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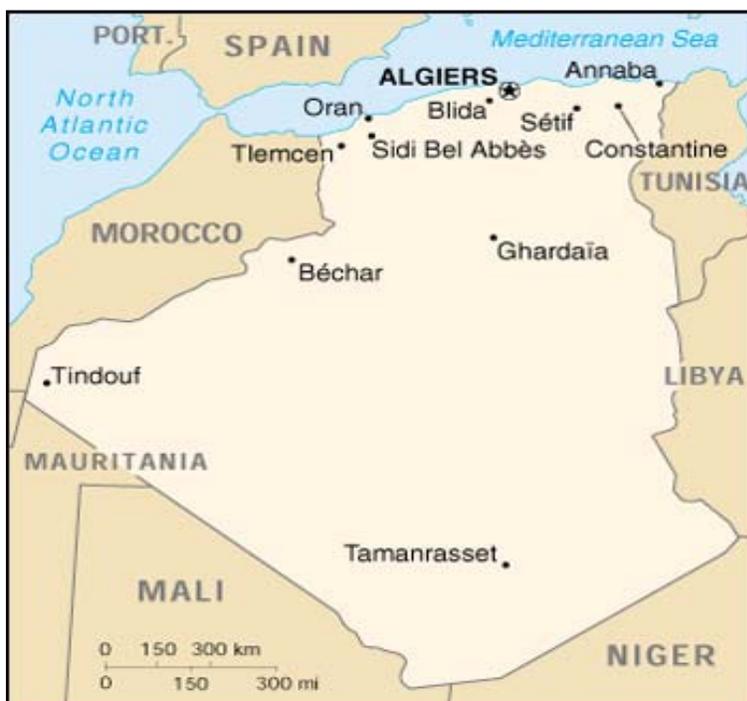
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February 2004

Algeria

Algeria is important to world energy markets because it is a significant oil and gas producer and exporter. Algeria also is a member of OPEC and an important, growing energy source for Europe.

Note: Information contained in this report is the best available as of February 2004 and is subject to change.



ALGERIA

Following years of civil war and continuing political unrest, Algeria now is experiencing a significant economic upturn, in large part aided by strong oil and natural gas export revenues since 1999. Real gross domestic product (GDP) growth is expected to reach 6.4% in 2004, following estimated growth of 7.4% in 2003. The sharp increase in oil export revenues which Algeria has enjoyed during the past few years has led the country's foreign reserves to rebound sharply (to over \$30 billion by late 2003, compared to \$12 billion at the end of 2000), external debt to fall (to the lowest level in a decade), the current account balance to improve dramatically, and pressures on government finances to decrease.

Despite the recent good news, Algeria continues to face serious economic, social, and political problems, including: high unemployment (officially around 30%, but possibly much higher); continued political violence by Islamic fundamentalists and others; labor unrest; a large black market (possibly 20% of the country's GDP); continued weakness in the non-oil economy; natural disasters (a severe drought hurt the agricultural sector in 2000; heavy flooding struck northern Algeria in November 2001; a major earthquake hit Algeria in May 2003); and slow progress on economic reform efforts (largely due to opposition by labor unions and the armed forces). Periodically, there have been protests by the country's restive Berber minority demanding greater autonomy, increased employment opportunities, and better living conditions. The unrest has centered on the Kabyle region of northeastern Algeria.

In early November 2003, Algeria unveiled its draft budget for 2004. The budget calls for increased

social spending and assumes economic growth of 5.1%, inflation of 2.0%, and a \$19 per barrel price for Algerian oil. The oil price assumption appears to be extremely conservative, considering that prices in 2003 averaged around \$10 per barrel higher than this. Algeria remains highly dependent on oil and natural gas exports, which account for more than 90% of Algerian export earnings, and about 30% of GDP.

With rapid population growth, Algeria's top priority is to reduce the country's extremely high unemployment rate (estimated at around 50% for the "under-30s" age group). Regardless of fluctuating oil revenues, structural reforms and fiscal discipline appear to remain important parts of the government's economic program, as urged by the IMF. To date, however, little progress in this regard appears to have been made. For instance, an important hydrocarbons reform bill, which among other things would "corporatize" state oil company Sonatrach, had gone nowhere as of early 2003. In February 2003, a two-day strike among oil and gas workers was launched in protest of the proposed legislation. Algeria is scheduled to hold Presidential elections in April 2004, meaning that any new reform initiatives will probably have to wait until mid-2004. Meanwhile, it is likely that Algeria will pursue expansionary economic policies ahead of the elections.

In January 2004, the International Monetary Fund (IMF) issued its annual "Article IV" assessment of the Algerian economy, urging that the government proceed with privatization and banking reform, while lowering tariffs aimed at protecting domestic industry and reducing dependence on hydrocarbons. The IMF praised the Algerian government for its strong macroeconomic discipline, while pointing out that high oil prices provide Algeria with an opportunity to make progress on implementing reforms and addressing the country's many problems.

In late 2001, an important new hydrocarbons reform bill was introduced, but progress stalled in 2002 and 2003. The bill would open Algeria's all-important energy sector to private (including foreign) investment, although state oil and gas company Sonatrach (see below) most likely would remain in public hands. The law faces opposition from trade unions and others, and already has been watered down somewhat from its original form, while Energy and Mines Minister Chekib Khelil has stated that "it is not necessary to privatize" Sonatrach. One study, by [Bayphase](#), estimates that Algeria's oil and gas sectors will require total capital investment of \$50-\$73 billion over the next 10 years.

In December 2002, Algeria signed a cooperation pact with the European Free Trade Association (EFTA), providing for expanded and liberalized trade with EFTA members (Iceland, Liechtenstein, Norway, and Switzerland). Algeria also is pursuing membership in the World Trade Organization, with the latest negotiations concluded in Geneva during November 2002. In late 2001, Algeria and the EU reached an Association Agreement after years of negotiations, and the deal was ratified by the European Parliament in October 2002. Under the accord, Algeria is to cut tariffs on EU agricultural and industrial products over the next 10 years. In exchange, the EU will eliminate duties and quotas on many Algerian agricultural products.

President Abdelaziz Bouteflika, elected President on April 15, 1999 for a 5-year term, has attempted to implement plans for national reconciliation and economic reforms (i.e., deregulation, privatization). More than 100,000 rebels, soldiers and civilians have died in Algeria's civil war, which began in 1992 following the military's nullification of a national election won by the Islamic Salvation Party. On July 13, 1999, President Bouteflika offered amnesty to rebel groups, and on September 16 a national referendum was held in which voters approved the offer. Although the government claimed that nearly 80% of rebels (including members of the Islamic Salvation Army) accepted amnesty, the level of violence appeared to rise once again, with the most violent groups apparently stepping up attacks. In August 2000, President Bouteflika replaced Prime Minister

Ahmed Benbitour with Ali Benflis. Parliamentary elections were held in May 2002, resulting in a strong showing for the president's party, the FLN. On February 19, 2004, President Bouteflika announced that he would stand for re-election in April 2004.

Oil

Although oil was first discovered in Algeria at the Hassi Messaoud oil field in 1956, Algeria is considered to be underexplored. Algeria's National Council of Energy believes that the country still contains vast hydrocarbon potential. Over the last few years, significant oil and gas discoveries have been made, largely by foreign companies (in partnership with state-owned Sonatrach, as required by current Algerian law). Sonatrach and its foreign partners hope to increase Algeria's crude oil production capacity significantly over the next few years.

In order to accomplish this, Algeria will require significant amounts of foreign capital and expertise. Energy Minister Chekib Khelil has stated that his goal is "to double the number of companies operating in Algeria over the next five years" to 40 companies. Khelil also has expressed his view that the industry needs to be restructured in order to survive, and that new regulatory bodies independent of the Energy and Mining Ministry might be needed as well. Algeria's oil sector, unlike that of most OPEC producers, has been open to foreign investors for more than a decade.

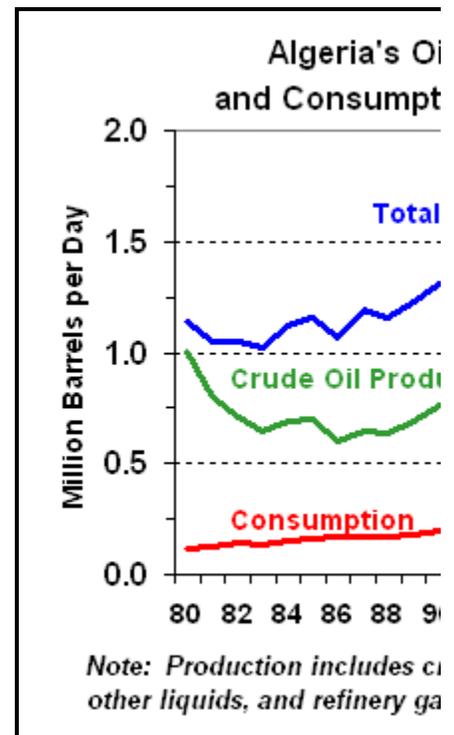
Algeria's proven oil reserves are estimated at 11.3 billion barrels, although "recoverable oil resources" may range as high as 43 billion barrels. With recent oil discoveries, plans for more exploration drilling, improved data on existing fields, and use of enhanced oil recovery (EOR) systems, proven oil reserve estimates are expected to be revised upward in coming years. Algeria should also see a sharp increase in crude oil exports over the next few years due to a rapid shift towards domestic natural gas consumption and planned increases in oil production by Sonatrach and its foreign partners. In December 2003, Energy Minister Khelil stated that he hoped to see a total of 54 wells drilled during 2004, up from 43 in 2003 and 29 in 2002.

Approximately 90% of Algeria's crude oil exports go to Western Europe, with Italy as the main market followed by Germany and France. The Netherlands, Spain and Britain are other important European markets. Algeria's Saharan Blend oil, 45° API with negligible (0.05%) sulfur content, is considered among the highest quality in the world.

As mentioned above, the Algerian parliament has been considering a law which would restructure the state oil company, Sonatrach (and Sonelgaz, the state utility) in order to attract private international investment. One possibility would be for Sonatrach to remain the national oil company but eventually be forced to compete for new projects. Non-core subsidiaries of Sonatrach also could be privatized if the law passes. In January 2001, Algeria's oil and gas industry labor unions announced their opposition to any government plans to open up the country's hydrocarbon sector to foreign investors.

Oil Production

Algeria's average crude oil production during 2003 was around 1.2 million bbl/d. Together with 445,000 bbl/d of lease condensate and 250,000 bbl/d of natural gas plant liquids, Algeria averaged about 1.86 million bbl/d of total oil production during 2003, up sharply from 1.57 million bbl/d in 2002. Algeria's crude oil production is running well above its OPEC quota of 782,000 bbl/d (as of November 1, 2003; only crude oil production is subject to the OPEC quota). Algeria had estimated net oil exports (including crude oil, lease condensate, and natural gas liquids) of around 1.65 million bbl/d in 2002, most of which went to Europe and the United States. Domestic oil consumption is around 212,000 bbl/d.



the country is targeting crude oil production capacity of 1.5 million bbl/d by 2005 and 2.0 million bbl/d by 2010.

Much of Algeria's increased production capacity will come from foreign independent oil companies, including Anadarko (Berkine, Ourhoud), Burlington Resources (Block 405), BHP Billiton (ROD), and ConocoPhillips. Sonatrach accounts for more than half of Algeria's crude oil output. Anadarko is the largest foreign operator, producing around 530,000 bbl/d of oil (300,000 bbl/d at Berkine, 230,000 bbl/d at Ourhoud). Anadarko is developing the Berkine Basin. First production from the fields (EKT, El Merk, El Merk N, El Merk E, El Merk S) is expected to begin in 2004, with output eventually reaching 150,000-200,000 bbl/d of crude oil and condensate.

By far, the largest oil field in Algeria is Hassi Messaoud, located in the center of the country, which produces 46° API crude, down from 550,000 bbl/d in the 1970s, but up from 300,000 bbl/d in 1989. The Hassi Messaoud field has 10 billion barrels, just under 60% of the country's proven oil reserves. Sonatrach hopes to double production within 5-7 years.

Besides Hassi Messaoud, Sonatrach operates Algeria's other major oil fields, including Rhourde el-Berkine (located to the northeast of Hassi Messaoud), Tin Fouye Tabankort Ordo, Zarzaitine (30,000 bbl/d), Hassi Agreb and Ait Kheir. The Hassi R'Mel gas field (north of Hassi Messaoud, south of Algiers) also produces crude. In February 2004, Sonatrach announced that it had discovered a new oilfield near Rhourde el-Berkine, with a potential production of 1 million barrels per day.

In April 2000, Amerada Hess announced that it had acquired (for \$55 million) the Gassi el-Agreb Reservoir. Amerada Hess will form a joint operating company with Sonatrach, to be called Sonahess, and will be responsible for the recovery from the el-Gassi, el-Agreb, and Zotti fields. Currently, the three fields produce around 30,000 bbl/d. Sonahess aims to increase production to 45,000 bbl/d.

BHP has stated that it will spend \$190 million on oil field development at the ROD integrated oil development in eastern Algeria. Production is expected to commence in mid- to late-2004 at 35,000 bbl/d, and peak at 45,000 bbl/d. Other companies (Burlington Resources, Talisman, and Sonatrach) announced that they would develop the Block 405a. MLN is expected to produce around 35,000-40,000 bbl/d when completed (initial output of 35,000 bbl/d).

2003). Exploration success rates in the Berkine Basin have been high, and several billion barrels of oil may lie within 15 miles or so of the area.

In early January 2003, Sonatrach announced that it had brought the 1-billion-barrel, \$1.3 billion Ourhoud oil field online, ahead of schedule, with initial production of 75,000 bbl/d. Output at the field reportedly reached 230,000 bbl/d by April 2003, when all three oil treatment trains came online. Ourhoud is divided into three blocks operated by Anadarko (Block 404), Cepsa of Spain (Block 406a), and Burlington Resources (Block 405). Ourhoud is operated by Cepsa, Anadarko, ENI, Maersk, Burlington, and Sonatrach.

Although Algeria has experienced a significant influx of foreign investment in recent years, it still has many oil fields in need of additional foreign capital and EOR investment. Halliburton has an eight-year contract to provide EOR services and boost production at Hassi Messaoud, for instance, which saw production fall sharply beginning in the mid-1980s. Algeria's second largest oil field, Rhourde El Baguel, already has received foreign investment to boost its production capacity.

Rhourde El Baguel contains about three billion barrels of 42.6° API oil, of which less than 450 million barrels has been produced since 1963. In February 1996, Arco (now owned by BP) signed a \$1.3-billion production sharing agreement (PSA) with Sonatrach to increase production at the field. BP expects to raise the field's output from 27,000 bbl/d to 125,000 bbl/d by 2010.

During 2004, Algeria is planning to open its fifth licensing round for oil and gas. The country received bids from nearly 40 companies in its fourth licensing round, although it awarded only 12 blocks for exploration. In September 2003, Brazil's Petrobras signed a deal with Sonatrach to explore for oil in Algeria, and in December 2003, Algeria and China's CNPC reached a similar agreement. Also in December 2003, Cepsa and Total won drilling and exploration rights on the Bechar block in the Sahara desert.

Sinopec reportedly was awarded a \$525 million contract in October 2002 to help increase the crude oil recovery rate at Zarzataine, near Hassi Messaoud. In November 2002, the Kuwait Foreign Petroleum Exploration Company (KUFPEC) and Anadarko announced a partnership to explore the Berkine Basin. KUFPEC has not been active in Algeria for over 10 years.

Downstream

Algeria has four oil refineries, with combined capacity of 450,000 bbl/d, which supply most of the country's refined oil product needs (Algeria also imports around 20,000-35,000 bbl/d of sour crudes and specific products). The 30,000-bbl/d Hassi Messaoud plant supplies products to southern Algeria, as does the smaller 7,000-bbl/d In Amenas plant. The 60,000-bbl/d Algiers refinery processes crude from Hassi Messaoud. Finally, the coastal 60,000-bbl/d Arzew refinery, which uses Algerian Saharan blend as feedstock, produces products for domestic consumption and export. In January 2001, Algeria issued a tender for a new refinery in the central Adrar region near the Sbaa basin, and in May 2003 contracted with China's CNODC to build it (for \$350 million, including upstream development as well). Algeria also is looking at upgrading the In Amenas refinery.

Although Algeria has a substantial petrochemical and fertilizer industry, low capacity utilization rates mean continued reliance on imports. The majority of Algeria's petrochemical plants are located at Annaba (a 550,000-ton-per-year (t/y) - ammonium phosphate fertilizer plant and ammonium nitrate and nitric acid complex), Arzew (365,000 t/y ammonia, 146,000 t/y urea, and 182,500 t/y ammonium nitrate), and Skikda (a 130,000 t/y high-density polyethylene unit, 120,000-t/y ethylene cracker, and a substantial aromatics complex). Sonatrach has undertaken a number of petrochemical and fertilizer expansion projects, including a new methyl tertiary butyl ether (MTBE)

complex and a polyester resin complex.

Algeria uses seven coastal terminals for crude oil, refined product, NGL, and liquefied natural gas (LNG) exports. These are located at Arzew (Algeria's largest crude oil export port), Skikda (Algeria's second largest crude oil export port), Algiers, Annaba, Oran, plus the Tunisian facilities of Bejaia and La Skhirra. Arzew handles about 40% of Algeria's total hydrocarbon exports (including all of its NGL exports), and Algeria has ambitious plans for the port area. Among other things, the government would like to build a petrochemicals complex at Arzew, as well as a condensate refinery and desalination plant. Work also needs to be done to maintain and upgrade Arzew's crude oil loading capacity. A refurbishment project on the port began in 1998. Skikda port is limited to 80,000-ton tankers and will require dredging and other maintenance work in order to accommodate larger tankers.

Natural Gas

Commercial production of natural gas began in 1961, with output in 2000 of 2.8 trillion cubic feet (Tcf). Algeria has 160 Tcf of proven natural gas reserves, primarily associated (with oil), ranking it in the top 10 worldwide. Algeria's recoverable natural gas potential may, however, be as high as 282 Tcf. In 2000, natural gas (including natural gas liquids) accounted for about 60% of Algeria's total hydrocarbons production. Algeria also is a major natural gas exporter, accounting for one-fifth of EU natural gas imports in 2000 (Russia accounted for 39% in that year). As of 2002, Algeria's total natural gas export capacity, via pipeline and LNG tanker, was over 2 Tcf per year. This is expected to increase rapidly in coming years as major new gas fields, export pipelines, and LNG facilities come online. Algeria's goal is to export 3 Tcf per year or more by 2010. Algeria is a founding member of the Gas Exporting Countries' Forum, a loose group of 15 gas producing countries formed in Tehran in May 2000.

Algeria's largest gas field (by far) is the super-giant Hassi R'Mel, discovered in 1956 and holding proven reserves of about 85 Tcf. Hassi R'Mel accounts for around 1.35 billion cubic feet (Bcf) per day, or about a quarter of Algeria's total dry gas production. The remainder of Algeria's gas reserves are located in associated and non-associated fields in the southeast, and in non-associated reservoirs in the In Salah region of southern Algeria. (Note: flaring of natural gas at Algeria's associated gas fields is slated to end in 2010). The Rhourde Nouss region holds 13 Tcf of known reserves in the Rhourde Nouss, Rhourde Nouss Sud-Est, Rhourde Adra, Rhourde Chouff, and Rhourde Hamra fields. Smaller gas reserves are located in the In Salah region (5-10 Tcf) as well as at the Tin Fouye Tabankort (TFT; 5.1 Tcf), Alrar (4.7 Tcf), Ouan Dimeta (1.8 Tcf), and Oued Noumer fields. In October 2003, Sonatrach announced a major natural gas discovery in the Reggane Basin in southwestern Algeria.

Algeria's natural gas pipeline export capacity includes around 900 Bcf/y via the 667-mile Trans-Mediterranean (Transmed, renamed Enrico Mattei) line from Hassi R'Mel via Tunisia and Sicily to mainland Italy, and 280 Bcf/y via the 1,013-mile Maghreb-Europe Gas (MEG, renamed Pedro Duran Farrell, onstream since November 1996) line via Morocco to Cordoba, Spain, where it ties into the Spanish and Portuguese gas transmission networks. Given that over the past decade, natural gas has been the fastest growing fuel source in the EU, with natural gas - mainly imported -- expected to account for 26% of EU energy consumption by 2010, Algeria has plans to increase its natural gas export capacity significantly in coming years. In August 2001, Sonatrach awarded ABB a \$93 million contract to build a natural gas compressor station on the Pedro Duran Farrell (MEG) line in order to raise capacity to nearly 400 Bcf/y by late 2004 (and 650 Bcf/y by 2006). There also are plans to expand Transmed capacity to more than 1 Tcf per year by 2005.

One complication in Algeria's natural gas export strategy to Europe has been EU liberalization,

which has complicated the legality of traditional "destination clauses" for gas deliveries. Such clauses prevent the offtaker of the gas from reselling it to another EU state, and this has complicated Algeria's attempts at signing agreements with EU purchasers, such as ENEL.

In late July 2001, Spain's Cepsa and Algeria's Sonatrach (with 20% shares each) agreed to move ahead with a new natural gas pipeline (Medgaz) linking Algeria directly to Spain, and onwards to France. Since then, several other companies -- BP, Endesa, Eni, Gaz de France, and TotalFinaElf -- have acquired 12% shares in Medgaz. In September 2002, the consortium completed a study of the line's feasibility, but work did not begin in 2003 as had been expected. The \$1.3 billion, 280-Bcf/y (initial capacity) Medgaz line most likely would go from Hassi R'Mel through the port of Arzew to Almeira, Spain, and include a power cable as well. Medgaz could be operational by 2006. In November 2002, Cepsa said that it had signed a letter of intent to purchase 35 Bcf/y of natural gas via Medgaz. In October 2003, Iberdrola announced that it had taken over Eni's 12% share in the Medgaz project. In January 2004, Algeria asked Spain's Enagas to join the project.

In December 2001, Sonatrach signed a deal with Italy's Enel and Germany's Wintershall on a feasibility study of another new natural gas pipeline, this one from Algeria under the Mediterranean Sea to Sicily and onwards to the Italian mainland and also southern France. Initial capacity on this line could be in the 280-350 Bcf per year range. Possible routes include one to Sardinia and Corsica, entering mainland Italy at La Spezia. An alternative route would run through Sardinia to the Italian mainland at Castiglione della Pescaia. The project could cost \$2 billion and possibly be operational by 2008. A power line is to be built along the route as well.

Another possibility that has been mentioned recently is a Trans-Sahara natural gas pipeline from Nigeria, across the Sahara, and north through Algeria to the Mediterranean coast. The pipeline could cost \$5-\$7 billion and utilize the Medgaz line to Spain.

Aside from exports to Italy, Spain, Portugal, etc., Algeria has a policy of using its natural gas reserves as a source of domestic energy and as a raw material for the petrochemical industry. Algeria consumes around 400 Bcf of natural gas per year. Approximately 95% of the country's electricity is generated by natural gas.

Development of the In Salah region is one of the lynchpins in Algeria's plan to increase its natural gas exports. In February 2000, BP Amoco (now BP) and Sonatrach signed a \$2.5 billion deal to develop seven of the twelve existing fields in the In Salah region, including the Garat al-Bafinat, Teguentour, Krechta, Reg, In Salah, Hassi Moumeme, and Gour Mahmoud fields. These fields contain estimated dry natural gas reserves of 6 Tcf, with a potential for 10 Tcf total. In addition, the joint venture, called In Salah Gas, will appraise existing wells and explore for new gas reserves in the In Salah region. In Salah Gas is the first major natural gas joint venture between Sonatrach and a foreign partner. Production from the region originally was expected to come online in late 2003, after the drilling of up to 200 production wells and construction of a \$1 billion, 48-inch pipeline link to Hassi R'Mel. However, progress has been slowed due to several factors, including EU rules on natural gas re-exports (see above) and slower-than-expected natural gas demand growth in potential importing countries such as Spain, and production now is expected to begin in mid-2004. In July 2003, Statoil agreed to buy 49% of BP's interest in the In Salah project, plus 50% of BP's stake in the In Amenas development (see below), for a total of \$740 million.

In May 1997, In Salah Gas sealed its first natural gas sales deal with Italian electricity generator Enel. The deal enables In Salah Gas to take over an existing contract to supply Enel with 141 Bcf/y of gas. Sonatrach will continue supplying the Italian power giant with natural gas supplies until In Salah is ready. The deal represents In Salah's first step towards achieving its sales goal of 315

Bcf/y. Besides Enel, the venture is also marketing gas to other potential clients in Europe, Turkey and North Africa.

Besides In Salah, three other important Algerian natural gas and condensates projects are Ohanet, In Amenas, and Gassi Touil. Ohanet is located in the Illizi province on the northern edge of the Sahara desert about 60 miles west of the Libyan border. Ohanet is being developed -- at a cost of around \$1 billion -- by Australia's BHP (with a 45% share), Woodside Petroleum (15%), Japan Ohanet Oil and Gas, Swiss-Swedish ABB, and U.S.-based Petrofac. Natural gas production from Ohanet began in October 2003, with natural gas liquids and liquefied petroleum gas (LPG) production expected as well. The Ohanet project includes construction of a natural gas processing plant, with capacity of 30,000 bbl/d of condensate, 26,000 bbl/d of LPG, and around 700 million cubic feet (Mmcf)/day of natural gas -- as well as a pipeline. BHP is to operate the fields in partnership with Sonatrach.

In November 2002, Sonatrach and BP signed a deal to develop natural gas production in the In Amenas region. The \$1.8 billion project is due to come onstream in 2005 and to produce around 900 million cubic feet per day of "wet" (i.e., associated with oil) natural gas, plus 50,000 bbl/d of condensate and LPG. The project also includes construction of three pipelines to carry the hydrocarbons to the Sonatrach distribution system at Ohanet.

In May 2002, Algeria issued an international tender for development of Gassi Touil, which is believed to contain natural gas reserves of 9 Tcf. In January 2004, Energy Minister Khalil said that Algeria intended to award a contract for Gassi Touil development by March 2004. Bidders include Amerada Hess, BHP Billiton, ExxonMobil, Marathon, Occidental, Petronas, Repsol, Shell, Total, and others. Gassi Touil is expected to have eventual production capacity of 580 Mmcf/d, much of which will be exported as LNG, with development to cost \$2 billion.

Liquefied Natural Gas (LNG) Exports

With the start-up of the Arzew GL4Z plant in 1964, Algeria became the world's first LNG producer. Algeria is the second largest exporter of LNG (behind Indonesia), with around 17% of the world's total, exported mainly to Western Europe (France, Belgium, Spain, Turkey, Italy, and Greece) and the United States (about 5% of Algeria's LNG exports go there). Sonatrach has LNG export contracts with Gaz de France, Belgium's Distrigaz, Spain's Enagas, Turkey's Botas, Italy's Snam, and Greece's DEPA.

On January 19, 2004, a boiler exploded at the Skikda LNG export terminal, Algeria's second largest next to Arzew, killing at least 27 people and shutting down operations at several adjacent facilities, including a refinery and crude oil and petroleum product loading terminals. Three liquefaction trains (out of six) at Skikda were heavily damaged, accounting for 11% of Algeria's total LNG capacity. Overall, Skikda handles about one-quarter of Algeria's total LNG exports, with a nameplate capacity of 230 billion cubic feet (Bcf) per year prior to the accident. Most of the LNG exported from Skikda currently is earmarked for markets in Western Europe (mostly France, with smaller quantities going to Greece, Italy and Spain). Algeria has 44 Bcf per year of spare capacity available at its Arzew liquefaction complex, which accounts for the other three-quarters of the country's LNG exports. Energy Minister Khelil has promised to build two new LNG trains in Skikda, with double the capacity of the three destroyed units and utilizing the most advanced technology. The cost of rebuilding could approach \$800 million.

In 1999, Sonatrach completed a total renovation of its LNG facilities, raising the country's LNG production capacity to around 1 Tcf per year. This refurbishment program focused on the 400-Bcf/year Arzew GL1Z, 440-Bcf/year Arzew GL2Z, and 275-Bcf/year Skikda GL1K plants. Also, Algeria's original 60-Bcf/y Arzew GL4Z, or "Camel," plant, which was slated for decommissioning

by 1997, has been refurbished to keep the plant operational for reserve purposes until at least 2003. Sonatrach plans to expand its exports, especially to Europe. In September 2001, Spain's second largest power company, Iberdrola, purchased a spot LNG cargo from Algeria, the first such purchase by a Spanish utility.

Electricity

Algeria's electricity demand is growing at a rapid, 5%-7% annual rate, and will, according to Sonelgaz, require significant additional capacity -- possibly 8,000 MW by 2010 -- in coming years. Currently, Algeria has around 6,000 MW of installed power generating capacity, but this has not been sufficient to reach demand during peak cooling periods in the summer. In July 2003, power and water shortages led to rioting and demonstrations in the country. Currently, the Algerian government is pushing power conservation measures. In the longer-term, however, Algeria's power sector will need to grow. This will require billions of dollars worth of investments in new generating capacity, plus transmission and distribution infrastructure (i.e., lines and sub-stations).

In February 2002, legislation passed by Algeria's parliament ended Sonelgaz's monopoly over electric power generation, transmission, and distribution, converted the company into a joint-stock company, and cleared the way for Algeria's first independent power projects (IPPs). However, further legislation which would allow Sonatrach to operate along commercial lines is stalled at the moment.

In May 2001, Sonatrach and Sonelgaz established a joint venture -- the Algerian Energy Company (AEC) -- to export electricity. Among other projects, AEC is examining the feasibility of establishing a trans-Mediterranean power link to Italy. In December 2001, Sonelgaz signed a joint venture agreement with Italian power grid manager GRTN on the possibility of constructing an undersea power cable to export electricity to Europe via Sardinia or Sicily. In November 2001, Sonelgaz signed a similar deal with Spain's power group Red Electrica de Espana to build an underwater power line between Algeria and Spain. Currently, Algeria has two links to the Moroccan electricity grid and supplies over 550 gigawatthours (GWh) of electricity to Morocco. In December 2003, a draft agreement on integrating the Maghreb and European power grids was signed in Rome.

Sonatrach has a \$107 million contract with Anadarko and Italy's GE Nuovo Pignone to build the country's first privately financed natural-gas-fired power plant at Hassi Berkine. GE Nuovo Pignone, a subsidiary of General Electric, will also provide a gas treatment system, liquid fuel gas turbine storage and services. In July 2003, Canada's SNC Lavalin was awarded contracts to design and build an 825-MW combined cycle power plant in Skikda. The U.S. Export-Import Bank has agreed to provide export guarantees, since a U.S. subsidiary of Lavalin is exporting GE gas-fired turbines and providing engineering services for the project, which is expected to come online in the third quarter of 2005. In August 2003, France's Alstom won a contract to construct a 300-MW power plant at F'Kirina, around 300 miles east of Algiers.

In July 2002, Sonatrach and Sonelgaz formed a new, renewable energy joint venture company, called New Energy Algeria (NEAL). NEAL will look at development of solar, wind, biomass, and photovoltaic (PV) energy production. One project reportedly under consideration is a 120-MW hybrid natural gas/solar power plant and a wind/diesel/PV facility at Timimoun. In January 2003, Algeria and the International Energy Agency agreed on technological cooperation in developing solar power. Overall, Algeria is aiming at a 5% share for solar in the country's electricity mix by 2010.

Sources for this report include: *Africa Energy Intelligence; Africa News; Africa Oil and Gas Bulletin; Africa Research Bulletin, AFX.COM, AP Worldstream; APS Review Gas Market Trends; APS Review Oil Market Trends; BBC Monitoring; Business Wire; CIA World Factbook; CWC Africa Energy Alert; Dow Jones International; Economist Intelligence Unit; Energy Compass; Financial Times; International Oil Daily; Middle East Economic Digest (MEED); Middle East Economic Survey (MEES); Middle East Executive Reports; Middle East News Online; Natural Gas Week; Oil and Gas Journal; Petroleum Economist; Petroleum Intelligence Weekly; Platts Oilgram News; PR Newswire; U.S. Energy Information Administration; Weekly Petroleum Argus; World Gas Intelligence; World Markets Research.*

COUNTRY OVERVIEW

President: Abdelaziz Bouteflika (since April 1999)

Prime Minister: Ali Benflis (since August 2000)

Independence: July 5, 1962 (from France)

Population (7/03E): 32.8 million

Location/Size: North Africa/919,595 sq. miles, more than one-quarter the size of the United States

Major Cities: Algiers (capital), Constantine, Annaba, Arzew, Skikda, Oran, Ghardaia, Bechar, Ouargla, Touggourt

Languages: Arabic (official), French, Berber dialects

Ethnic Groups: Arab (84%), Berber (16%), European (less than 1%).

Religions: Sunni Islam (state religion) 99%, Christianity and Judaism 1%

ECONOMIC OVERVIEW

Currency: Algerian Dinar (AD)

Market Exchange Rate (2/17/04E): US\$1 = AD 73.7

Gross Domestic Product (at market exchange rates) (2003E): \$71.7 billion

Gross Domestic Product (at purchasing power parity rates) (2002E): \$173.8 billion

Real GDP Growth Rate (2003E): 7.4% **(2004F):** 6.4%

Inflation Rate (consumer prices) (2003E): 2.7% **(2004F):** 2.4%

Major Export Products (2002): Petroleum and natural gas

Major Import Products (2002): Industrial equipment; intermediate goods; food; consumer goods; capital goods.

Merchandise Exports (2003E): \$23.9 billion

Merchandise Imports (2003E): \$13.3 billion

Merchandise Trade Balance (2003E): \$10.7 billion

Current Account Balance (2003E): \$4.7 billion

Major Trading Partners (2003): France, Italy, Spain, USA

Oil Export Revenues (2003E): \$4.7 billion

Foreign Exchange Reserves (10/03E): \$30.4 billion

Total External Debt (2003E): \$22 billion

ENERGY OVERVIEW

Energy Minister: Chekib Khelil

Proven Oil Reserves (1/1/04E): 11.3 billion barrels

Oil Production (2003E): 1.86 million barrels per day (bbl/d), of which 1.17 million bbl/d was crude oil, 0.45 million bbl/d was lease condensates, and 0.25 million bbl/d was natural gas liquids

Crude Oil Production Capacity (1/04E): 1.2 million bbl/d

Oil Consumption (2003E): 212,000 barrels per day (bbl/d)

Net Oil Exports (2003E): 1.65 million bbl/d

U.S. Oil Imports from Algeria (January-October 2003E): 409,000 bbl/d (3% of U.S. oil imports)

Crude Oil Refining Capacity (1/1/04E): 450,000 bbl/d (according to the *Oil and Gas Journal*)

Natural Gas Reserves (1/1/04E): 160.0 trillion cubic feet (Tcf)
Dry Natural Gas Production (2001E): 2.84 Tcf
Natural Gas Consumption (2001E): 0.79 Tcf
Net Natural Gas Exports (2001E): 2.05 Tcf
Electricity Generation Capacity (2001E): 6.0 gigawatts (95% thermal -- mainly natural gas; 5% hydroelectric)
Net Electricity Generation (2001E): 24.7 billion kilowatthours

ENVIRONMENTAL OVERVIEW

Total Energy Consumption (2001E): 1.31 quadrillion Btu* (0.3% of world total energy consumption)
Energy-Related Carbon Emissions (2001E): 22.5 million metric tons of carbon (0.3% of world total carbon emissions)
Per Capita Energy Consumption (2001E): 41.2 million Btu (vs U.S. value of 341.8 million Btu)
Per Capita Carbon Emissions (2001E): 0.7 metric tons of carbon (vs U.S. value of 5.5 metric tons of carbon)
Energy Intensity (2001E -- Purchasing Power Parity exchange rates): 7,401 Btu/\$1995 (vs U.S. value of 10,810 Btu/ \$1995)**
Carbon Intensity (2001E -- PPP exchange rates): 0.13 metric tons of carbon/thousand \$1995 (vs U.S. value of 0.17 metric tons/thousand \$1995)**
Fuel Share of Energy Consumption (2001E): Natural Gas (67.9%); Oil (31.3%); Coal (1.5%)
Fuel Share of Carbon Emissions (2001E): Natural Gas (67.1%); Oil (30.9%); Coal (2.0%)
Status in Climate Change Negotiations: Non-Annex I country under the United Nations Framework Convention on Climate Change (ratified June 9th, 1993). Not a signatory to the Kyoto Protocol.
Major Environmental Issues: Soil erosion; desertification; river and coastal water pollution due to the dumping of raw sewage, petroleum refining wastes, and other industrial effluents; inadequate supplies of potable water..
Major International Environmental Agreements: A party to Conventions on Biodiversity, Climate Change, Desertification, Endangered Species, Environmental Modification, Law of the Sea, Ozone Layer Protection, Ship Pollution, Wetlands. Has signed, but not ratified, the Nuclear Test Ban Treaty.

* The total energy consumption statistic includes petroleum, dry natural gas, coal, net hydro, nuclear, geothermal, solar, wind, wood and waste electric power. The renewable energy consumption statistic is based on International Energy Agency (IEA) data and includes hydropower, solar, wind, tide, geothermal, solid biomass and animal products, biomass gas and liquids, industrial and municipal wastes. Sectoral shares of energy consumption and carbon emissions are also based on IEA data.

**GDP based on OECD Purchasing Power Parity (PPP) figures

OIL AND GAS INDUSTRY

Major State Companies: Enterprise Nationale pour la Recherche, la Production, le Transport, la Transformation et la Commercialisation des Hydrocarbures (Sonatrach) - State-owned company for exploration, transport and marketing of petroleum, natural gas and related products; Enterprise Nationale de Raddinage des Produits Petroliers (Naftec) - Operates and manages all refineries; Enterprise Nationale de Commercialisation et de Distribution des Produits Petroliers (Naftel) - Domestic product distribution. Societe de Conditionnement, Comercialisation & Transport de Gas Industriels (Cogiz) - produces natural gas by-products.
Oil Export Terminals: Arzew (Algeria's largest crude oil export port), Skikda (Algeria's second largest crude oil export port), Algiers, Annaba, Oran, plus the Tunisian facilities of Bejaia and La

Skhirra.

Major Oil Fields: Hassi Messaoud (Algeria's largest oil field), Rhourde el-Baguel (Algeria's second largest oil field, located to the northeast of Hassi Messaoud), Tin Fouye Tabankort Ordo, Zarzaitine, Haoud Berkaoui/Ben Kahla, el-Gassi el-Agreb, Ait Kheir.

Major Natural Gas Fields: Hassi R'Mel, Rhourde Nouss, Rhourde Nouss Sud-Est, Rhourde Adra, Rhourde Chouff, Rhourde Hamra fields. Smaller gas reserves are located in the In Salah region (5-10 Tcf) as well as at the Tin Fouye Tabankort (TFT)(5.1 Tcf), Alrar (4.7 Tcf), Ouan Dimeta (1.8 Tcf), and Oued Noumer fields.

Oil Refineries (crude refining capacity bbl/d, 2004E): Skikda (300,000), Algiers (60,000), Arzew (60,000), Hassi Messaoud (30,000)

LNG Facilities: Arzew GL4Z, Arzew GL1Z, Arzew GL2Z, Skikda GL1K

Selected Foreign Energy Company Involvement: ABB, Amerada Hess, Anadarko, Burlington Resources, BHP Billiton, BP, Cepsa, CNODC, CNPC, Enagas, Endesa, Enel, ENI, Gaz de France, Maersk, Petrobras, Petrofac, Repsol, Statoil, Talisman, Total, Wintershall, Woodside, YPF.

LINKS

For more information from EIA on Algeria, please see:

[EIA: Country Information on Algeria](#)

Links to other U.S. government sites:

[U.S. Agency for International Development](#)

[CIA World Factbook](#)

[U.S. State Department Consular Information Sheet on Algeria](#)

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[The Center for Middle Eastern Studies - Algeria](#)

[Industry Canada: Algeria Country Commercial Guide](#)

[Information on Algeria from ArabNet](#)

[Arab Net: Algeria](#)

[Algeria and the IMF](#)

[Algerian Central Bank](#)

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