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Energy Information Administration

COUNTRY ANALYSIS BRIEFS

Yemen

Last Updated: September 2006

Background

Yemen is showing economic improvement but security remains a concern for foreign investment. Yemen's economy is highly dependent on oil production, with the country's oil exports accounting for 70 percent of government revenues. In 2006, around 330,000 barrels per day (bbl/d) of oil is being exported, primarily to Asian markets, including China, India, and Thailand. Between 2000-2004, real gross domestic product (GDP) growth in Yemen averaged 4.2 percent. In 2005, the economy grew by 4.6 percent. Recent high oil prices have increased Yemen's hard currency receipts and remittances from Yemeni workers in other Persian Gulf countries. However, high oil prices have also increased the country's expenditures on petroleum product subsidies, which cost hundreds of millions of dollars per year and constitute a heavy burden on the country's budget.



Security remains a concern of foreign firms doing business in Yemen, particularly after the USS Cole was attacked in October 2000, and the French-flagged oil tanker Limburg was attacked off the Yemeni coast on October 6, 2002. Since then, Yemen reportedly has instituted a variety of maritime security measures, particularly at Aden and Hodeidah ports. Still, problems remain. Kidnappings of foreigners, including oil workers, have also been a problem. In addition, there have been periodic attacks on an oil pipeline in the Marib region of eastern Yemen, which is operated by U.S.-based Hunt Oil. The Canadian oil company Nexen, which operates the Ash Shihr/Al Mukalla oil export terminal, agreed in January 2003 to provide assistance to the Yemeni government in improving security.

Yemen held parliamentary elections in April 2003 and is scheduled to hold presidential elections on September 20, 2006. Political stability in Yemen is vitally important to regional oil producers, given that Yemen sits at the entrance to the Bab el Mandab strait, which links the Red Sea to the Indian Ocean. The strait is one of the most strategic shipping lanes in the world, with an estimated 3 million barrels per day (bbl/d) oil flow (please see our <u>World Oil Transit Chokepoints report</u> for more information). Disruption to shipping in the Bab el-Mandab could prevent tankers in the Persian Gulf and the Gulf of Aden from reaching the Suez Canal/Sumed pipeline complex, instead diverting them at great cost around the southern tip of Africa.

Oil

Yemen is actively attempting to attract foreign investment in order to reverse a recent decline in crude oil production.

Overview

Yemen is a small, non-OPEC oil producer. According to *Oil and Gas Journal* (OGJ), the country had proven crude oil reserves of 4 billion barrels in 2006. The oil is concentrated in five areas: Marib-Jawf - Block 18 (estimated 800 million barrels) in the north; Masila - Block 14 (estimated 800+ million barrels) in the south; East Shabwa - Block 10A (estimated 180 million barrels); Jannah - Block 5 (estimated 345 million barrels) and Iyad - Block 4 (estimated 135 million barrels) in central Yemen. In 2005, Yemen's crude oil output averaged 413,300 bbl/d, down from 423,700 bbl/d in 2004. For the first 8 months of 2006, Yemeni crude production was flat, at 412,500 bbl/d. In part, according to Yemen's Petroleum Exploration and Production Authority (PEPA), this is due to declining production in Masila and Marib, the country's two largest fields. Despite these declines, Yemen has optimistic plans to boost output to 500,000 bbl/d in the next few years. The country is also talking about setting up a national oil and natural gas company, to be called Petro-Yemen.



Sector Organization

Unlike much of the petroleum production in the Middle East region, Yemeni production is heavily reliant on private foreign companies, with more than 20 foreign firms operating concessions. Dozens of other foreign and domestic companies are partners in the concessions, including ExxonMobil and TransGlobe Energy. To date, Yemen is divided into 87 blocks, of which 12 actually produce oil. Around half of the blocks have been licensed for exploration and possible production of oil and/or natural gas. Since the withdrawal of major international oil companies in the mid-to-late 1990's, due to a combination of economic and security issues, the government of Yemen has targeted smaller, independent oil companies to take part in Production Sharing Agreements (PSAs).

Yemen General Corporation for Oil & Gas/Mineral Resources is an affiliation of several stateowned subsidiaries including: the Yemen Oil Company (YOC); the Yemen Refining Company (YRC); PEPA and the General Department of Crude Oil Marketing (GDCOM). All branches report to the Ministry of Oil and Mineral Resources (MOMR). The company is responsible for managing the industry contracts and relations with operators and partners, as well as the government's share of crude exports.

Exploration and Production

Canada's Nexen, which has a PSA with Yemen and owns 52 percent of Masila (Block 14) and 87.5 percent of East AI Hajr (Block 51), produces around 200,000 bbl/d - 170,000 bbl/d from Masila and 30,000 bbl/d from East AI Hajr. US-based Hunt Oil produces an estimated 50,000 bbl/d from the Jannah Block 5. On November 15, 2005 the Yemeni government replaced Hunt Oil as operator of Block 18 with Safar Exploration and Production Operations Company (SEPCO) of Yemen. In March 2005, Yemen's Parliament had decided to terminate Hunt's Block 18 concession when it expired in November 2005, despite an earlier agreement to extend it by 5 years. Hunt, which has operated in Yemen since 1984, reacted by filing for arbitration against the

Yemeni government, while hinting that the company's participation in the Yemen Liquefied Natural Gas (LNG) project (see below) could be adversely impacted.

France's Total produces around 30,000 bbl/d from its East Shabwa concession; in January 2006, Total reported a new find at the site. U.K. independent Dove Energy, which operates the East-Saar (Block 53, including the Sharyoof field), produces an estimated 25,000 bbl/d. Norway's DNO produces an estimated 16,000 bbl/d in the Hawarim Block (Block 32 - Tasour field), 15,000 bbl/d in Nabrajah (online in July 2005) and 5,000 bbl/d in South Hawarim (Block 43). Independent Vintage Oil operates the S1 block (Damis, including the An Nagyah field), with production of 8,500 bbl/d. In July 2006, Canada's Calvalley added a new well to its Block 9 concession (Hiswah field). Current output on the field is around 6,000 bbl/d. In August 2005, Yemen's Oil Ministry granted a license to Calvalley, Reliance Industries (India) and Hoodoil (Yemen) to develop Block 9 through 2025. In November 2005, OMV announced that it made a fourth oil discovery in the Al-Uglah area (Block S2) of the Shabwah Basin. OMV also is slated to conduct exploration work in Block 2, located near Block S2.

Licensing Rounds

Despite declining output in mature fields, Yemen's immediate goal for the petroleum industry involves increasing oil production and oil exports. In order to realize this goal, oil exploration activity in Yemen has accelerated since 1997, after a downturn following Yemen's civil war. In September 2005, PEPA launched a third upstream bidding round with the intent of awarding 14 blocks at the end of November 2006. The blocks are located in Hadramout (6 blocks), Mahra (3 blocks), Shabwah (2 blocks) and Hodeidah, al-Jawf and Aden/Abyan 1 block each. In March 2006, PEPA pre-qualified 34 companies for the tendered blocks which included Total, Petronas, OMV, Occidental and Petrobras.

PEPA believes that by 2011, exploration companies will make oil discoveries in 32 Yemeni blocks. The discoveries will primarily be the result of increased foreign investment. PEPA outlined a list of blocks more likely to yield oil, which include 2, 49, 69, 71, 72, and 73 during the 2007-08 period and blocks 40, 45, 74 and 75 during 2009-11. PEPA divided the remaining 20 blocks in categories "probable" and "possible" oil discovery blocks.



In June 2004, the Yemeni government offered newly demarcated Blocks 69-74 up for bid (Blocks 69-70 are in the Sabatain Basin, Blocks 71-74 are located in the Masila/ Shabwa Basins). In the same month, PEPA awarded a consortium including Norway's DNO and Canada's TransGlobal

Energy exploration rights to Block 72. The oil concession encompasses 703 square miles and is located next to Nexen's holdings. Yemen awarded China's Sinopec rights to explore blocks 69 and 71, while Dove Energy acquired Block 73. In mid-September 2005, Yemen awarded Korea's KNOC the rights to develop and operate Ayad (Block 4), which produces around 500 bbl/d.

The MOMR places oil tenders up for bid on a semi-annual basis. Contracts typically involve a 2-3 year exploration period and a 20-year production concession. The Petroleum Exploration and Production Board of MOMR authorizes all licenses for exploration and production in Yemen, subject to ratification by parliament. All contracts are signed between a company or group of companies, as contractor to the government of Yemen. In late 1999, the government took steps toward improving investment in the country's oil, natural gas, energy and petrochemical activities by redefining terms for certain concession agreements. These more favorable terms include lower signature bonuses, an increase in the proportion of oil earnings that companies can claim for development cost recovery to between 50 percent and 70 percent (compared with a previous range of 25-45 percent), and the introduction of a sliding scale of 3-10 percent for royalties (compared with a previous flat fee of 10 percent). In mid-2001, Yemeni officials took further steps to improve the energy-related investment climate, announcing a policy of contract extensions, added flexibility on negotiations, and a commitment to amending existing legislation if necessary. In early 2006, Yemen began looking at ways to revise the oil and natural gas licensing terms to increase transparency. One revision includes a seven-stage process for all exploration tenders, which will be undertaken by PEPA.

Pipelines

Yemen has an integrated network of pipelines to transport crude oil and natural gas produced in three central areas. This 560-mile network connects with four longer pipelines that transport oil to several major export terminals. The 260-mile Marib-Ras Isa pipeline is the longest of the domestic pipelines, transporting oil from the Marib basin to the Ra's Isa offshore export terminal on the Red Sea. The pipeline has a capacity of 225,000 bbl/d. The Masila-Shahir pipeline, capable of transporting 300,000 bbl/d, has the largest capacity of pipelines in Yemen. It runs approximately 90 miles from Masila to the export terminal at Ash Shahir. The Shabwa-Rudhum pipeline carries up to 135,000 bbl/d from the Eyad-Shabwa block to the Rudhum terminal on the Gulf of Aden. Jannah-Safir, built in 1996, carries 120,000 bbl/d to production facilities in the Marib region.

In June 2006, Calvalley reached a tentative agreement with the Yemeni government to construct a pipeline from production facilities in Block 9 to the Safar Facility. Currently, the Yemeni government and Calvalley are preparing a Tariff and Facilities Usage Agreement for the Safar Facility. Oil from the pipeline would be exported from the Ra's Isa offshore export terminal on the Red Sea.

In July 2002, the government of Yemen approved an agreement in principle with Saudi Arabia for studies to be made on the first international pipeline from Saudi southern oil fields to the Yemeni port at Hadramout. The two governments are conducting further negotiations on this project. The pipeline will be used for exports from exploration and production (E&P) ventures in the Saudi portion of Rub' Al Khali involving a Shell-Total partnership, LUKoil of Russia, Sinochem of China, an Agip-Repsol partnership.

Downstream

Yemen currently has a crude refining capacity of 130,000 bbl/d from two aging refineries. The refinery in Aden, operated by Aden Refinery Company (ARC), has a capacity of 120,000 bbl/d, while capacity at the Marib refinery, operated by Yemen Hunt Oil Company, is 10,000 bbl/d. The Aden refinery, which had a design capacity of 170,000 bbl/d, sustained significant damage during the country's 1994 civil war, but was later partially rebuilt. The Yemeni government has backed away from a 2001 plan to privatize the Aden refinery, but may offer a partial stake to private investors in the future.

In December 2002, Yemen signed an agreement with the Hadramout Refinery Company (HRC), the country's only private refining company, to construct a 50,000-bbl/d (rising to 100,000-bbl/d) capacity at Al Mukalla. In May 2004, HRC signed a second agreement to sell the refinery's output to an unidentified company after Samsung Corporation cancelled their contract with HRC. Since then, no progress on the refinery has been reported. Another refinery is planned for Ra's Isa with a capacity of 60,000 bbl/d and completion by 2007. Refinery output would be targeted for domestic use rather than export, despite the fact that according to the MOMR, domestic growth in demand for oil products, especially subsidized diesel fuel, has been sluggish over the past several years. The slow demand growth is mainly attributed to high import tariffs on fuels and to

the smuggling of cheap (subsidized) Yemeni oil products across borders, where fuel prices are higher, leading to domestic shortages.

Natural Gas

Yemen LNG appears to be moving ahead, with first shipments of LNG to the United States and South Korea possible by late 2008. According to *OGJ*, Yemen had 16.9 trillion cubic feet (Tcf) of proven natural gas reserves in 2006. The bulk of Yemen's natural gas reserves are concentrated in the Marib-Jawf fields (Block 18). In 2004, Yemen did not produce any natural gas, despite longstanding plans to develop an exportbased natural gas industry. Currently, the natural gas extracted as by-product of oil production is re-injected.



Liquefied Natural Gas

Since the mid-1990s, a primary interest of Yemeni natural gas development has been focused on the export of liquefied natural gas (LNG). In 1997, a group of foreign and domestic companies established the Yemen LNG project, which suffered a major blow in 2002 when ExxonMobil and Hunt Oil announced that they were leaving the consortium. However, Hunt later retracted its withdrawal. In August 2005, after various setbacks, the Yemeni government approved three LNG supply agreements -- for 6.7 million tons per year -- with KOGAS (1.3 million tons per year), Total (2 million tons per year), and Tractebel (2.5 million tons per year). In early September 2005, the government awarded an engineering, procurement and construction contract for the project. First shipments of LNG are expected by the end of 2008, with natural gas likely to flow to the United States and South Korea. Natural gas for the LNG project will come from the Marib-Jawf field operated by SEPCO. Infrastructure includes three pipelines from the fields at Marib and a two-train liquefaction plant at the Arabian Sea port of Balhaf, south of Al Mukalla. Current stakeholders in the Yemen LNG project include Total (39.6 percent) Hunt Oil (17.2 percent) and Yemen Gas Company (16.7 percent).

Growing regional competition, especially from Oman and Iran, has been the most significant obstacle to developing LNG for export. In Yemen, costly transportation of natural gas from the country's rugged interior, combined with additional security measures, increases production costs. In 2002, in order to encourage investment in commercial natural gas development, the government began offering 25-year purchase price agreements that lowered the price of natural gas to \$0.50 per million Btu. Facing slow progress in export-oriented production, the Yemeni government is now considering developing natural gas for domestic electricity generation and petrochemical production. In March 2005, Denmark's Ramboil signed a feasibility contract with Yemen to build a natural gas pipeline that would link the Marib fields to the towns of Aden and Hadeeda. The Yemeni government wants to build three power plants that would be fueled with natural gas from the pipeline.

Electricity

Yemen is attempting to meet its rapidly growing power needs while reducing its dependence on oil for electricity generation.

Overview

Yemen had 1 gigawatt of installed electric generating capacity in 2004. Conventional thermal electricity comprises all of Yemen's electricity generation, which, in 2004, Yemen generated 4.1 billion kilowatthours (Bkwh) of electricity while consuming 3.8 Bkwh. According to Yemen's Public Electricity Corporation (PEC), the country's electricity distribution network is inadequate. Currently, it is estimated that only 40 percent of the total population in Yemen have access to electricity from the national power grid. Even for those connected to the grid, electricity supply is intermittent, with rolling blackout schedules maintained in most cities. In order to meet growing demand (up 20 percent between 2000 and 2004) and to avert an energy crisis in the medium term, Yemen's Electricity and Water Ministry has plans to increase the country's power generating capacity to 1,400 megawatts (MW) by 2010.



Sector Organization

Yemen's state-owned PEC, under the Ministry of Electricity and Water, operates an estimated 80 percent of the country's generating capacity as well as the national power grid. The remainder of Yemen's electricity is generated by small, off-grid suppliers and privately-owned generators in rural areas. The PEC distributes electricity in the national grid through two 132Kv transmission systems, one serving the northern region of Sanaa-Hodeidah-Aden, the other serving Mukalla and Hadramout.

Over the past decade, the government has taken steps toward alleviating Yemen's electricity shortage, including reform, expansion and integration of the country's power sector through small-scale privatization and independent (private) power projects (IPPs). Plans to restructure the electricity sector were formally laid out in the 1997 Power Sector Strategy, which included a restructuring of the PEC, planned for 2001. The reform package originally included the privatization of generators having a capacity of less than 5 MW, and the sale of generators of 5-20 MW through public offerings. However, plans to privatize the power stations have been delayed indefinitely. Currently, Yemen's two largest power plants are the 165-MW power station at Ra's Kanatib, near Al Hodeidah, and the 160-MW station in Al Mukha, south of Al Hodeidah.

Long term development of Yemen's power sector includes a reduction in oil dependence, thus maximizing oil for export. Yemen's plans include the construction of several natural gas-fired power stations, expansion of the national power grid, and the introduction of renewables, such as solar energy, to rural areas. In the immediate term, the government is promoting large-scale IPPs in order to increase generation capacity over the next few years. However, achieving this goal may prove difficult. Several IPPs have faced delays or collapse due to lack of natural gas infrastructure development and disagreement over the fixed price to be paid to the IPPs for new electricity supply.

Recent Developments

In March 2005, Siemens signed a contract to build a 340-MW gas-fired power plant in Yemen for \$160 million. The plant will be fueled by natural gas from the Marib field, and is to begin commercial operations in 2008. Ultimately, a total of 1,000 MW in generating capacity is to be built at the Marib site.

Another possible gas-fired power plant is planned for Safar. Funding is to come from the Arab Fund for Economic and Social Development, the Saudi Development Fund, and the Yemeni government. The plant is to have a generating capacity of 2,800 MW.

In late 1999, the Yemeni government signed an MOU with the US Delma Power Corporation for the first IPP - a 400-MW capacity, natural gas-fired power complex, transmission line, and substation near the Marib oil and natural gas field, east of Sanaa. However, lack of development of a natural gas production and distribution network from the nearby Safar fields has threatened to delay progress on the project indefinitely.

While large-scale power development has mostly stalled, efforts by the Yemeni government to encourage interest in IPP ventures, including long term natural gas-purchase agreements, have resulted in several smaller-scale projects. In 1998, Wartsila completed the Mukalla power project. The project included the construction of a 40-MW diesel-fired plant, six substations, and the laying of 62 miles of transmission lines. The Finnish firm Wartsila recently completed the Aden power project, which involved building a 30-MW plant and repairing the Al Hiswa power plant to serve the city's port. The Al Hiswa plant is currently under consideration for expansion by 60 MW of generation capacity as part of the redevelopment of Aden, which was heavily damaged in the 1994 civil war.

To date, much of Yemen's electricity infrastructure improvements have been funded by multilateral development organizations. In 2006, the World Bank approved a \$50 million loan to help finance the "Power Sector Project". The project's objectives include relieving power constraints, enhancing electricity supply efficiency and strengthening corporate governance in the electricity sector. In 1998, the World Bank and the International Development Foundation (IDF) granted Yemen a \$33 million loan for the "Sanaa Emergency Power Project," an upgrade of the Dhaban power plant to 50-MW total capacity (completed in June 2004). The Kuwait-based Arab Fund for Economic & Social Development (AFESD) provided the initial \$54 million of the \$64 million required for the national grid linkage (completed in July 1997). The AFESD and the Saudi Fund for Development (SFD) are also major backers of the first phase of the Marib power plant project.

Profile

(2005E)

Country Overview

Chief of State	President Field Marshall Ali Abdallah Saleh (reelected in September 1999)	
Location	Middle East, bordering the Arabian Sea, Gulf of Aden, and Red Sea, between Oman and Saudi Arabia	
Independence	22 May 1990 (Republic of Yemen established with the merger of the Yemen Arab Republic [Yemen (Sanaa) or North Yemen] and the Marxist-dominated People's Democratic Republic of Yemen [Yemen (Aden) or South Yemen]); note - previously North Yemen had become independent in November of 1918 (from the Ottoman Empire) and South Yemen had become independent on 30 November 1967 (from the UK)	
Population (2005E)	20,727,063	
Economic Overview		
Minister of Finance	Saif Mahyub al-Asali	
Currency/Exchange Rate (9/18/06)	1 Yemeni Rial (YER) = \$0.0051	
Inflation Rate (2005E)	11.8%	
Gross Domestic Product (2005E)	\$15.2 billion	
Pool CDP Growth Poto	4.6%	

Exports (2005E)	\$6.4 billion
Exports - Commodities	crude oil, coffee, dried and salted fish
Exports - Partners (2004E)	China 33.5%, Thailand 31.4%, Singapore 7.2%, South Korea 6.1%
Imports (2005E)	\$4.7 billion
Imports - Commodities	food and live animals, machinery and equipment, chemicals
Imports - Partners (2004E)	UAE 12.8%, Saudi Arabia 10.2%, China 9%, France 7.9%, Kuwait 4.4%, US 4.4%, India 4.3%, Turkey 4.1%
Current Account Balance (2005E)	\$0.63 billion
Energy Overview	
Minister of Oil and Mineral Resources	Khaled Rajeh Sheikh
Proven Oil Reserves (January 1, 2006E)	4 billion barrels
Oil Production (2006E)	413 thousand barrels per day, of which 100% was crude oil. (For first 8 months of 2006)
Oil Consumption (2005E)	87 thousand barrels per day
Crude Oil Distillation Capacity (2006E)	130 thousand barrels per day
Proven Natural Gas Reserves (January 1, 2006E)	16.9 trillion cubic feet
Natural Gas Production (2004E)	None
Natural Gas Consumption (2004E)	None
Recoverable Coal Reserves (2003E)	None
Coal Production (2004E)	None
Coal Consumption (2004E)	None
Electricity Installed Capacity (2004E)	1 gigawatts
Electricity Production (2004E)	4.1 billion kilowatt hours
Electricity Consumption (2004E)	3.8 billion kilowatt hours
Total Energy Consumption (2004E)	0.2 quadrillion Btus*, of which Oil (100%), Natural Gas (0%), Coal (0%), Nuclear (0%), Hydroelectricity (0%), Other Renewables (0%)
Total Per Capita Energy Consumption (2003E)	7.8 million Btus
Energy Intensity (2004E)	5,380.1 Btu per \$2000-PPP**
Environmental Overview	
Energy-Related Carbon Dioxide Emissions (2003E)	10 million metric tons, of which Oil (100%), Natural Gas (0%), Coal (0%)
Per-Capita, Energy- Related Carbon Dioxide Emissions (2003E)	0.5 metric tons
Carbon Dioxide Intensity (2004E)	0.3 Metric tons per thousand \$2000-PPP**
Environmental Issues	very limited natural fresh water resources; inadequate supplies of potable water; overgrazing; soil erosion; desertification

Major Environmental Agreements	party to: Biodiversity, Climate Change, Climate Change-Kyoto Protocol, Desertification, Endangered Species, Environmental Modification, Hazardous Wastes, Law of the Sea, Ozone Layer Protection signed, but not ratified: none of the selected agreements	
Oil and Gas Industry		
Organization	Yemen General Corporation for Oil & Gas/Mineral Resources – loose affiliation of several subsidiaries, including: Yemen Petroleum Company (YPC) – manages a nominal government interest in production (PSAs), handles marketing; General Corporation for Oil and Mineral Resources (GCOMR) – investment and holding company; Yemen Refining Company (YRC) – manages refining industry; General Department of Crude Oil Marketing (GDCOM) – handles government shares of exports; The Petroleum Exploration and Production Authority (PEPA) – contract negotiations	
Major Oil Producing Blocks	Masila (including the Camaal and Heijah fields), Marib al Jawf (including Alif, Asaad Al- Kamil, Azal, and Wasi Bana fields), Jannah, East Sarr, East Shabwa, Howarin (including the Tasour field), and Iyad	
Foreign Company Involvement	Calvalley, Cepsa, Dove Energy, DNO, ExxonMobil, Hunt Oil, Korea National Oil Company, Kufpec, Nexen, Occidental, Oil Search, OMV, PanCanadian, SK Corporation, Sinopec, Soco, Total, Vintage Oil	
Natural Gas Reserves	Marib al Jawf, Jannah, East Shabwa, Iyad	
Major Pipelines (capacity, Mmcf/d)	Marib-Ra's Isa Pipeline, Masila-Shahir, Shabwa-Rudhum Pipeline (pipeline linking the Iyad – Shabwa fields to the Rudhum terminal on the Gulf of Aden at Hisn an Nushaymah), Jannah-Safir (pipeline from Jannah to production facilities in Safir, Marib),, East Shabwa- Masila (pipeline from East Shabwa to Masila)	
Major Refineries (capacity, bbl/d)	Aden (120,000), Marib (10,000)	
Major Oil/Gas Ports	Aden, Al Hodeidah, Bir Ali, Ash Shihr/Al Mukalla, Mocha, Nishtun, As Salif-Ra's (offshore)	

* 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 figures from OECD estimates based on purchasing power parity (PPP) exchange rates.

Links

U.S. Government

CIA World Factbook - Yemen

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Associations and Institutions The Center for Middle Eastern Studies - Yemen

Foreign Government Agencies

Central Bank of Yemen General Investment Authority - Yemen Government of Yemen Petroleum Exploration and Production Authority of Yeme

Oil and Natural Gas

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Sources

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