Dhabi is also making major investments in its oil and gas transportation infrastructure, supplementing its existing fleet of oil and LNG tankers via the construction of a 1.5 million barrel per day pipeline to the Emirate of Fujairah, which will allow for significant oil exports outside of the Straits of Hormuz.

Petrochemicals

The global chemicals industry is expected to produce an economic output of 1,350bn in 2007 and is growing at 4% a year, with 17% profitability.

With its large reserves of natural gas and associated liquids, Abu Dhabi is well-positioned to increase its participation in this sector, particularly within the niche of petrochemicals.

Although the production, marketing and export of petrochemicals are all well developed economic activities in Abu Dhabi, as demonstrated by the Emirate's highly successful fertilizer and ethylene and polyethylene ventures, the Emirate has the opportunity to build upon this platform, expanding its industrial base into a major global industry for which it has excellent comparative advantages.

In recognition of the above reality, the Emirate has approved a massive expansion of petrochemical facilities owned and operated by Borouge. The latter, which already produces 600,000 tons per year of ethylene and 580,000 tons per year of polyethylene, will complete the "Borouge 2" project in late 2010. Borouge two will include:

- One of the world's largest ethane crackers producing 1.4 Million tons of ethylene per annum
- The world's largest olefins conversion unit,
- A 540,000 tons per year polyethylene plant and
- Two 400,000 tons per year polypropylene plants

As part of its off-take strategy, Borouge has also began construction of a major compound manufacturing unit logistics facility in Shanghai, China. This facility will allow Abu Dhabi to more efficiently market its petrochemical products to the rapidly expanding markets of Asia.

Simultaneously, Abu Dhabi's Ruwais Fertilizer Company (FERTIL) is expanding its urea production from 1,800 tons per day to more than 2,700 tons per day.

As in the case of the Abu Dhabi's refining expansion, the growth of the Emirate's petrochemical industry represents another way in which Abu Dhabi can capture a larger share of the hydrocarbon value chain. Such expansion will also

assist the Emirate in developing the necessary inputs for expanded domestic industries utilizing basic plastics and industrial chemicals, thus contributing to the over-all objective of economic diversification.

Metals

Abu Dhabi's interest in the sector covers the production of iron, steel, aluminium and other basic metals as well as advanced materials. Globally the sector is worth some \$1,470bn a year and is expected to grow at 19% a year in the short term. Profitability is calculated at a healthy 27%.

While the Emirate does not have sizable ore reserves, Abu Dhabi has several natural advantages to make metal production a highly profitable growth prospect. Low energy costs, access to good industrial infrastructure at industrial cities, a world-class transport system and relatively affordable skilled labour will keep production costs extremely competitive. Moreover, the opportunity for manufacturing clusters to develop around primary metals production will ensure that the metals sector plays a leading role in Abu Dhabi's economic diversification.

Aviation, Aerospace and Defence

Aviation and aerospace is a fast growing market worth nearly \$500bn worldwide in 2005 and returning strong profits.

The Emirate intends to build on its existing aircraft maintenance business to become a world-class player.

Abu Dhabi already has a core of infrastructure required to develop a successful aerospace sector. The Emirate will concentrate on developing its capabilities in the manufacturing and maintenance of civil and military aerospace equipment and parts, defence electronics and other equipment

and space apparatus. The Emirate intends to build on its existing aircraft maintenance business to become a world-class player in the maintenance, services, repair, overhaul and parts manufacturing segments. Further opportunities are envisaged in technical service, education and financial services for the aviation industry.

Pharmaceuticals, Biotechnology & Life Sciences

The sector's output in 2006 was almost \$700bn worldwide and witnessed strong annual growth and profitability, making it an attractive prospect. Global demographic changes such as aging populations in Europe and North America and increased spending power in emerging markets will act as demand drivers over the coming decades. In addition, the emergence of new technologies continues to make it attractive for Abu Dhabi to compete in certain niche markets, especially for illnesses prevalent in the region.

This sector is still nascent in Abu Dhabi and to further grow it, the Emirate would require significant resources to finance R&D and would need to leverage its strong and diverse international relationships to attract the world's best partners. Moreover, the sector could benefit from the burgeoning education sector and the presence of international institutions. However, the Emirate has still to develop capabilities in key areas; specifically by enhancing intellectual property rights, revising international trade agreements, establishing a reliable drug testing and approval system, developing investment attraction mechanisms and marketing and distribution capabilities.

The development of a vibrant and successful pharmaceuticals and life sciences sector will dovetail with that of the education sector, which will provide many of the high-skilled graduates and much of the research needed for pharmaceutical companies to thrive. In turn, the companies can support universities and other institutions through funding and equipment,

as well as expertise. Similarly, the growth of a dynamic pharmaceuticals segment will go hand-in-hand with the development of a world-class healthcare system, with the development of each sector reinforcing the other.

Tourism

A vibrant business, culture, leisure, and sports segment is being developed in the Emirate which will be supported by a fast growing hotels sector to cater to the growing number of high end tourists and visitors, as well as the National and resident population. The Emirate has a strong appeal to tourists and visitors for its large number of natural islands, beautiful beaches, cultural and heritage assets, appealing weather for most of the year and diverse landscape.

The Emirate is also exceptionally accessible, and as its accessibility and capacity grows, its reputation as a tourism destination will be enhanced. Within the Emirate, the world class resorts, hotels, golf courses and other attractions are well connected to the airport and each other, with further improvements in access expected.

To enhance the promotion and marketing of the destination and its brand, the Abu Dhabi Tourism Authority has opened several international offices in Europe, including the United Kingdom, Germany and France, with plans to roll out several other offices in the coming few years.

Abu Dhabi is already investing strongly in expanding and upgrading its tourism and cultural offering with significant projects such as the Saadiyat Island Cultural District with its cluster of world renowned museums, cultural and educational institutions.

Expanding the tourism offer includes new resorts, malls, world-class museums and galleries and other leisure facilities already under plan and construction.

increase employment opportunities. Many of the companies that operate in this sector fall within the SME category, which supports Abu Dhabi's stated goal of diversifying its enterprise base. Tourism will also boost foreign currency earnings and improve the international profile of the Emirate.

Tourism is one of the world's largest and fastest growing economic sectors and Abu Dhabi's product offerings in all the different segments, high standards of service and the development of world-class facilities will help it to become an important tourism destination. The Emirate is therefore investing large amounts of funds and energy into this sector to ensure that Abu Dhabi becomes one of the world's most attractive places for high-end tourists, while offering new facilities and leisure activities to the Emirate's permanent residents.

Healthcare Equipment and Services

Increasing international demand for medical products and services has created a rapidly growing market, with a global output of more than \$3000bn in 2007. Health tourism is also a growing phenomenon. Affluent patients across the world are willing to travel to find the best hospitals and healthcare services, and Abu Dhabi intends to successfully compete in this market by developing world-class healthcare facilities.

The growth of the medical sector is dependent on large investments in technology, which Abu Dhabi is in a position to make. The Emirate's good connectivity to the rest of the world through its airline and airport ensures that health tourists will be able to get to the Emirate in an expeditious manner. However, Abu Dhabi will have to attract highly qualified doctors and medical scientists as well as train local medical staff in order to develop this sector sufficiently.

Transportation, Trade, & Logistics

Abu Dhabi has a long and proud tradition as a trading economy. Given its primary strategic

location, this is a tradition that Abu Dhabi will expand, becoming a logistics hub for businesses and industries in the region. The Emirate lies at the heart of the Middle East, with South Asia and Africa close by and well-developed links to the Far East and Europe. Over the past 40 years, Abu Dhabi has developed its port infrastructure, its road network, and more recently its airports to ensure it is well-connected to trading partners in the region and beyond.

Abu Dhabi will continue to capitalise on its strategic geographical position and excellent transport infrastructure. There is still significant scope for development, with an advanced new port under construction, expansion of the airport under way, and development of the extensive road and rail network moving ahead.

Transportation as a profitable sector will make an important contribution to the Emirate's economic diversification, as it is entirely sustainable and does not rely on any finite resource. Maintaining an efficient transport system and connections with global markets is also an important component in the establishment of other sectors in the economy, particularly the all-important export sectors of industry and manufacturing, in which Abu Dhabi will be investing heavily.

Education

Abu Dhabi already boasts some of the best higher education facilities in the region. The traditional education economy, comprising private universities, teaching materials, and technical education, is now being supplemented by new sources of education-based income, from distance and online learning to educational seminars.

Abu Dhabi is seeking to attract some of the world's best academics and other educational specialists through the development of an attractive living environment and world-class research facilities and research endowments. The growth of the education sector in the Emirate will naturally feed

back into the economy as a whole, supplying high-calibre graduates in a wide range of disciplines and fostering a culture of excellence in work skills, research and cultural development.

Although Abu Dhabi already boasts one of the most advanced educational systems in the region, the sector is in its infancy – by international standards – and has a great opportunity to grow. The Emirate intends to become a regional centre of learning and culture with world-class higher education institutions and schools in order to attract the best teachers and students.

Abu Dhabi's e-business and e-government experience is also being applied to education. Through the distance learning and e-learning that technology can facilitate, the sector's scope need not be limited by geography.

Media

The creative industries are a huge growth area globally, and especially in the Middle East region. Publishing, broadcasting, films and advertising are expected to grow at around 25% a year in the Middle East in terms of economic output. Abu Dhabi will attract the most talented media professionals with its high living standards and superb quality of life. Meanwhile, Abu Dhabi is able to invest in the best technology in the world to ensure the media sector not only flourishes but stays at the cutting edge of innovation.

Abu Dhabi's position means that it can supply media services to mature markets in Europe, which are demanding ever more sophisticated, high-margin products, as well as the fast-growing markets in South Asia, Africa and the Middle East.

Large investments will be made in media development – including electronic media – in the coming years, leading to a number of gains for the broader economy, including the creation of jobs for highly-qualified workers and diversification into a sector that is not dependent on natural resources.

Financial Services

Abu Dhabi's financial services sector offers the Emirate further opportunity to diversify its economic activity into areas that are not based on raw materials. Abu Dhabi will greatly enhance its role as a regional financial services centre. Financial services demand highly skilled and educated professional employees, creating high-income and high value jobs for qualified Nationals and attracting the most valuable expatriates.

As the local economy grows, there is increasing demand for increasingly sophisticated financial services, from commercial banking to investment, insurance and large-scale corporate and project finance.

Abu Dhabi already has a large and thriving conventional and Islamic banking sector servicing a population with one of the world's largest capital bases per capita. With such liquidity, it is well-placed to maintain a place as a regional leader in the sector.

The system is open to foreign players, bringing further capital, expertise and competition to the Emirate. As a result, local banks are lean and client-focused. Additionally, the Emirate is known in the region for its financial strength and the security and prudence of its financial institutions and there is strong confidence in the financial sector. These factors make for a formidable platform upon which to develop the sector further.

Telecommunication Services

The Emirate will also develop its capacity to act as a telecommunications service centre for the Middle East. This sector includes wired and wireless services, including high-density data transmission, currently a growth niche. As in other sectors that Abu Dhabi has identified, the Emirate's financial strength will play an important part in securing its future in the telecoms industry.

Telecoms is a high-tech, fast-moving and capital-intensive business, in which to be a leader,

constant investments are needed to ensure infrastructure is up-to-date.

The Emirate's geographical position in the Middle East and its current well-developed telecoms network are also important competitive advantages enabling the next phase of sector growth. Regionally, telecoms is seen as a strong growth sector, with fast increasing penetration rates for both mobile phones and PCs, and a rapidly and constantly increasing number of Internet users.

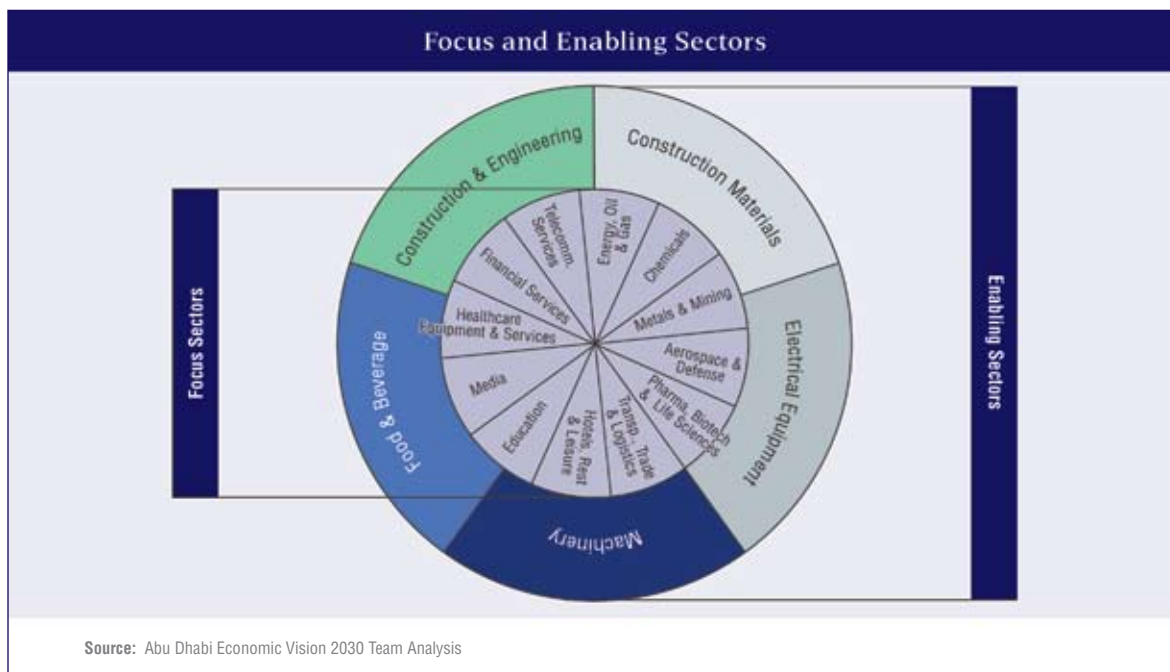
The sector will require, and contribute to the establishment of, a well-qualified workforce with high-level technology skills, helping diversify the GDP and labour base, as well as attracting higher skilled expatriate workers. It will also dovetail with the technical education being developed in schools and universities by providing opportunities for graduates and technical advice and support for their institutions.

The increased intertwining of media and telecommunications, combined with increasing volumes of news, television and other data being transferred by mobile devices, means that there will also be useful synergies between these sectors. Abu Dhabi will therefore become a major telecommunications centre, as well as a world-leading provider of wireless and data services.

Enabling Sectors

In order to develop these focus sectors, Abu Dhabi is also enhancing other domestic industries, which will act as enablers, particularly construction and engineering, machinery, electrical equipment, construction materials, and food and beverages.

Each of the "engine" sectors requires supply or support from at least one of these enabler industries. For example, to build new hotels and resorts for tourists, a strong construction sector is needed; while to operate them, there must be a reliable supply of high quality food and beverages. The manufacturing sub-sectors such as metals, chemicals, energy and aerospace require the best,



most modern and efficient machinery in order to be globally competitive. And the high-tech media, telecommunications and healthcare equipment and services sectors are dependent on electrical equipment.

There is also a good deal of synergy between the core economic sectors that have been singled out for investment and growth. For example, investments in education and healthcare will pay off in all sectors by improving human capital. In particular, education will help boost industries that require research and technical expertise, from pharmaceuticals and healthcare to telecoms,

aerospace and defence. On the other hand, developing the health system into the finest in the region will provide demand for pharmaceuticals and medical equipment. Tourism and leisure need the support of another key sector, transportation, which also benefits export-oriented industries.

Abu Dhabi has chosen these focus sectors for their potential to provide long-term, sustainable growth and diversification. As a result, Abu Dhabi will commit its financial and human resources to developing these sectors over the next two decades and beyond.