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REBUILDING IRAQ

Serious Challenges Impair  
Efforts to Restore Iraq's Oil  
Sector and Enact  
Hydrocarbon Legislation

Statement of Joseph A. Christoff, Director  
International Affairs and Trade





Highlights of [GAO-07-1107T](#), a testimony to the Subcommittee on the Middle East and South Asia and Subcommittee on International Organizations, Human Rights, and Oversight; Committee on Foreign Affairs, House of Representatives

### Why GAO Did This Study

Rebuilding Iraq's oil sector is crucial to rebuilding Iraq's economy. For example, oil export revenues account for over half of Iraq's gross domestic product and over 90 percent of government revenues.

This testimony addresses (1) the U.S. goals for Iraq's oil sector and progress in achieving these goals, (2) key challenges the U.S. government faces in helping Iraq restore its oil sector, and (3) efforts to enact and implement hydrocarbon legislation. This statement is based on our May 2007 report and updated data, where appropriate.

### What GAO Recommends

In our May 2007 report, we recommended that the Secretary of State, in conjunction with international donors, work with Iraqi ministries to develop an integrated energy strategy, expedite efforts to establish an effective oil metering system, and enact and implement fair and equitable hydrocarbon legislation. State commented that the Iraqi government, not the U.S. government, is responsible for taking action on GAO's recommendations. GAO believes that these recommendations are still valid given the billions made available to date and the U.S. government's influence in Iraq.

[www.gao.gov/cgi-bin/getrpt?GAO-07-1107T](http://www.gao.gov/cgi-bin/getrpt?GAO-07-1107T).

To view the full product, including the scope and methodology, click on the link above. For more information, contact Joseph A. Christoff at (202) 512-8979 or [christoffj@gao.gov](mailto:christoffj@gao.gov).

## REBUILDING IRAQ

# Serious Challenges Impair Efforts to Restore Iraq's Oil Sector and Enact Hydrocarbon Legislation

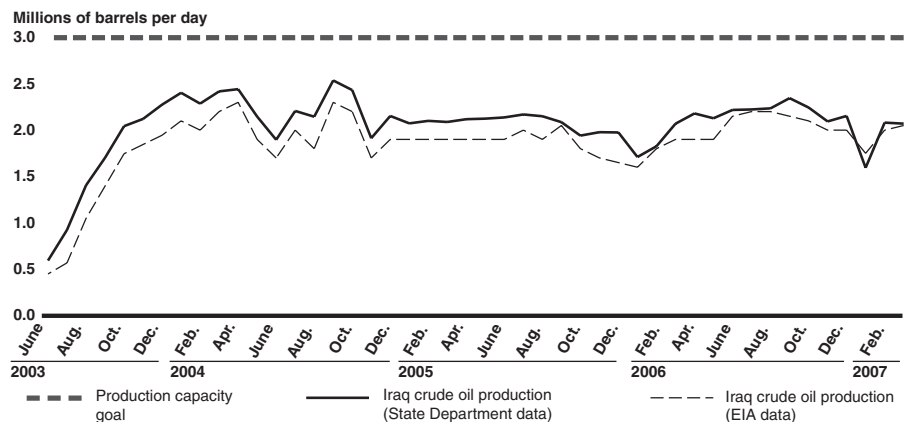
### What GAO Found

Despite 4 years of effort and \$2.7 billion in U.S. reconstruction funds, Iraqi oil output has consistently fallen below U.S. program goals. In addition, the State Department's data on Iraq's oil production may be overstated since data from the U.S. Department of Energy show lower production levels—between 100,000 and 300,000 barrels less per day. Inadequate metering, re-injection, corruption, theft, and sabotage account for the discrepancy, which amounts to about \$1.8 to \$5.5 billion per year. Comprehensive metering of Iraq's oil production has been a long-standing problem and continuing need.

Poor security, corruption, and funding constraints continue to impede reconstruction of Iraq's oil sector. The deteriorating security environment places workers and infrastructure at risk while protection efforts have been insufficient. Widespread corruption and smuggling reduce oil revenues. Moreover, Iraq's needs are significant and future funding for the oil sector is uncertain as nearly 80 percent of U.S. funds for the oil sector have been spent. Iraq's contribution has been minimal with the government spending less than 3 percent of the \$3.5 billion it approved for oil reconstruction projects in 2006.

Iraq has yet to enact and implement hydrocarbon legislation that defines the distribution of oil revenues and the rights of foreign investors. Until this legislation is enacted and implemented, it will be difficult for Iraq to attract the billions of dollars in foreign investment it needs to modernize the sector. As of July 13, 2007, Iraq's cabinet has approved only one of four separate but interrelated pieces of legislation—a framework that establishes the structure, management, and oversight. Another part is in draft and two others are not yet drafted. Poor security, corruption, and the lack of national unity will likely impede the implementation of this legislation.

Comparison of State and Energy Department Data on Iraq's Crude Oil Production



Source: GAO analysis of Iraq Ministry of Oil data collected by the State Department and U.S. Energy Information Administration data.

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Mr. Chairmen and Members of the Subcommittees:

I am pleased to be here today to discuss U.S. efforts to rebuild Iraq's oil sector and Iraq's efforts to enact hydrocarbon legislation.

The oil sector is critical to Iraq's economy, accounting for over half of Iraq's gross domestic product and over 90 percent of its revenues. The timely and equitable distribution of these revenues is essential to Iraq's ability to provide for its needs, including the reconstruction of a unified Iraq.

The Iraqi government inherited oil infrastructure that was greatly deteriorated due to the previous regime's neglect; international sanctions; and years of conflict, looting, and vandalism. For fiscal years 2003 through 2006, the U.S. government made available about \$2.7 billion in reconstruction funds to help restore Iraq's crude oil production and exports. The United States spent an additional \$2.8 billion in Iraqi funds on the oil sector through the end of 2005; however, these funds were used primarily to purchase petroleum products because Iraq does not have adequate domestic refining capability.

My testimony discusses (1) U.S. goals for Iraq's oil sector and progress in achieving these goals, (2) key challenges the U.S. government faces in helping Iraq restore its oil sector, and (3) efforts to enact and implement hydrocarbon legislation.

This statement is based on our May 2007 report<sup>1</sup> and updated data, where appropriate. To accomplish our report objectives, we reviewed and analyzed U.S., Iraqi, donor government, United Nations (UN), International Monetary Fund (IMF), and World Bank reports and data. During two trips to Iraq and Jordan, we met with Iraqi, UN, IMF, World Bank, donor country (Japan and European Union), private sector, and U.S. officials. We also analyzed data on Iraqi oil production from the Department of State and the Department of Energy's Energy Information Administration (EIA). This work was conducted in accordance with generally accepted government auditing standards.

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<sup>1</sup>GAO, *Rebuilding Iraq: Integrated Strategic Plan Needed to Help Restore Iraq's Oil and Electricity Sectors*, GAO-07-677 (Washington, D.C.: May 15, 2007).

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## Summary

Despite 4 years of effort and \$2.7 billion in U.S. reconstruction funds, Iraqi oil output has consistently fallen below the U.S. goals of producing 3 million barrels per day (mbpd) and exporting 2.2 mbpd. For 2006, State Department data show that crude oil production and exports averaged 2.1 mbpd and 1.5 mbpd, respectively. However, the State Department's data on Iraq's oil production may be overstated since data from the U.S. Department of Energy show lower production levels—between 100,000 and 300,000 barrels fewer each day. Inadequate metering, reinjection, corruption, theft, and sabotage account for the discrepancy, which amounts to \$5 million to \$15 million daily, or about \$1.8 billion to \$5.5 billion per year. Comprehensive metering of Iraq's oil production has been a long-standing problem and continuing need.

Poor security, corruption, and funding constraints continue to impede reconstruction of Iraq's oil sector. The U.S. reconstruction effort was predicated on the assumption that a permissive security environment would exist. However, a deteriorating security environment continues to place workers and infrastructure at risk while protection efforts have been insufficient. Widespread corruption and smuggling continue to reduce oil revenues. According to State Department officials and reports, about 10 percent to 30 percent of refined fuels is diverted to the black market or smuggled out of Iraq and sold for a profit. Moreover, Iraq's needs are significant and future funding for the oil sector is uncertain as nearly 80 percent of the U.S. funds for the oil sector have been spent. Iraq's contribution to improving its infrastructure has been minimal with the government spending less than 3 percent of the \$3.5 billion it approved for oil reconstruction projects in 2006. Further, the international community has not provided any grants to develop the oil sector, and Iraq has not accessed nearly \$500 million in loans from international contributions to the oil sector. U.S. and international officials stated that international donors have not provided funds for the oil sector because they expected that Iraq and the private sector would provide the needed resources.

Iraq has yet to enact and implement comprehensive hydrocarbon legislation that defines the distribution of future oil revenues and the rights of foreign investors. Until this legislation is enacted and implemented, it will be difficult for Iraq to attract the billions of dollars in foreign investment it needs to modernize the oil sector. According to the State Department, as of July 13, 2007, Iraq's cabinet had approved only one of four separate but interrelated pieces of legislation— hydrocarbon framework legislation that establishes structure, management, and oversight for the sector. This draft legislation is currently being considered by Iraq's parliament (Council of Representatives). A second piece of

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legislation, the revenue-sharing legislation, has been drafted but not approved by Iraq's cabinet (Council of Ministers). Two other pieces of legislation that would restructure the Ministry of Oil and establish an Iraq National Oil Company have not been drafted. According to a State Department and a Kurdistan Regional Government (KRG) official, the passage and implementation of all four laws is essential to achieve increased transparency, accountability, and revenue management. However, poor security, corruption, and lack of unity and trust will likely impede the implementation of the legislation.

In our May 2007 report, we recommended that the Secretary of State work with the Iraqi government and particularly with the Ministries of Oil and Electricity to (1) develop an integrated energy strategy for the oil and electricity sectors; (2) expedite efforts to establish an effective metering system for the oil sector; (3) develop fair and equitable hydrocarbon legislation, regulations, and implementing guidelines; (4) expedite efforts to develop adequate budgeting, procurement, and financial management systems; and (5) implement a viable donor mechanism to secure funding for Iraq's future oil and electricity rebuilding needs.

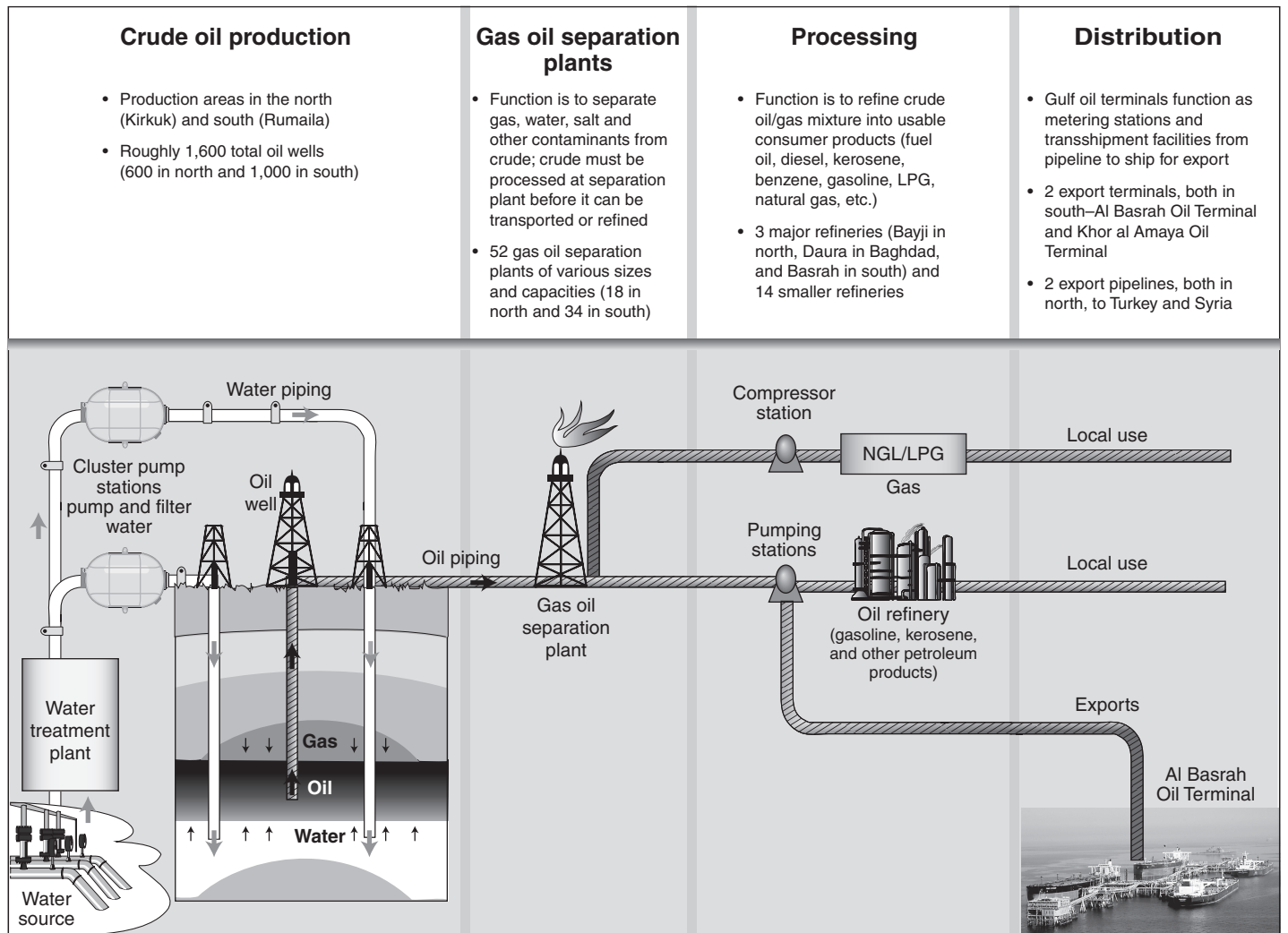
In commenting on our prior report, State agreed that all the steps we included in our recommendations are necessary to improve Iraq's energy sector but stated that these actions are the direct responsibility of the Government of Iraq, not the Department of State, any U.S. agency, or the international donor community. We recognize that these actions are ultimately the responsibility of the Iraqi government. However, the U.S. government wields considerable influence in overseeing Iraq stabilization and rebuilding efforts.

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## Background

Iraq's oil infrastructure is an integrated network that includes crude oil fields and wells, pipelines, pump stations, refineries, gas oil separation plants, gas processing plants, export terminals, and ports (see fig. 1). This infrastructure has deteriorated significantly over several decades due to war damage; inadequate maintenance; and the limited availability of spare parts, equipment, new technology, and financing. Considerable looting after Operation Iraqi Freedom and continued attacks on crude and refined product pipelines have contributed to Iraq's reduced crude oil production and export capacities.

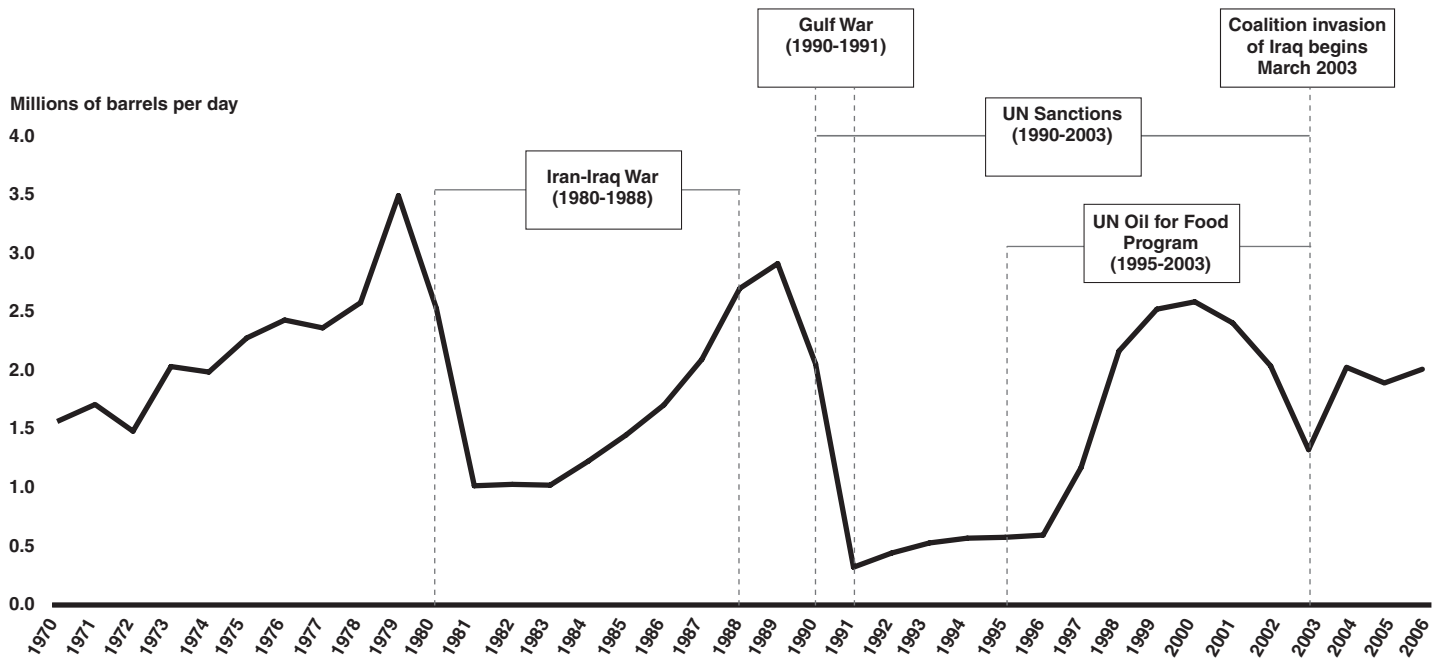
**Figure 1: Overview of Iraq's Oil Network**



Sources: GAO analysis; photo (U.S. Army Corps of Engineers).

Iraq's crude oil reserves, estimated at a total of 115 billion barrels, are the third largest in the world. However, Iraq's ability to extract these reserves has varied widely over time and has been significantly affected by war. Figure 2 shows Iraq's daily average crude oil production levels annually from 1970 through 2006.

Figure 2: Crude Oil Production Levels in Iraq, 1970 through 2006



Source: GAO analysis of data from the U.S. Department of Energy, Energy Information Administration.

Iraq's crude oil production reached 3.5 mbpd, its highest annual average, in 1979. In September 1980, Iraq invaded Iran and production levels plummeted. Although the Iran-Iraq War continued until 1988, production levels grew steadily after 1983, peaking at 2.9 million barrels per day in 1989. The Gulf War began the following year when Iraq invaded Kuwait. In January 1991, the United States and coalition partners began a counter-offensive (Operation Desert Storm). Crude oil production once again dropped precipitously and remained relatively low from 1990 to 1996, while Iraq was under UN sanctions. Under the UN Oil for Food program, Iraqi crude oil production began to rebound, peaking at an annual average of 2.6 mbpd in 2000. In the 5 years preceding the 2003 U.S. invasion of Iraq, crude oil production averaged 2.3 mbpd. In 2003, crude oil production dropped again to a low of about 1.3 million barrels per day (annual average) but then rebounded.

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## Iraq's Oil Production Goals Have Not Been Met and Oil Production Figures May Be Overstated

Despite U.S. and Iraqi government efforts to reconstruct Iraq's key economic sector, oil production has consistently fallen below U.S. program goals. In addition, production levels may be overstated and measuring them precisely is challenging due to limited metering and poor security. Comprehensive metering has been an outstanding goal of the United States, the international community, and the Iraqi government.

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## U.S. Oil Goals Have Not Been Met

Key reconstruction goals for Iraq's oil sector, including those for crude oil production and exports, and refined fuel production capacity and stock levels, have not been met. U.S. goals for the oil sector include reaching an average crude oil production capacity of 3 million barrels per day (mbpd) and crude oil export levels of 2.2 mbpd.<sup>2</sup> However, in 2006, actual crude oil production and exports averaged, respectively, about 2.1 mbpd and 1.5 mbpd. Figure 3 compares Iraq's oil production and exports with U.S. goals (the data for this figure are presented in appendix I). As the figure shows, production and exports for the first five months of 2007 were still below U.S. goals. In August 2003, the CPA established a U.S. program goal to increase crude oil production to about 1.3 mbpd. The CPA increased this goal every 2 to 3 months until July 2004, when the goal became to increase crude oil production capacity to 3.0 mbpd.<sup>3</sup>

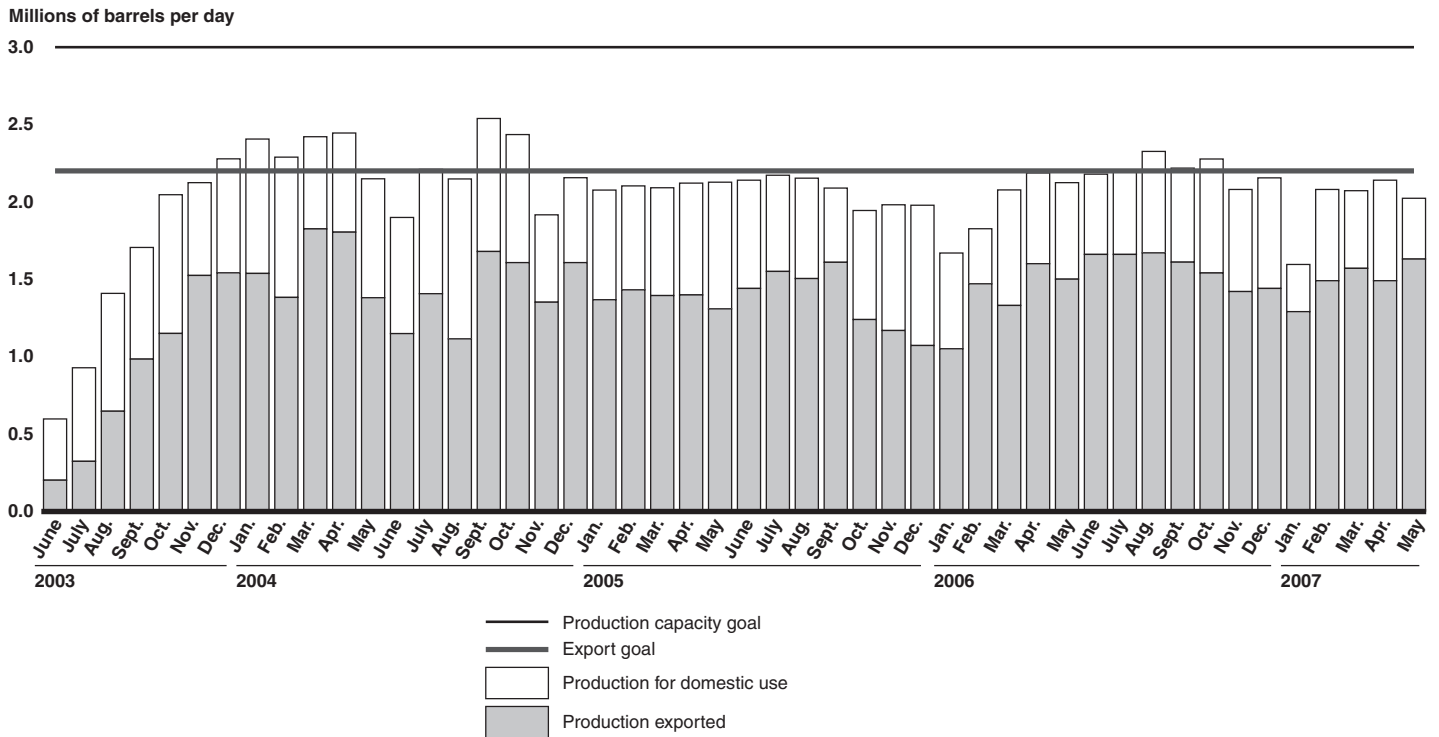
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<sup>2</sup>U.S. goals differ from the government of Iraq and IMF targets. According to the State Department, as of January 2007, Iraq's production goal is 2.1 mbpd and its export goal is 1.7 mbpd.

<sup>3</sup>Production *capacity* differs from actual production. Production capacity is the maximum amount of production a country can maintain over a period of time. For example, EIA has defined production capacity as the maximum amount of production that (1) could be brought online within 30 days and (2) sustained for at least 90 days. Since Iraq has been trying to increase its production of crude oil, we use actual production as an indicator of Iraq's production capacity in this report.



**Figure 3: Iraqi Reported Crude Oil Production and Exports and U.S. Goals, June 2003 through May 2007**



Source: GAO analysis of Iraq Ministry of Oil data collected by State Department.

Besides production and export of crude oil, the CPA also established goals for the production of natural gas and liquefied petroleum gas (LPG), as well as the national stocks of refined petroleum products (such as gasoline) that are used to generate energy by consumers and businesses. These CPA goals were to increase production capacity of natural gas to 800 million standard cubic feet per day (mscfd); increase production capacity of LPG to 3,000 tons per day (tpd); and meet demand for benzene (gasoline), diesel, kerosene, and LPG by building and maintaining their stock levels at a 15-day supply.

However, the 2006 averages did not meet these goals. To increase the stocks of petroleum products and their availability to consumers, Iraq legalized the importation of petroleum products by private companies to supplement its own production and state-owned company imports. For 2006, the IMF estimated that Iraq's state-owned companies imported about \$2.6 billion of petroleum products. At the recommendation of the IMF, the Iraqi government has been reducing subsidies for refined oil products,

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which raises the prices consumers pay. In the past, refined oil products in Iraq had been highly subsidized, which led to increased demand. Reduction in domestic demand for refined oil products would allow additional crude oil to be exported for revenue rather than refined in Iraq.

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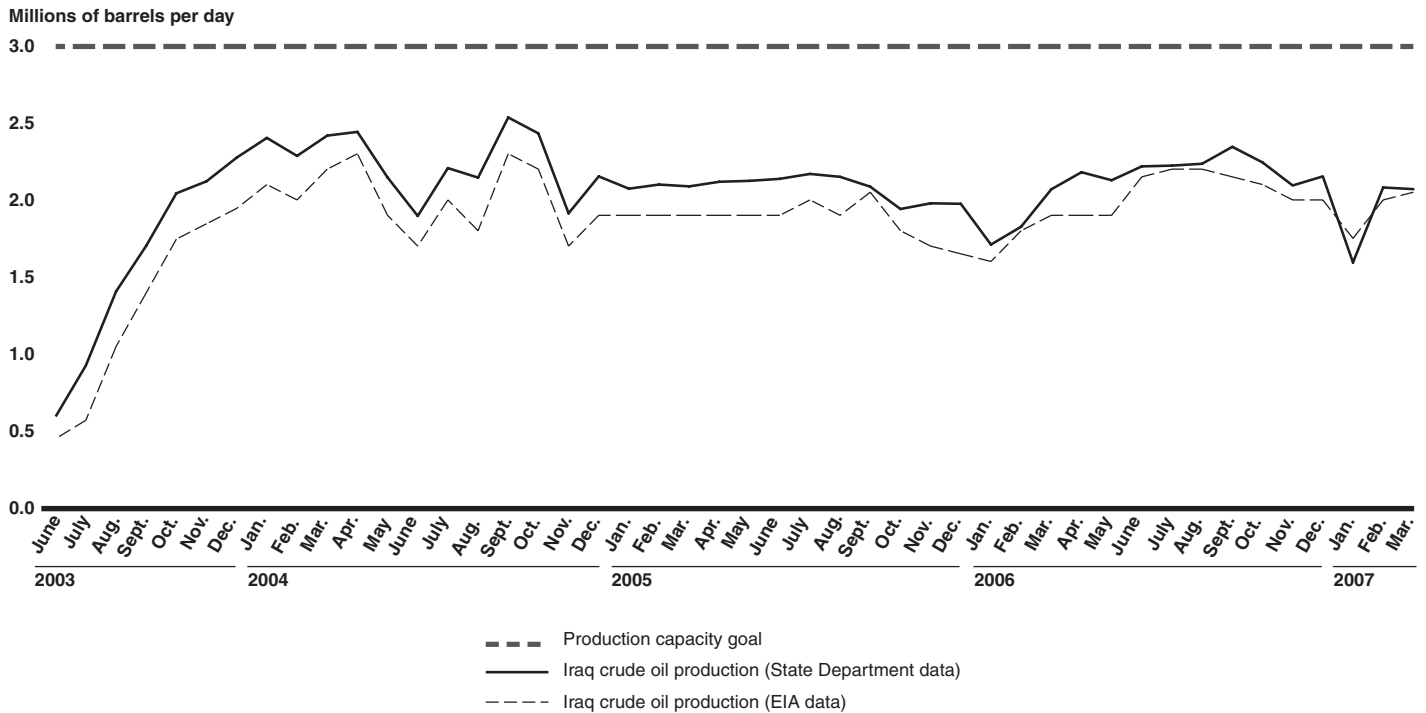
### Iraq's Crude Oil Production May Be Overstated

Iraq's crude oil production statistics may be overstated. We compared the State Department's statistics to those published by the EIA, which are based on alternate sources.<sup>4</sup> Part of EIA's mission is to produce and disseminate statistics on worldwide energy production and use. While these two data sets follow similar trend lines, EIA reports that Iraqi oil production was about 100,000 to 300,000 barrels per day lower than the amounts the State Department reported. At an average price of \$50 per barrel, this is a discrepancy of \$5 million to \$15 million per day, or \$1.8 billion to \$5.5 billion per year. Figure 4 shows these two data sets over the time period (June 2003 to March 2007) for which data from both State and EIA were available. The data for this figure are presented in appendix I.

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<sup>4</sup>EIA uses its own analysis and a variety of sources, including Dow Jones, the *Middle East Economic Survey*, the *Petroleum Intelligence Weekly*, the International Energy Agency (IEA), the *Monthly Oil Market Report* from OPEC, the *Oil & Gas Journal*, Platts, and Reuters.

**Figure 4: Comparison of State Department and EIA Data on Iraq's Crude Oil Production**



Source: GAO analysis of Iraq Ministry of Oil data collected by the State Department and U.S. Energy Information Administration data.

According to EIA, several factors may account for the discrepancy. One factor is the lack of storage facilities for crude oil in Iraq. Crude oil that cannot be processed by refineries or exported is reinjected into the ground.<sup>5</sup> Another factor affecting the discrepancy may be differences in the frequency and timing of the data. The State Department's data are reported daily in real time, while EIA produces monthly data that have been reviewed and corroborated from several sources. This lag in reporting and longer time period may allow analysts to address inconsistencies such as double counting and reinjection. In addition, the State Department regularly reports on sabotage and interdictions to crude oil pipelines and other disruptions in the crude oil production process. Also, under Saddam Hussein, Iraq had a history of diverting crude oil

<sup>5</sup>Reinjecting crude oil—and, more commonly heavy fuel oil (residual oil)—into wells is one way to maintain pressure in the wells for extraction. However, this practice can also damage the wells and reduce the value of the remaining reserves.

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production to circumvent UN sanctions. Therefore, it is possible that corruption, theft, and sabotage may also be factors in the discrepancy.

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### Metering of Oil Production and Distribution Network Has Been a Long-standing but Unmet Goal

Reliable information on Iraq's oil production is further complicated by the lack of metering. According to a State Department oil advisor, meters are in place at many locations but are not usable in many instances due to the difficulties in obtaining needed replacements and spare parts. Without comprehensive metering, crude oil production must be estimated using less precise means, such as estimating the flow through pipelines and relying on reports from onsite personnel rather than an automated system that could be verified.

An improved metering system has been a U.S. and international donor priority since early 2004, but implementation has been delayed. In 1996, the UN first cited the lack of oil metering when Iraq was under UN sanctions. In 2004, the International Advisory and Monitoring Board (IAMB) for the Development Fund for Iraq recommended the expeditious installation of metering equipment. According to IAMB, in June 2004, the CPA had approved a budget to replace, repair, and calibrate the metering system on Iraq's oil pipeline network. However, the oil metering contract was not completed due to security and technical issues. In June 2006, IAMB reported that the Iraqi government had entered into an agreement with Shell Oil Company to serve as a consultant for the Ministry of Oil. Shell would advise the ministry on the establishment of a system to measure the flow of oil, gas, and related products within Iraq and in export and import operations. The U.S. government is assisting in this effort by rebuilding one component of the metering system in the Al-Basrah oil port—Iraq's major export terminal—and expects the project to be complete in July 2007.

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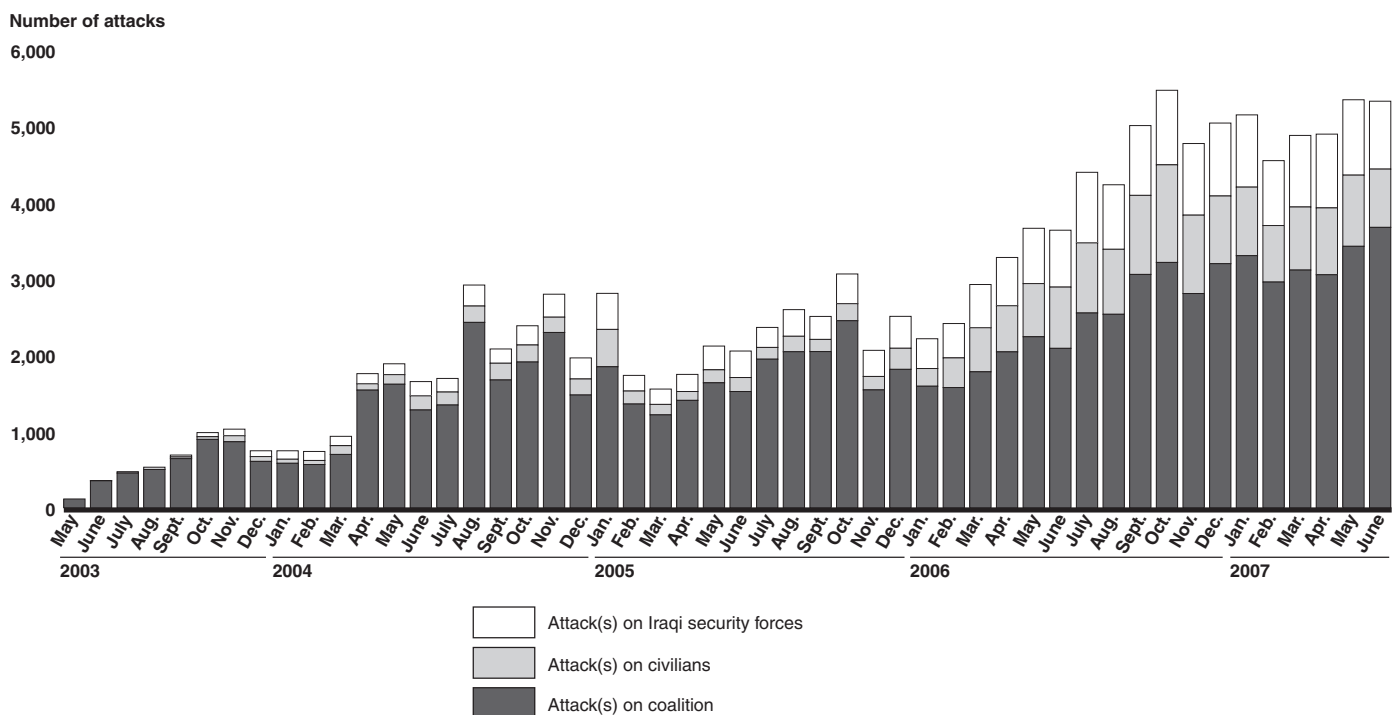
### Security, Corruption, and Funding Challenges Hinder Reconstruction Efforts

The U.S. government and Iraq face several key challenges in improving Iraq's oil sector. First, the U.S. reconstruction program assumed a permissive security environment that never materialized; the ensuing lack of security resulted in project delays and increased costs. Second, corruption and smuggling have diverted government revenues potentially available for rebuilding efforts. Third, future funding needs for reconstruction of Iraq's oil sector are significant, but the source of these funds is uncertain.

## Poor Security Conditions Have Slowed Reconstruction and Increased Costs

The U.S. reconstruction effort was predicated on the assumption that a permissive security environment would exist. However, since May 2003, overall security conditions in Iraq have deteriorated and grown more complex, as evidenced by the increased numbers of attacks (see fig. 5). The average number of daily attacks in June 2007 was about the same level as the prior high of about 180 attacks per day that occurred in October 2006 around the time of Ramadan. Overall, the average number of daily attacks was about 50 percent higher in June 2007 than in June 2006.<sup>6</sup>

**Figure 5: Enemy-Initiated Attacks against the Coalition, Iraqi Security Forces, and Civilians (May 2003 through June 2007)**



Source: GAO analysis of DIA-reported Multi-National Force-Iraq data, June 2007.

Note: Attacks against infrastructure account for less than 1 percent of enemy-initiated attacks.

The deteriorating security environment has led to project delays and increased costs. Insurgents have destroyed key oil infrastructure,

<sup>6</sup>While the data on attacks provide a reasonably sound depiction of security trends, DOD documents and officials acknowledge that these data provide only a partial picture of violence in Iraq because not all attacks against civilians and Iraqi security forces are observed by or reported to coalition forces.

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threatened workers, compromised the transport of materials, and hindered project completion and repairs by preventing access to work sites. Moreover, looting and vandalism have continued since 2003. U.S. officials reported that major oil pipelines in the north continue to be sabotaged, shutting down oil exports and resulting in lost revenues. For example, according to the Army Corps of Engineers, although eight gas oil separation plants in northern Iraq have been refurbished, many are not running due to interdictions on the Iraq-Turkey pipeline and new stabilization plant. The Corps noted that if the lines and plant were in operation today, an additional 500,000 barrels per day could be produced in northern Iraq.

The U.S. government has developed a number of initiatives to protect the oil infrastructure and transfer this responsibility to the Iraqi government.<sup>7</sup> Such efforts include fortifying the infrastructure and improving the capabilities of rapid repair teams and protection security forces such as the Oil Protection Force and the Strategic Infrastructure Battalions (SIB). The U.S. government has paired these security forces with coalition partners and has trained and equipped the SIBs. However, U.S. officials stated that the capability and loyalty of some of these units are questionable. According to Department of Defense (DOD) and Center for Strategic and International Studies reports,<sup>8</sup> these security forces have been underpaid, underequipped, and poorly led, and are sometimes suspected of being complicit in interdiction and smuggling. Additional information on the nature and status of these efforts and the SIBs is classified.

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## Corruption and Smuggling Reduce Oil Revenues

U.S. and international officials have noted that corruption in Iraq's oil sector is pervasive. In 2006, the World Bank and the Ministry of Oil's Inspector General estimated that millions of dollars of government revenue are lost each year to oil smuggling or diversion of refined products. According to State Department officials and reports, about 10

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<sup>7</sup>The Special Inspector General for Iraq Reconstruction (SIGIR), *Unclassified Summary of SIGIR's Review of Effort to Increase Iraq's Capability to Protect Its Energy Infrastructure*, SIGIR-06-038 (Washington, D.C., Sept. 27, 2006).

<sup>8</sup>Anthony Cordesman, Center for Strategic and International Studies, *Iraqi Force Development and the Challenge of Civil War: The Critical Problems and Failures the U.S. Must Address If Iraqi Forces Are to Eventually Do the Job* (Washington, D.C.: Nov. 30, 2006). Department of Defense, *Measuring Stability and Security in Iraq* (Washington, D.C.: June 7, 2007).

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percent to 30 percent of refined fuels are diverted to the black market or are smuggled out of Iraq and sold for a profit. According to State Department reporting, Iraqi government officials may have profited from these activities. The insurgency has been partly funded by corrupt activities within Iraq and by skimming profits from black marketers, according to U.S. embassy documents. According to a June 2007 DOD report, a variety of criminal, insurgent, and militia groups engage in the theft and illicit sale of oil to fund their activities. For example, DOD reported that as much as 70 percent of the fuel processed at Bayji was lost to the black market—possibly as much as \$2 billion a year. As a result, the Iraqi Army assumed control of the entire Bayji refinery, and equipment is being installed to prevent siphoning.

One factor that had stimulated black market activities and fuel smuggling to neighboring countries was Iraq's low domestic fuel prices, which were subsidized by the government. However, under the IMF's Stand-by Arrangement with Iraq, the government has already increased domestic fuel prices several times, significantly reducing the subsidy for many fuel products. The Iraqi government intends to continue the price increases during 2007 and encourage private importation of fuels, which was liberalized in 2006. The purpose is to decrease the incentive for black market smuggling and to increase the availability of fuel products.

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### Future Funding Needs Are Significant but Funding Sources Are Uncertain

While billions have been provided to rebuild Iraq's oil sector, Iraq's future needs are significant and sources of funding are uncertain. For fiscal years 2003 through 2006, the United States made available about \$2.7 billion, obligated about \$2.6 billion, and spent about \$2.1 billion to rebuild Iraq's oil sector. According to various estimates and officials, Iraq will need billions of additional dollars to rebuild, maintain, and secure its oil sector. Since the majority of U.S. funds have been spent, the Iraqi government and international community represent important sources of potential future funding.

However, the Iraqi government has not fully spent the capital project funds already allocated to the oil sector in Iraq's 2006 budget. In 2006, Iraq planned to spend more than \$3.5 billion for capital projects in the oil sector. This amount accounted for about 98 percent of the Ministry of Oil's total budget (\$3.6 billion) that year. As of December 2006, the end of Iraq's fiscal year, only 3 percent of oil sector capital project funds had been

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spent.<sup>9</sup> While Iraq's inability to spend its capital budget may not directly affect U.S.-funded projects, U.S. investment alone is not adequate for the full reconstruction and expansion of the oil sector. Therefore, Iraq's continued difficulties in spending its capital budget could hamper efforts to attain its current reconstruction goals.

According to U.S. officials, Iraq lacks the clearly defined and consistently applied budget and procurement rules needed to effectively implement capital projects. For example, the Iraqi ministries are guided by complex laws and regulations, including those implemented under Saddam Hussein, the CPA, and the current government. According to State Department officials, the lack of agreed-upon procurement and budgeting rules causes confusion among ministry officials and creates opportunities for corruption and mismanagement. Additionally, according to the State Department and DOD, personnel turnover within the ministries, fear of corruption charges, and an onerous contract approval process<sup>10</sup> have caused delays in contract approval and capital improvement expenditures.

Furthermore, the Iraqi government has not made full use of potential international loans, and future donor funding for the oil sector remains uncertain. Donors other than the United States have not provided any grants to develop the oil sector, and the Iraqi government had not taken advantage of \$467 million in loans from Japan to develop a crude oil export facility and upgrade a refinery. According to U.S. and international officials, donor funding has been limited because of an expectation that sufficient funds would be provided through Iraq's oil revenues and private investors.

Moreover, it is unclear to what extent the International Compact with Iraq will serve as a viable mechanism to obtain additional donor support for Iraq, particularly for the oil sector. Launched in May 2007, the compact was intended to secure additional funding for Iraq's oil, electricity, and

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<sup>9</sup>Although U.S. advisors are aware of various Iraqi ministries' limited spending in areas such as capital projects, we cannot verify the precision of these numbers. For the purpose of this testimony, we only use these data, in conjunction with U.S. advisors' reports, to identify limited spending as a potential challenge for Iraq should it rely on its ministries' own budgets to fund future reconstruction projects.

<sup>10</sup>According to the State Department, the Contracting Committee requirement for about a dozen signatures to approve electricity and oil contracts exceeding \$10 million further slows a bureaucratic process.



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other sectors. However, the extent to which the compact will stimulate international assistance for the oil sector remains uncertain.

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## Challenges Impede Efforts to Enact and Implement Comprehensive Hydrocarbon Legislation

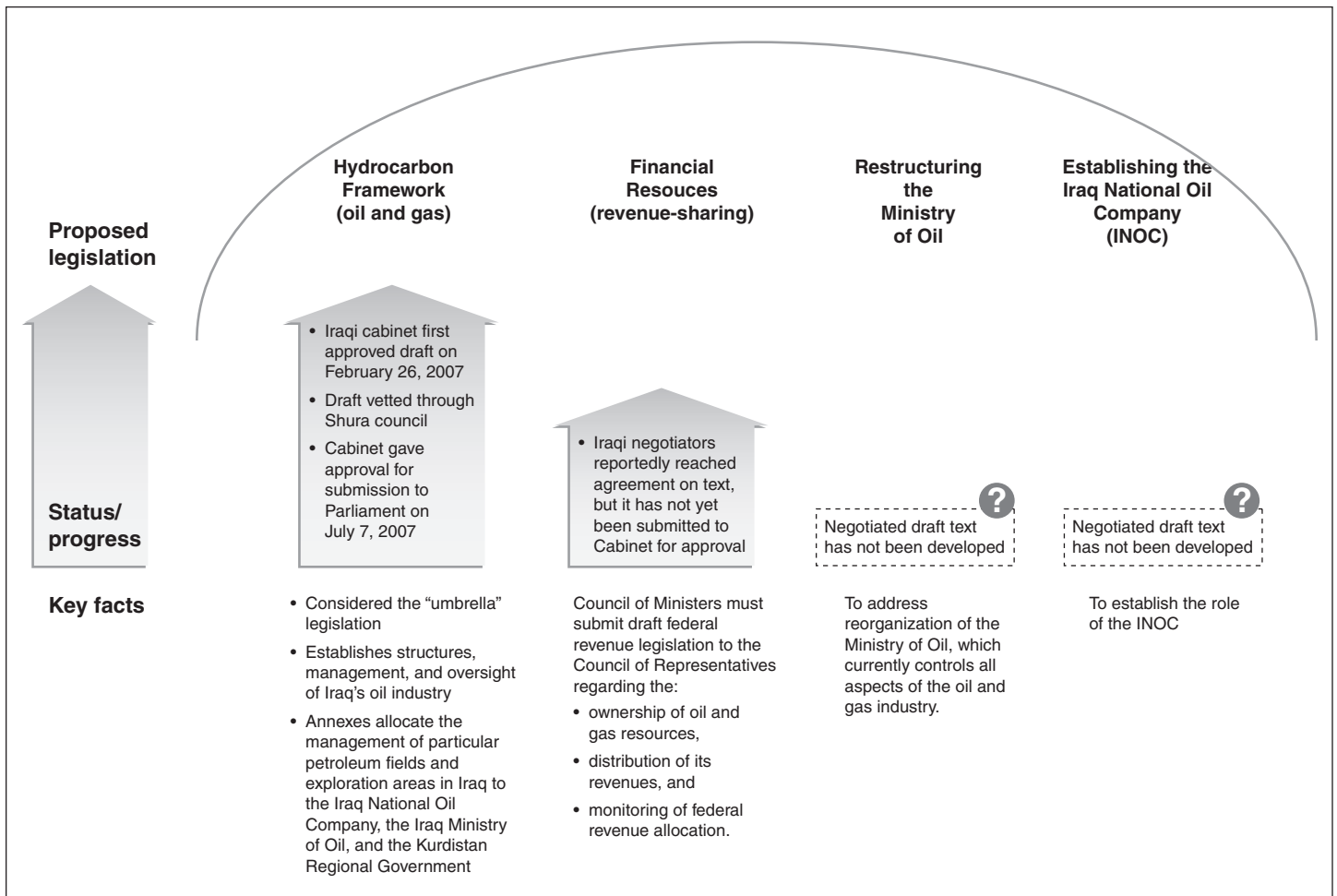
The World Bank reports that additional incentives are needed to stimulate oil production and investment, including a clear legal and regulatory framework; clearly assigned roles for Iraq's ministries, state agencies, and the private sector; and a predictable negotiating environment for contracts. Iraq has yet to enact and implement comprehensive hydrocarbon legislation that would define the distribution of future oil revenues and the rights of foreign investors. According to U.S. officials, until such legislation is passed and implemented, it will be difficult for Iraq to attract the billions of dollars in foreign investment it needs to modernize the oil sector.

As of July 13, 2007, the Iraqi government was in various stages of drafting and enacting four separate, yet interrelated, pieces of legislation: hydrocarbon framework legislation that establishes the structure, management, and oversight for the sector; revenue-sharing legislation (the draft "Law of Financial Resources"); legislation restructuring the Ministry of Oil; and legislation establishing the Iraq National Oil Company (INOC). According to the State Department, to be enacted as law, the four pieces of legislation must be approved by Iraq's cabinet (Council of Ministers), vetted through the Shura council,<sup>11</sup> and then submitted by the cabinet to a vote by Iraq's parliament (Council of Representatives). If the laws are passed, they are then made publicly available in the Iraqi government's official publication, known as the *Official Gazette*. Figure 6 shows the status of the four proposed pieces of legislation as of July 1, 2007.

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<sup>11</sup>According to a State Department official responsible for monitoring the hydrocarbon legislation, the Shura Council is the committee to ensure constitutionality and avoid contradictions with the Iraqi legal system (including Islamic law).

**Figure 6: Status of Iraq's Hydrocarbon Legislation, July 1, 2007**



Source: GAO based on information from the State Department and Kurdistan Regional Government.

Note: According to a State Department official, as of July 13, 2007, the annexes may have been dropped from the hydrocarbon framework legislation because agreement could not be reached on the allocation of petroleum fields and exploration areas. It remains uncertain how this reportedly contentious issue will be resolved.

The draft hydrocarbon framework is the furthest along in the legislative process and is currently before Iraq's parliament, according to a State Department and a KRG official. According to these officials, it provides an overall framework but lacks key details that will be addressed in the financial resources and other legislation. The UN reported in early June 2007 that there had been no decision on whether the hydrocarbon framework legislation would be voted on as a part of a larger energy

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package with annexes and supporting legislation or voted on separately. The KRG has published the negotiated “agreed-to” text for the revenue-sharing legislation, which has not yet been approved by the cabinet. Negotiated text of the draft legislation for restructuring the Ministry of Oil and establishing INOC have yet to be developed and published. According to a State Department and KRG officials, the passage and implementation of all four pieces of legislation is essential to achieve increased transparency, accountability, and revenue management.

Moreover, enacting and implementing hydrocarbon legislation and subsequent regulations and procedures will likely be impeded by some of the same challenges, such as poor security and corruption, that affect achieving program goals and reconstruction of the oil sector. According to U.S. officials, sectarian attacks and the lack of national unity and trust have resulted in competing sectarian interests and wariness of foreign investment. Also, according to U.S. officials, opportunities to profit from corruption and smuggling reduce the incentive for greater transparency and accountability in oil resource management. U.S. officials recognize that significant implementation challenges will remain once the draft legislation is enacted into law.

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## Conclusion

As we recently reported, the United States has spent billions of dollars to rebuild Iraq’s oil sector, but billions more will be needed to surmount the challenges facing Iraq’s oil sector. Iraq’s oil sector lacks an effective metering system to measure output, determine revenue trends, and identify illicit diversions. Opaque laws governing investment have also limited foreign investment in this critical sector. The passage of comprehensive Iraqi hydrocarbon legislation could serve as an important impetus for stimulating additional investment if and when security conditions improve. The development of the sector is also hindered by weak government budgeting, procurement, and financial management systems and limited donor spending. The absence of an integrated strategic plan that coordinates efforts across the oil and electricity sectors is essential given their highly interdependent nature. Such a plan would help identify the most pressing needs for the entire energy sector and help overcome the daunting challenges affecting future development prospects.

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## Recommendations for Executive Action

In our May 2007 report, we recommended that the Secretary of State, in conjunction with relevant U.S. agencies and in coordination with the donor community, work with the Iraqi government and particularly the Ministry of Oil to:

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1. Develop an integrated energy strategy for the oil and electricity sectors that identifies and integrates key short-term and long-term goals and priorities for rebuilding, maintaining, and securing the infrastructure; funding needs and sources; stakeholder roles and responsibilities, including steps to ensure coordination of ministerial and donor efforts; environmental risks and threats; and performance measures and milestones to monitor and gauge progress.
  2. Set milestones and assign resources to expedite efforts to establish an effective metering system for the oil sector that will enable the Ministry of Oil to more effectively manage its network and finance improvements through improved measures of production, consumption, revenues, and costs.
  3. Improve the existing legal and regulatory framework, for example, by setting milestones and assigning resources to expedite development of viable and equitable hydrocarbon legislation, regulations, and implementing guidelines that will enable effective management and development of the oil sector and result in increased revenues to fund future development and essential services.
  4. Set milestones and assign resources to expedite efforts to develop adequate ministry budgeting, procurement, and financial management systems.
  5. Implement a viable donor mechanism to secure funding for Iraq's future oil and electricity rebuilding needs and for sustaining current energy sector infrastructure improvement initiatives once an integrated energy strategic plan has been developed.

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## Agency Comments

In commenting on a draft of our May 2007 report, the State Department agreed that all the steps we included in our recommendations are necessary to improve Iraq's energy sector but stated that these actions are the direct responsibility of the Government of Iraq, not of the Department of State, any U.S. agency, or the international donor community. The State Department also commented that U.S. agencies are already taking several actions consistent with our recommendations. We recognize that these actions are ultimately the responsibility of the Iraqi government. However, it remains clear that the U.S. government wields considerable influence in overseeing Iraq stabilization and rebuilding efforts. We also believe additional actions are warranted given the lack of progress that has been made over the last 4 years in achieving Iraq reconstruction goals.

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Mr. Chairmen, this concludes my statement. I would be pleased to answer any questions that you or other Members may have at this time.

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## GAO Contacts and Acknowledgments

For questions regarding this testimony, please call Joseph A. Christoff at (202) 512-8979 or [christoffj@gao.gov](mailto:christoffj@gao.gov). Other key contributors to this statement were Stephen Lord, Assistant Director; Lynn Cothorn; Kathleen Monahan; and Timothy Wedding.

# Appendix I: Data on Iraq's Crude Oil Production and Exports

Table 1 provides the data used in figures 3 and 4 of this testimony. Department of State data on Iraq's crude oil production and exports are collected by State Department officials in Iraq through Iraq's Ministry of Oil. We calculated Iraq's production for domestic consumption (the amount of oil produced that remains in the country) as the remainder of Iraq's production of crude oil after exports, based on State Department's data. Data from the Department of Energy's Energy Information Administration (EIA) are based on EIA's own analysis and a variety of sources, including Dow Jones, the *Middle East Economic Survey*, the *Petroleum Intelligence Weekly*, the International Energy Agency, OPEC's *Monthly Oil Market Report*, the *Oil & Gas Journal*, Platts, and Reuters.

**Table 1: Iraq's Oil Production, Exports, Production for Domestic Consumption (millions of barrels per day)**

| Month/Year | State Department Data |         |                                     | EIA Data   |
|------------|-----------------------|---------|-------------------------------------|------------|
|            | Production            | Exports | Production for Domestic Consumption | Production |
| Jun-03     | 0.596                 | 0.200   | 0.396                               | 0.452      |
| Jul-03     | 0.927                 | 0.322   | 0.605                               | 0.572      |
| Aug-03     | 1.408                 | 0.646   | 0.762                               | 1.050      |
| Sep-03     | 1.705                 | 0.983   | 0.722                               | 1.399      |
| Oct-03     | 2.046                 | 1.149   | 0.897                               | 1.749      |
| Nov-03     | 2.124                 | 1.524   | 0.600                               | 1.848      |
| Dec-03     | 2.278                 | 1.541   | 0.737                               | 1.948      |
| Jan-04     | 2.406                 | 1.537   | 0.869                               | 2.103      |
| Feb-04     | 2.289                 | 1.382   | 0.907                               | 2.003      |
| Mar-04     | 2.421                 | 1.825   | 0.596                               | 2.203      |
| Apr-04     | 2.445                 | 1.804   | 0.641                               | 2.303      |
| May-04     | 2.149                 | 1.380   | 0.769                               | 1.903      |
| Jun-04     | 1.899                 | 1.148   | 0.751                               | 1.703      |
| Jul-04     | 2.210                 | 1.406   | 0.804                               | 2.003      |
| Aug-04     | 2.148                 | 1.114   | 1.034                               | 1.803      |
| Sep-04     | 2.539                 | 1.679   | 0.860                               | 2.303      |
| Oct-04     | 2.435                 | 1.607   | 0.828                               | 2.203      |
| Nov-04     | 1.916                 | 1.351   | 0.565                               | 1.703      |
| Dec-04     | 2.156                 | 1.607   | 0.549                               | 1.903      |
| Jan-05     | 2.076                 | 1.367   | 0.709                               | 1.903      |
| Feb-05     | 2.103                 | 1.431   | 0.672                               | 1.903      |

| Month/Year | State Department Data |         |                                     | EIA Data   |
|------------|-----------------------|---------|-------------------------------------|------------|
|            | Production            | Exports | Production for Domestic Consumption | Production |
| Mar-05     | 2.091                 | 1.394   | 0.697                               | 1.903      |
| Apr-05     | 2.121                 | 1.398   | 0.723                               | 1.903      |
| May-05     | 2.127                 | 1.308   | 0.819                               | 1.903      |
| Jun-05     | 2.140                 | 1.440   | 0.700                               | 1.903      |
| Jul-05     | 2.172                 | 1.550   | 0.622                               | 2.003      |
| Aug-05     | 2.153                 | 1.504   | 0.649                               | 1.903      |
| Sep-05     | 2.089                 | 1.609   | 0.480                               | 2.053      |
| Oct-05     | 1.944                 | 1.239   | 0.705                               | 1.803      |
| Nov-05     | 1.981                 | 1.168   | 0.813                               | 1.703      |
| Dec-05     | 1.978                 | 1.071   | 0.907                               | 1.653      |
| Jan-06     | 1.713                 | 1.094   | 0.619                               | 1.603      |
| Feb-06     | 1.829                 | 1.473   | 0.356                               | 1.803      |
| Mar-06     | 2.072                 | 1.325   | 0.747                               | 1.903      |
| Apr-06     | 2.183                 | 1.596   | 0.587                               | 1.903      |
| May-06     | 2.131                 | 1.507   | 0.624                               | 1.903      |
| Jun-06     | 2.221                 | 1.702   | 0.519                               | 2.153      |
| Jul-06     | 2.226                 | 1.685   | 0.540                               | 2.203      |
| Aug-06     | 2.238                 | 1.582   | 0.656                               | 2.203      |
| Sep-06     | 2.348                 | 1.740   | 0.608                               | 2.153      |
| Oct-06     | 2.247                 | 1.511   | 0.737                               | 2.103      |
| Nov-06     | 2.097                 | 1.436   | 0.660                               | 2.003      |
| Dec-06     | 2.156                 | 1.450   | 0.706                               | 2.003      |
| Jan-07     | 1.597                 | 1.292   | 0.305                               | 1.753      |
| Feb-07     | 2.084                 | 1.494   | 0.590                               | 2.003      |
| Mar-07     | 2.073                 | 1.571   | 0.502                               | 2.053      |
| Apr-07     | 2.141                 | 1.491   | 0.650                               |            |
| May-07     | 2.024                 | 1.631   | 0.393                               |            |

Source: State Department and U.S. Energy information.

Note: EIA data on Iraq's crude oil production are available only through March 2007.

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