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**Security and Stability  
in the Greater Middle East**

**Anthony H. Cordesman  
Arleigh A. Burke Chair**

**January 2008**

## **Six Strategic Challenges**

- **Energy export capacity and security**
- **Adjustment of military posture in Iraq, and the Gulf.**
- **Deciding how to deal with Iranian proliferation, growing asymmetric warfare capabilities, and use of proxies.**
- **The lack of near-term prospects for a real Arab-Israeli peace process, and potential further military clashes in Lebanon and between Israel and the Palestinians and/or Syria.**
- **The region-wide impact of Neo-Salafi Islamist extremism. The franchising of Al Qaida, and its impact inside and outside the region.**
- **Dealing with the war in Afghanistan, potential destabilization of a nuclear Pakistan, and its impact on proliferation and Islamist extremism in the Middle East.**

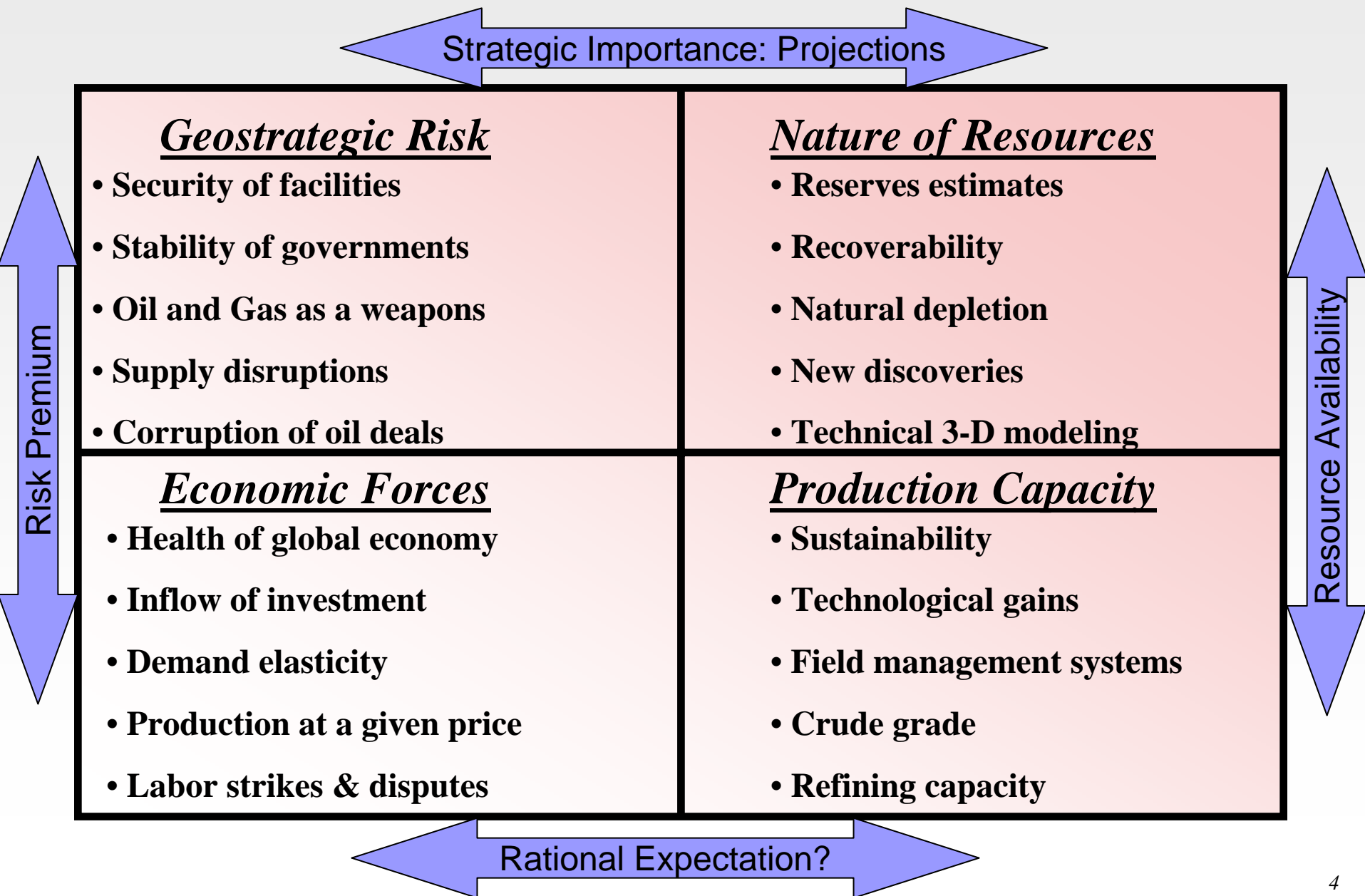
### Selected Oil and Gas Pipeline Infrastructure in the Middle East



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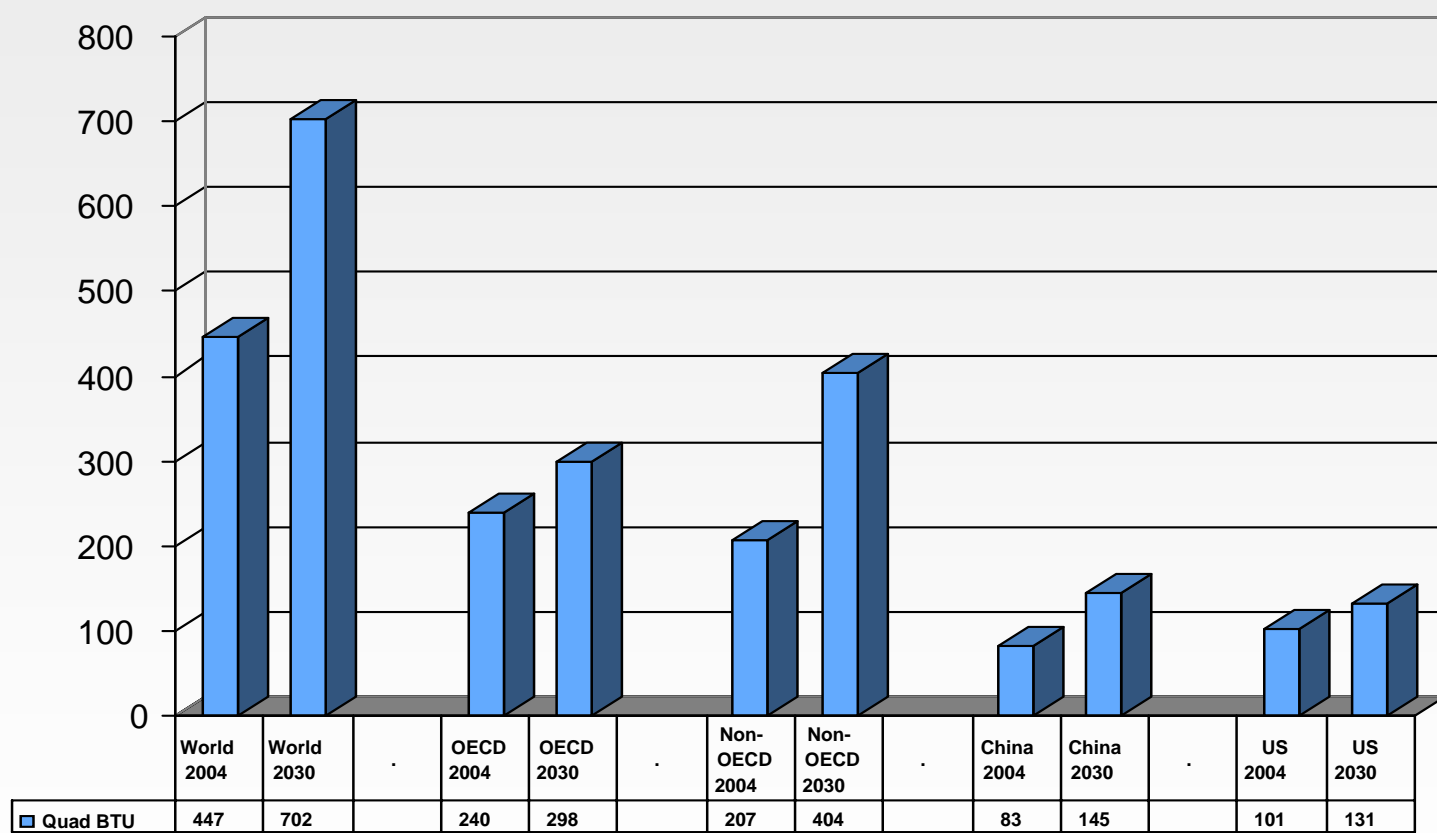
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# Oil-Gas Export Risks and Uncertainties



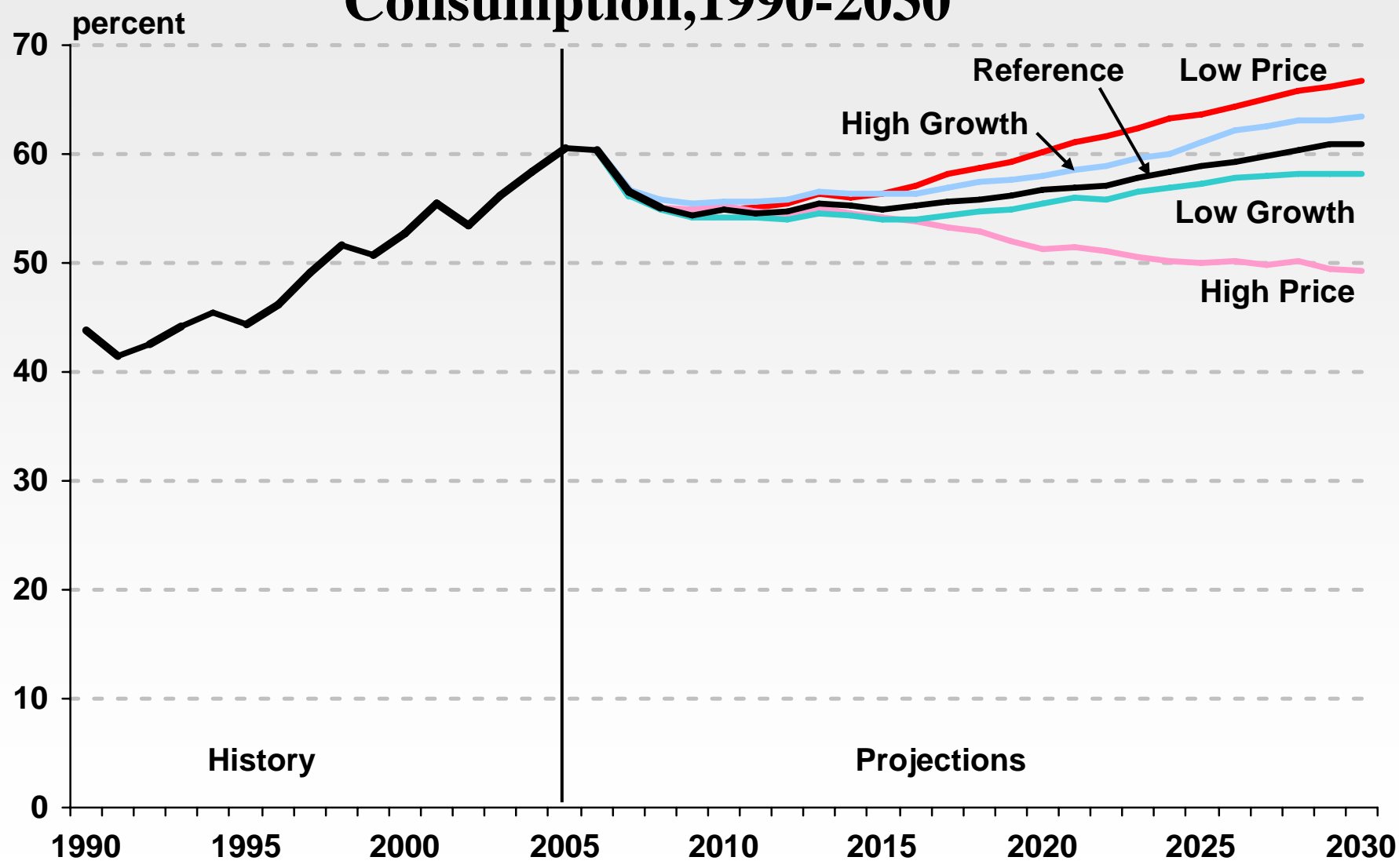
# Growth of Global Energy Demand

## Consumption of Energy in Quadrillion BTUs: 2004 vs. 2030



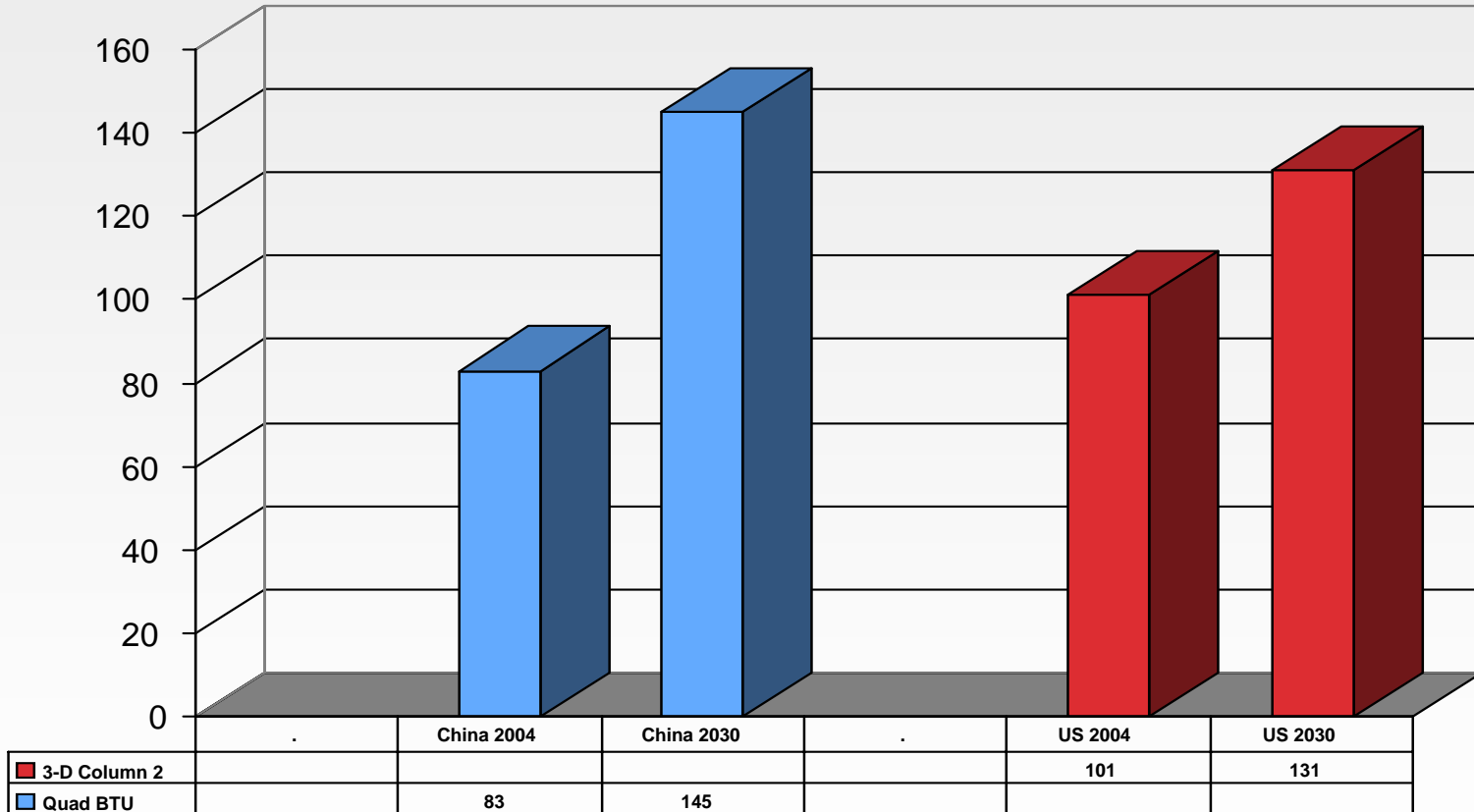
Adapted from DOE/EIA, IEO 2007, Table A1 Reference Case  
 . In Quadrillions of Btus.

# Net Import Share of U.S. Liquid Fuels Consumption, 1990-2030



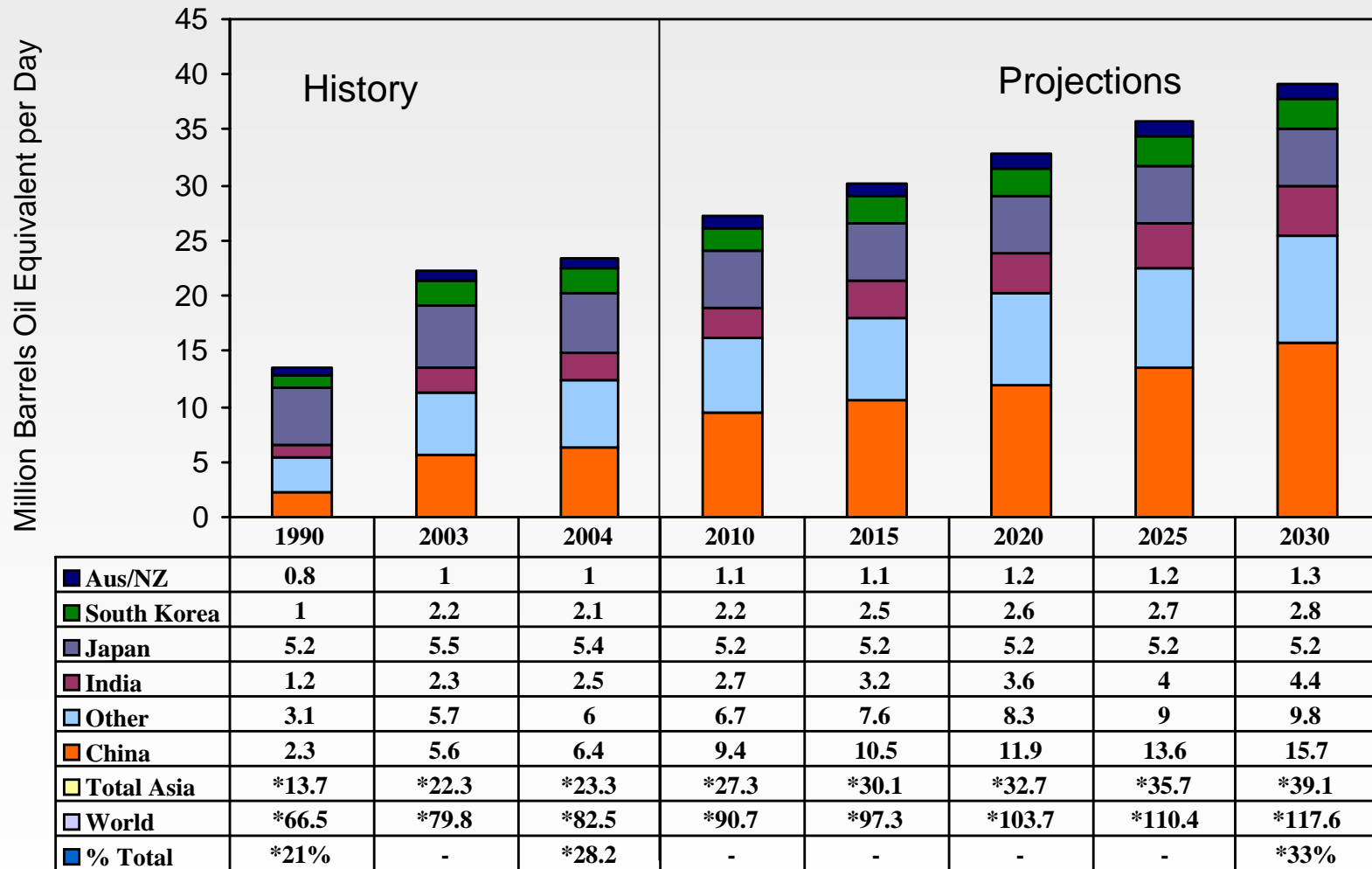
# Growth of China and US Energy Demand

## Consumption of Energy in Quadrillion BTUs: 2004 vs. 2030



Adapted from DOE/EIA, IEO 2007, Table A1 Reference Case  
 . In Quadrillions of Btus.

# Asian Liquids Consumption in the EIA Reference Case, 1990-2030

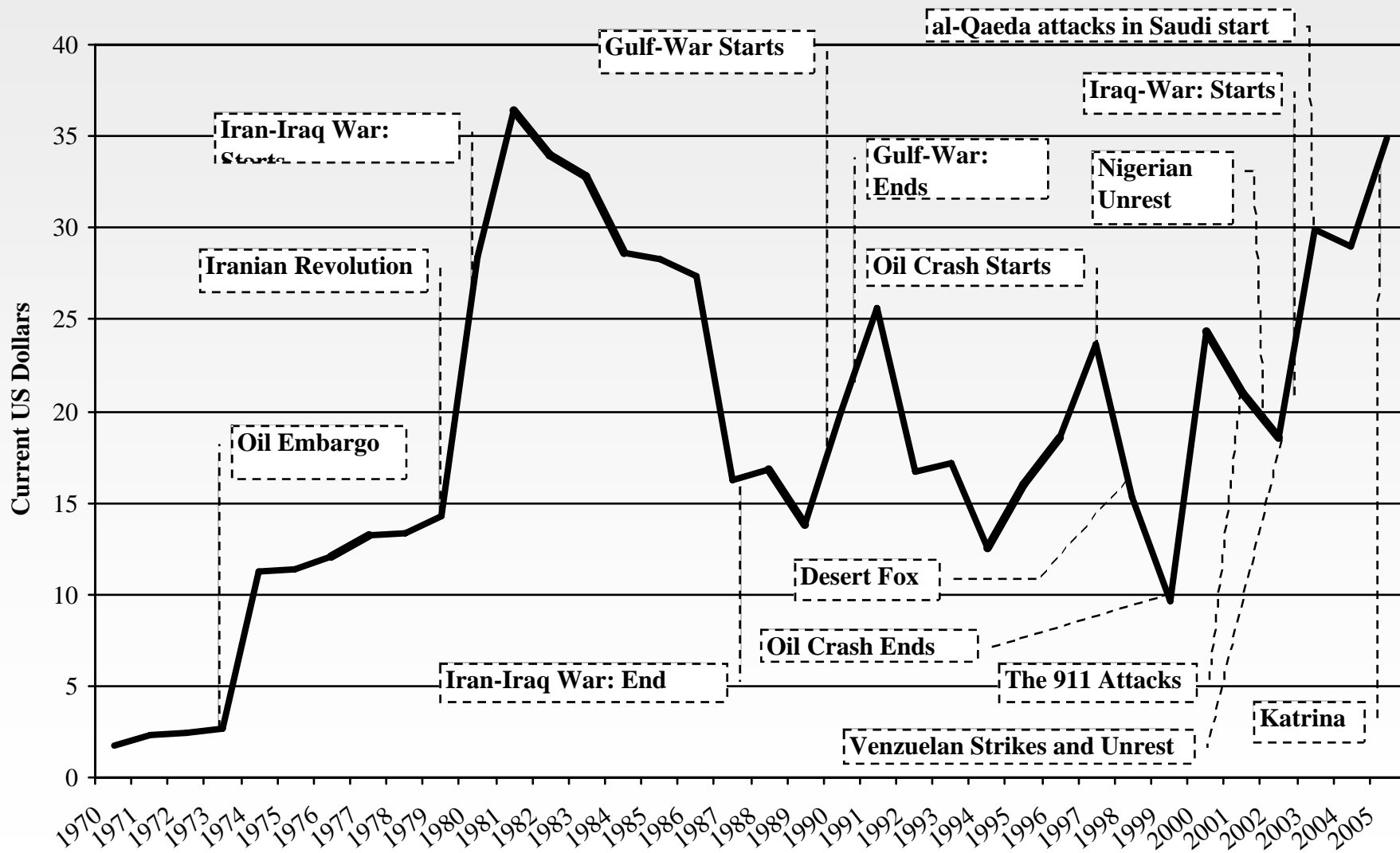


Source: EIA, IEO2007, Appendix A, p. 88



# History of Oil Shocks: 1970-2005

Overtimes: more incidents, more frequent volatility, higher risk of asymmetric attacks, and more geopolitical uncertainties.

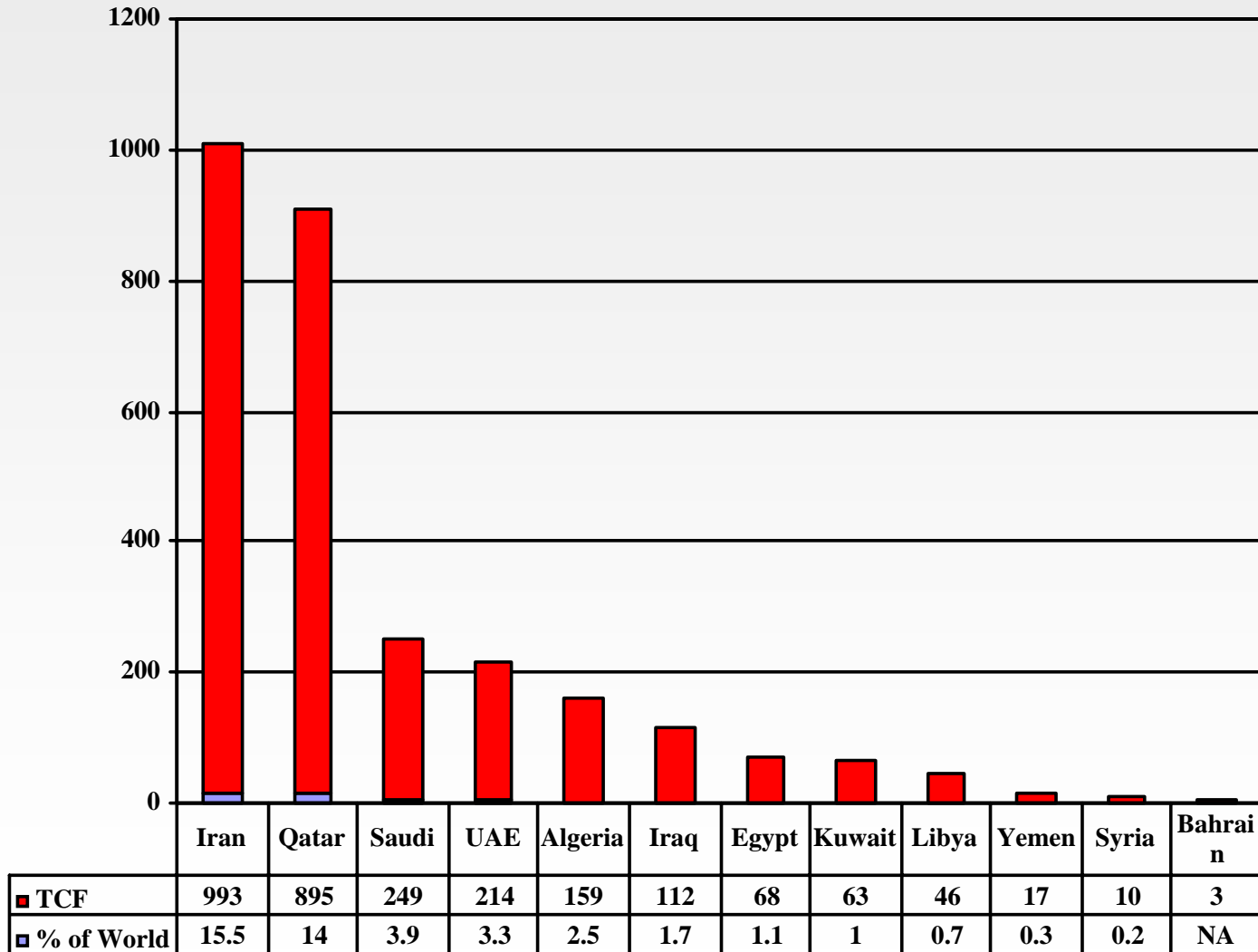


Source: EIA, "Crude Prices by Selected Type 1970-2005," available at: <http://www.eia.doe.gov/emeu/aer/txt/ptb1107.html>.

Note: These prices are averages of several types: Saudi Light, Iranian Light, Libyan Es Sider, Nigerian Bonny Light, Indonesian Minas, Venezuelan Tia Juana light Mexico Maya, and UK Brent blend

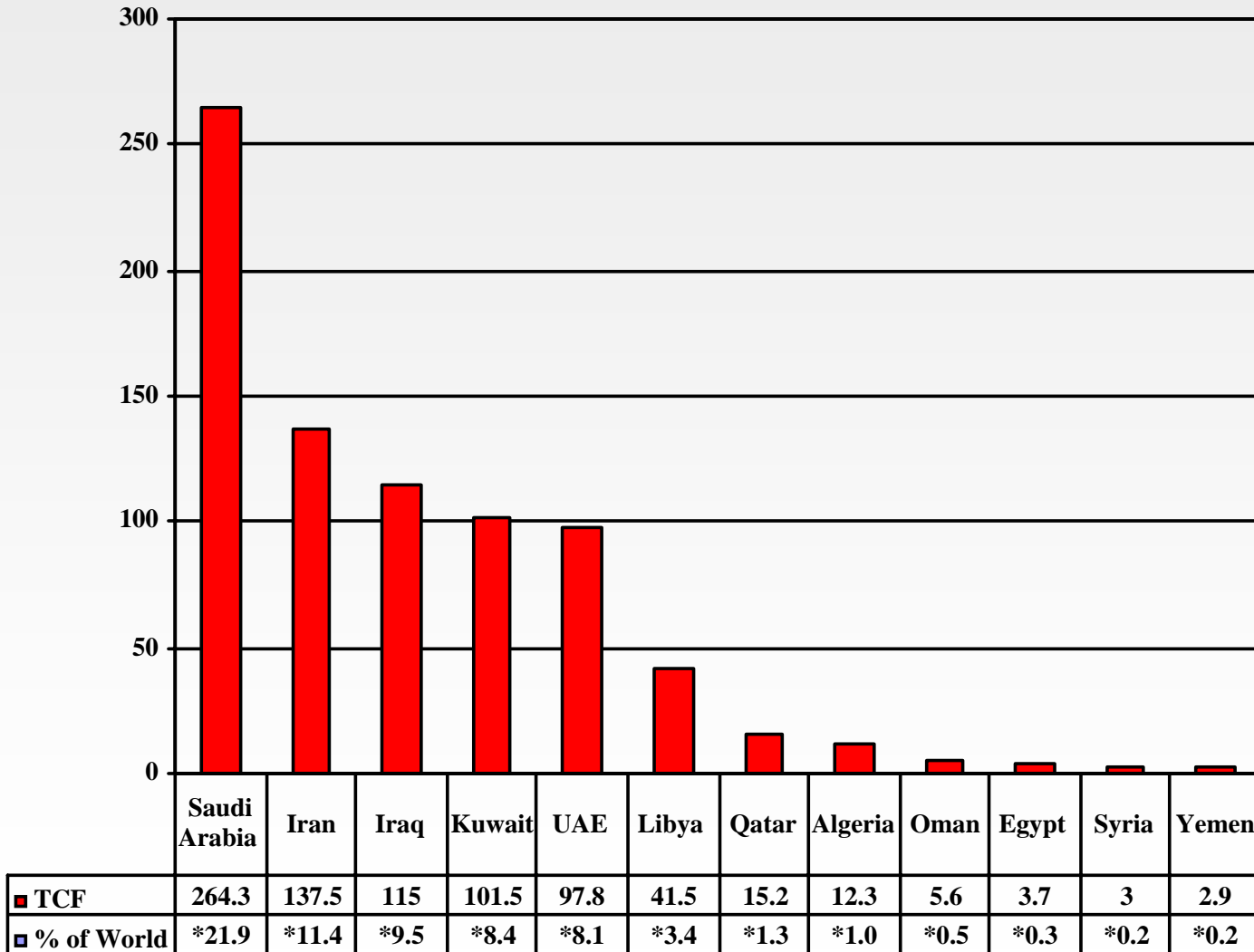
# MENA Proven Natural Gas Reserves

(In Trillions of Cubic Feet)



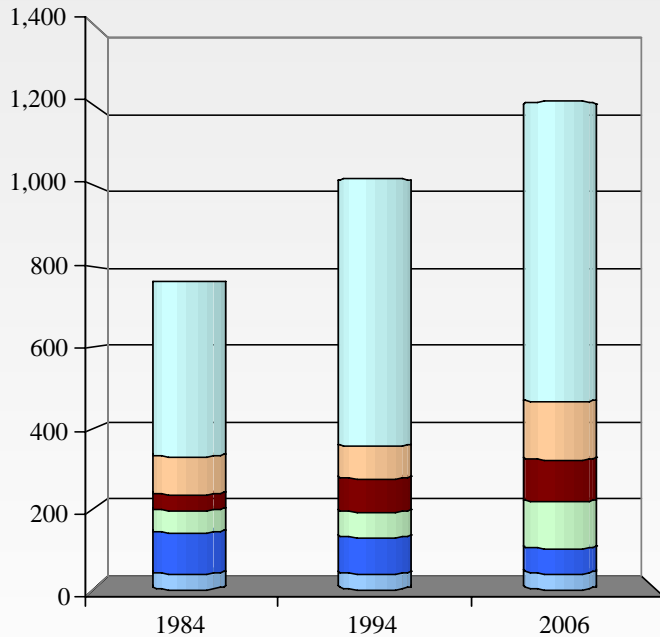
# MENA Proven Conventional Oil Reserves

(In Trillions of Cubic Feet)



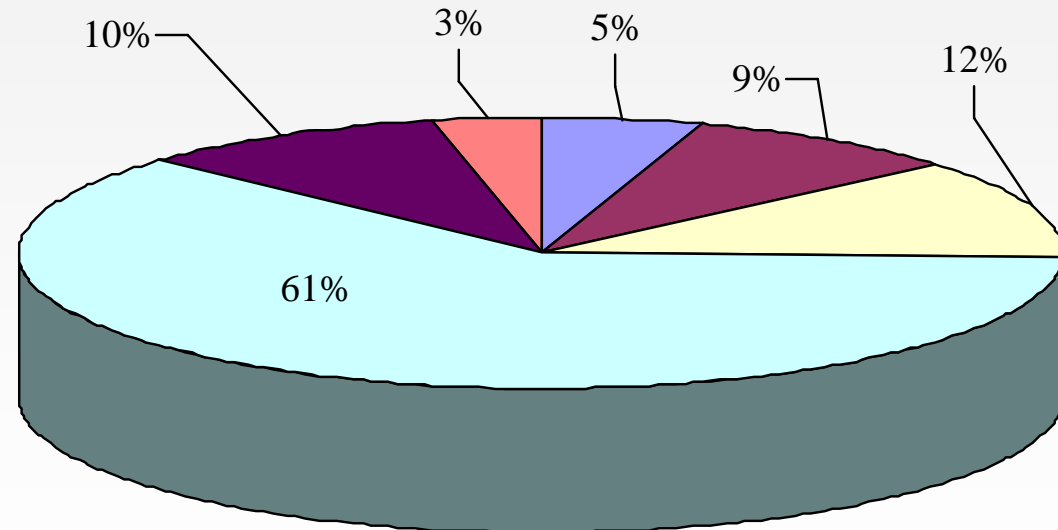
# MENA Oil Reserves as Share of World Total

**Oil Proven Reserves Trends  
(In Billion Barrels)**



	1984	1994	2006
□ Middle East	430.8	661.7	742.7
□ Europe & Eurasia	96.70	80.30	144.40
■ S&C America	36.30	81.50	103.50
□ Africa	57.80	65.00	117.20
■ N. America	101.90	89.80	59.90
□ Asia Pacific	38.10	39.20	40.50

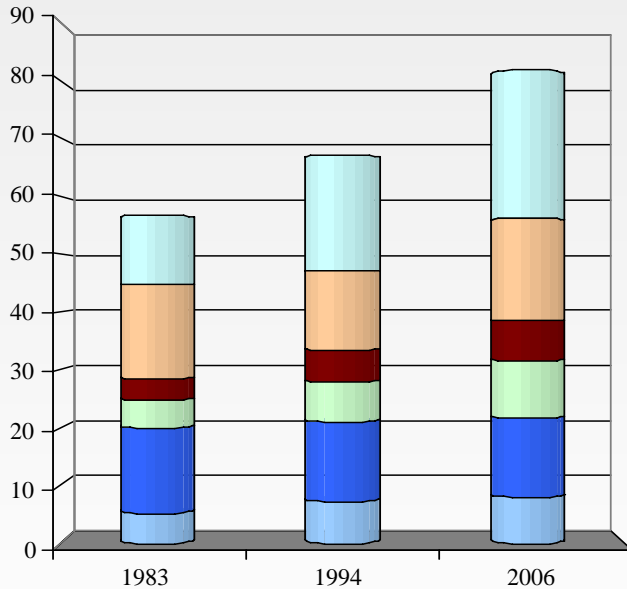
**Oil Proven Reserves 2006  
(In % of Total)**



Note: If Canadian tar-sands are included, the North American total rises to 236 billion (18%)

# MENA Oil Production As Share of World Total

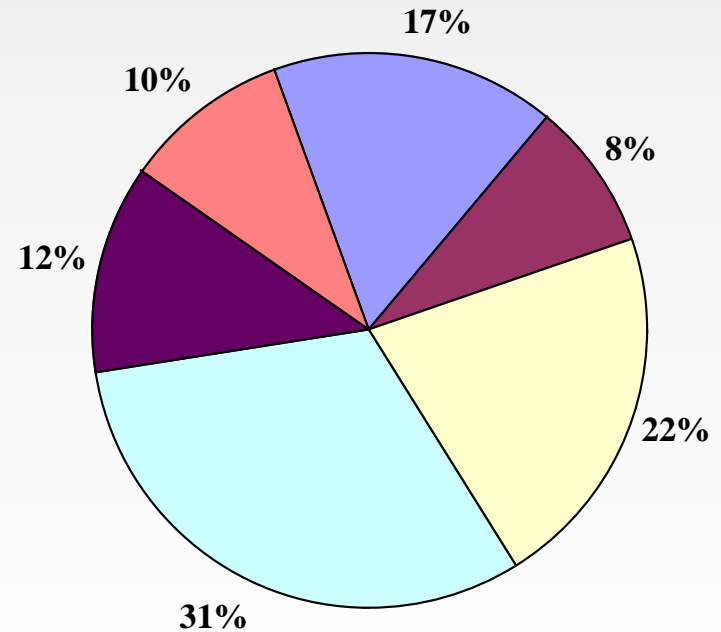
**Oil Production Trends  
(In MMBD)**



	1983	1994	2006
□ Middle East	11.841	20.118	25.599
■ Europe & Eurasia	16.343	13.657	17.563
■ S&C America	3.539	5.347	6.881
■ Africa	4.865	7.004	9.991
■ N. America	14.838	13.807	13.699
■ Asia Pacific	5.171	7.184	7.941

Source: BP Statistical Review 2007

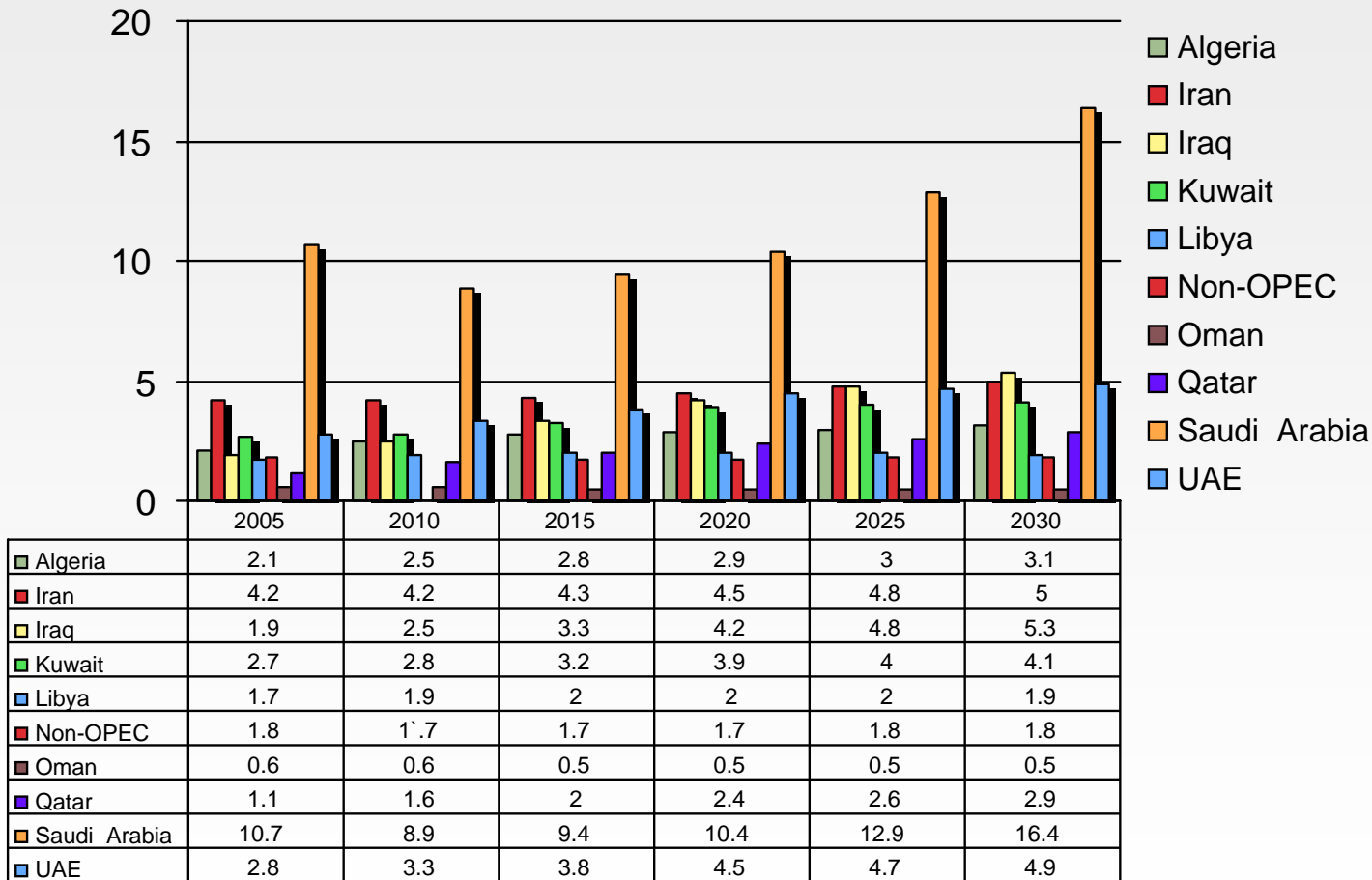
**Oil Production 2006  
(In Percent)**



Source: BP Statistical Review

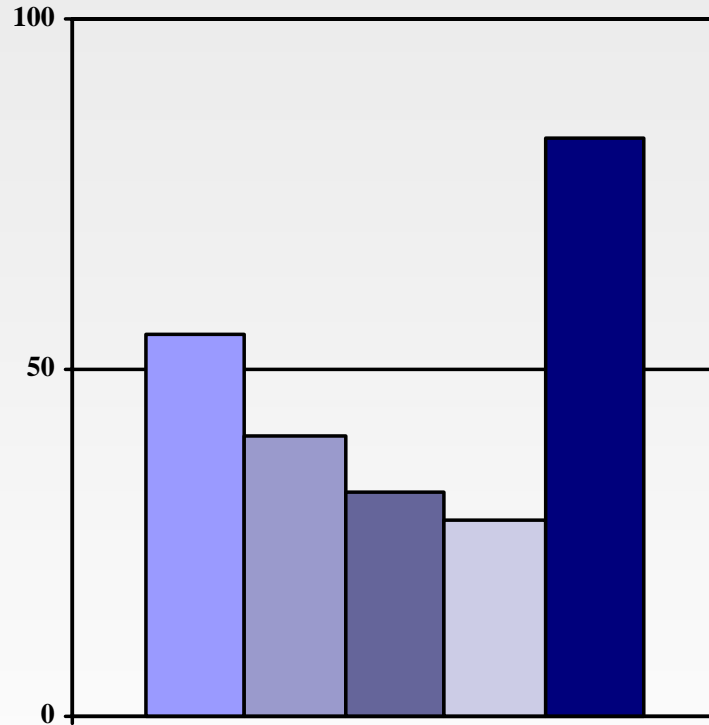
# Middle East Oil Producers: 2005-2030

(In MMBD in EIA/DOE reference case in IE0 2007)



**Average world oil prices in 2030 are \$36, \$59, and \$100 per barrel in 2030**

# Gulf Energy as Percent of World



■ Crude Oil Reserves	55
■ Natural Gas Reserves	40
■ Oil Production Capacity	32
■ Oil Production	28
■ Excess Oil Production Capacity	83

# The Iraq Challenge

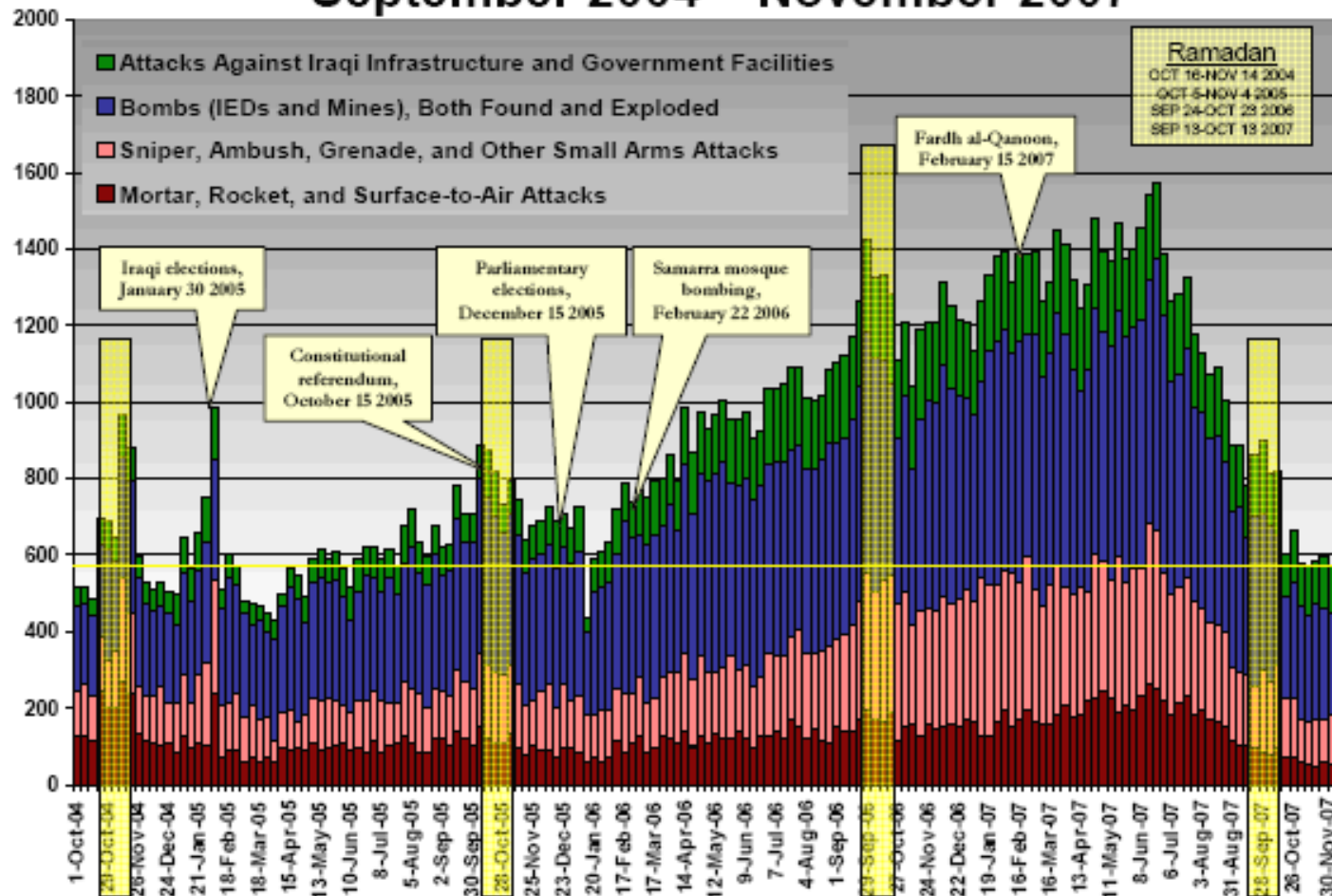
- **May have to leave Iraq suddenly for political reasons, but best strategy is caution. Doubtful that surge can work, or rapid progress in conciliation, but ISF may be able to work over time, slow conciliation better than division or civil war, and far easier to talk about abandoning Iraq than to do it if trigger a humanitarian disaster.**
- **Need to seek to contain or limit Iran, resolve Iraqi-Kurdish-Turkish issue, and reassure Sunni allies have not abandoned Iraqi Sunnis.**
- **If surge succeeds, and conciliation happens, need to phase out US forces at rate that best achieves Iraqi and regional stability.**
- **If fails, need phased cuts tied to clear political efforts, aid, and at least option of seeking to bloc civil war turning into military bloodbath. Extreme caution in intervening, but need to develop a Plan B flexible enough to react to events in Iraq.**
- **Need to talk to key allies and powers in region now. Reassure that will not leave Gulf, will aid them in dealing with Iran, and seeking some form of stability in Iraq. Need clear basing plans to handle exist and forces keep.**



# Overall Weekly Iraq Attack Trends

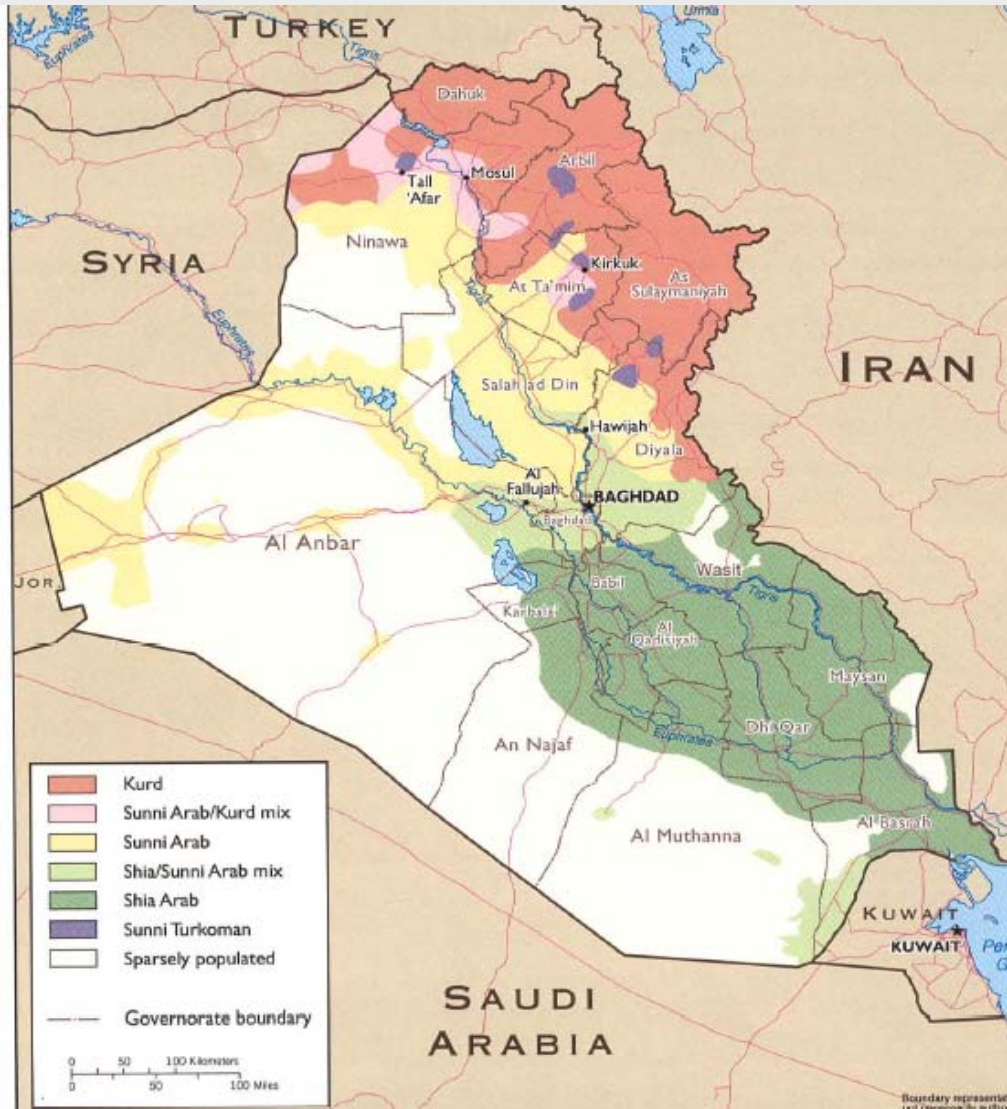
(Includes Found and Cleared Bombs)

## September 2004 – November 2007



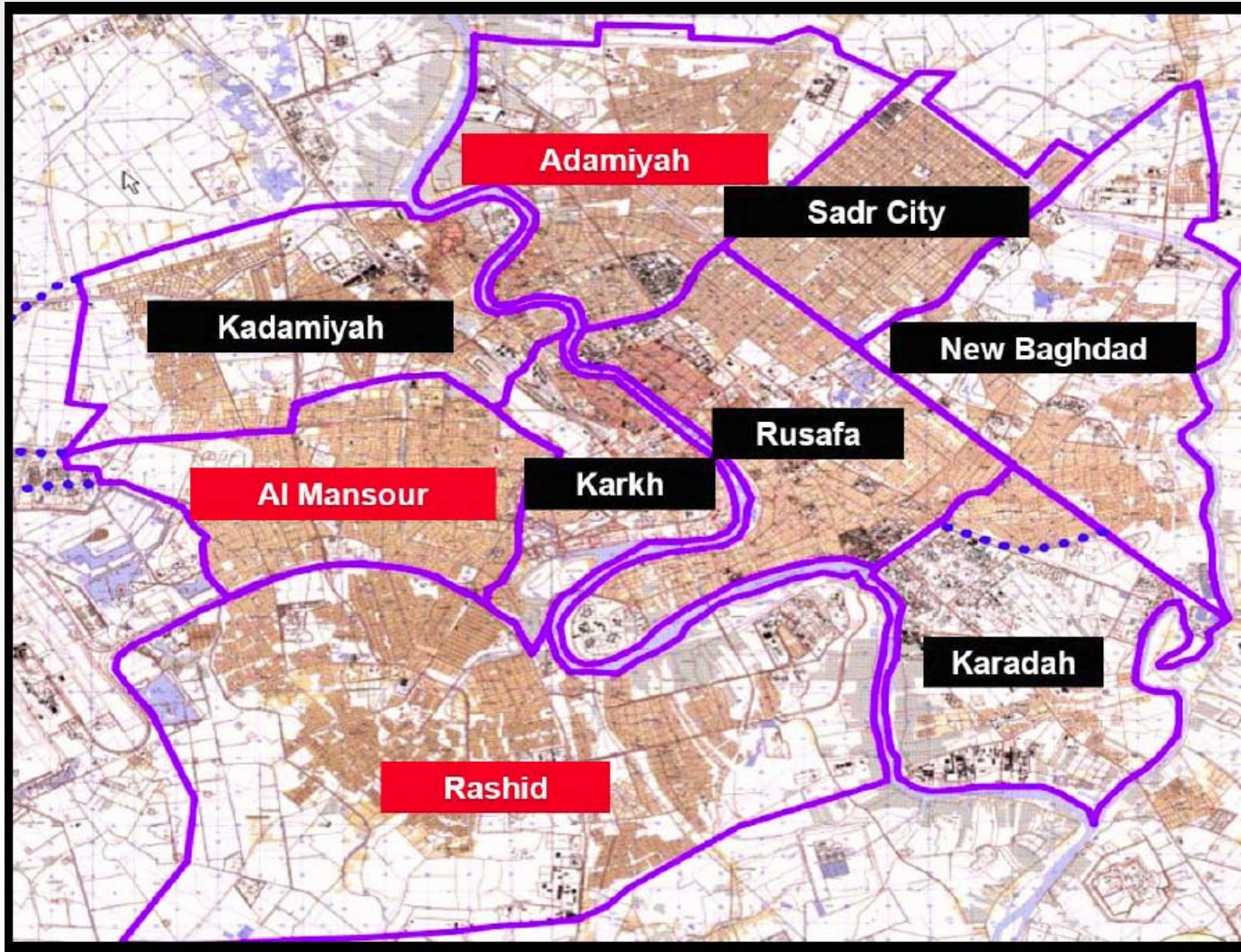
This chart has been added since the last report. It is included to show overall insurgent activity and methods of attack and therefore includes found and cleared bombs. Source: SIGACTS III Database (Coalition Reports only)—Chart includes executed attacks and potential (found and cleared) events; as of Nov 30 2007.

# Iraqi Sectarian & Ethnic Divisions



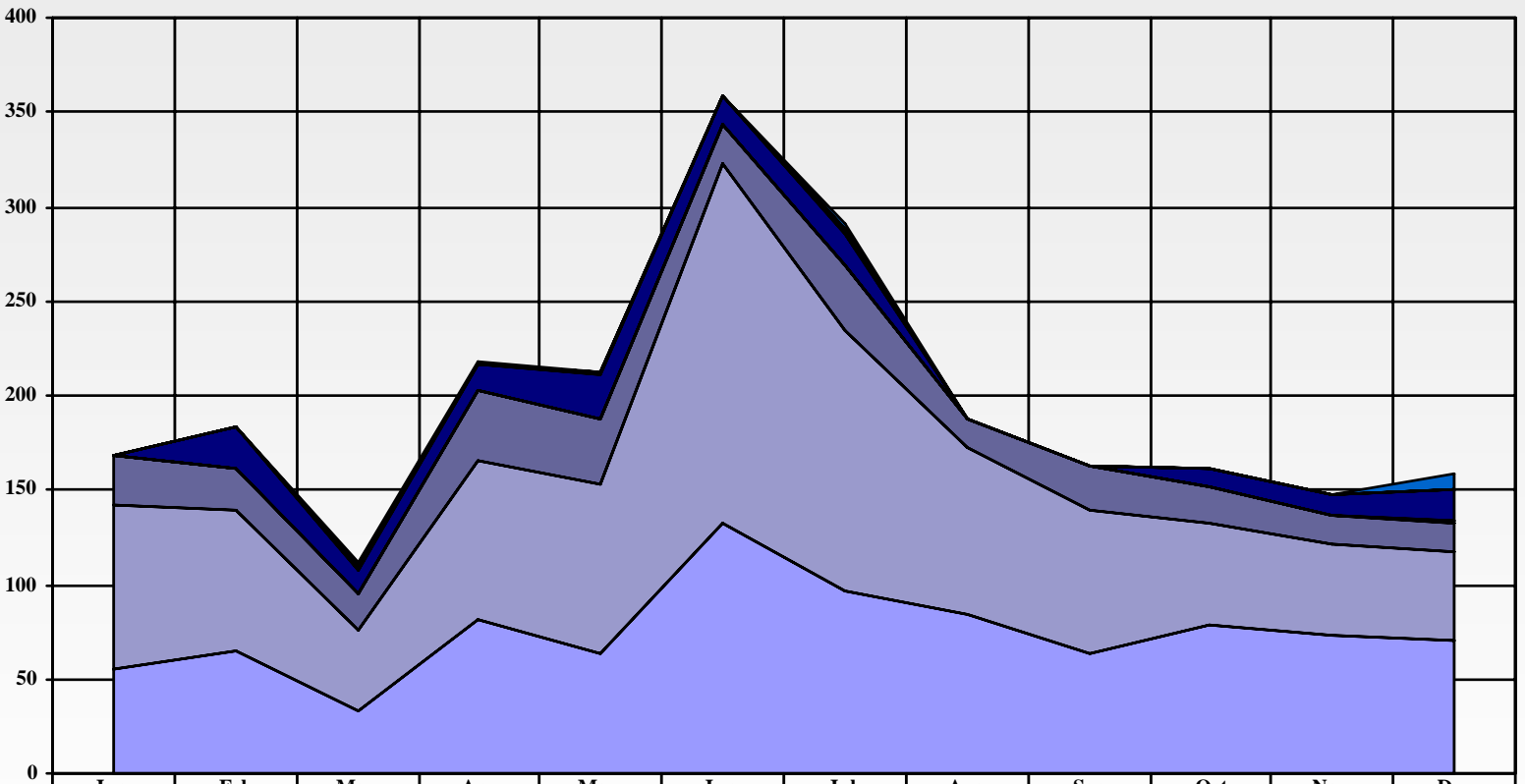


# Baghdad Neighborhoods



# Baghdad: Major Incidents of Violence in 2007

(Trend in Total Incidents)

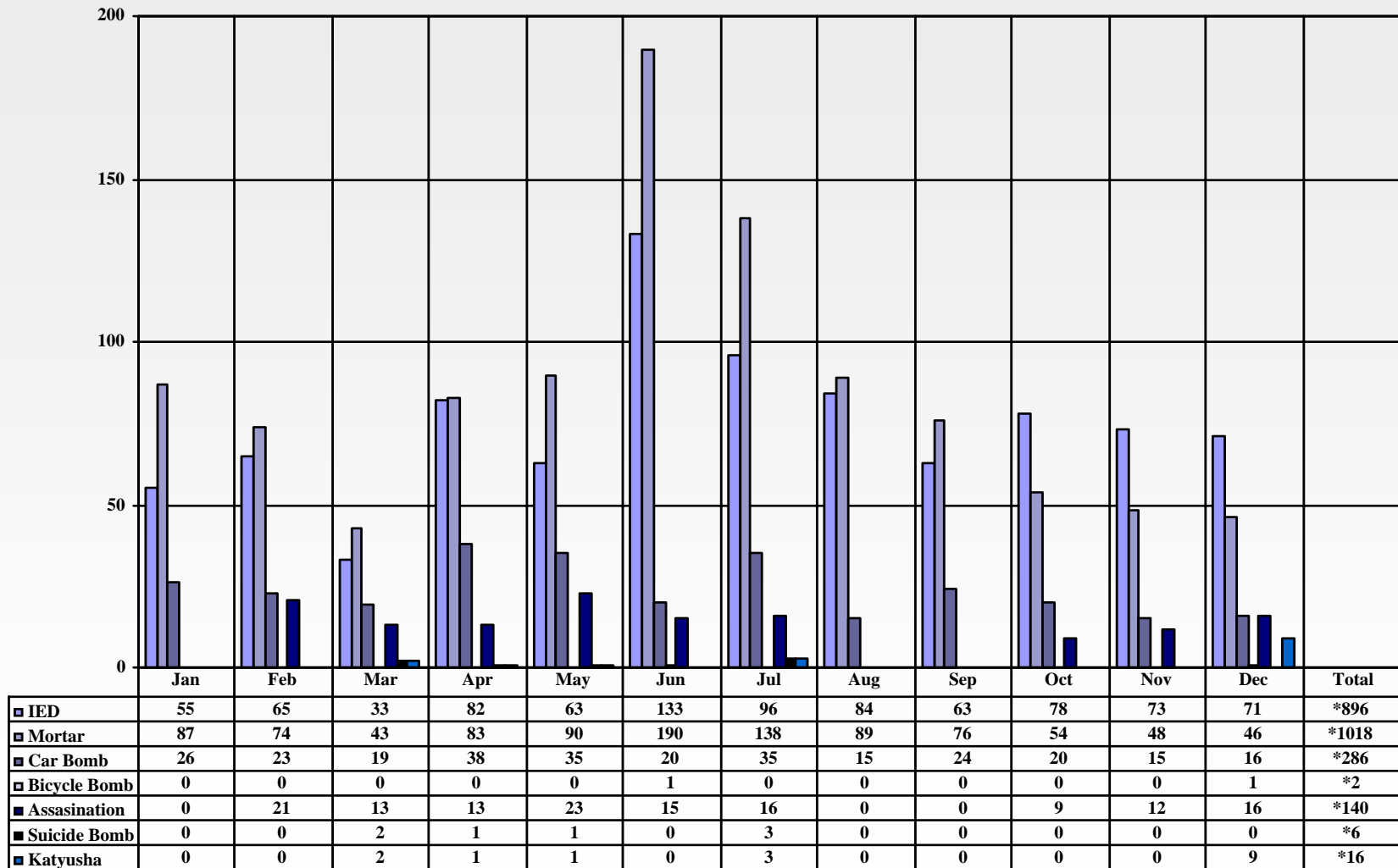


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
■ Katyusha	0	0	2	1	1	0	3	0	0	0	0	9
■ Suicide Bomb	0	0	2	1	1	0	3	0	0	0	0	0
■ Assassination	0	21	13	13	23	15	16	0	0	9	12	16
□ Bicycle Bomb	0	0	0	0	0	1	0	0	0	0	0	1
■ Car Bomb	26	23	19	38	35	20	35	15	24	20	15	16
□ Mortar	87	74	43	83	90	190	138	89	76	54	48	46
□ IED	55	65	33	82	63	133	96	84	63	78	73	71

Source: Iraqi Official

# Baghdad: Major Incidents of Violence in 2007

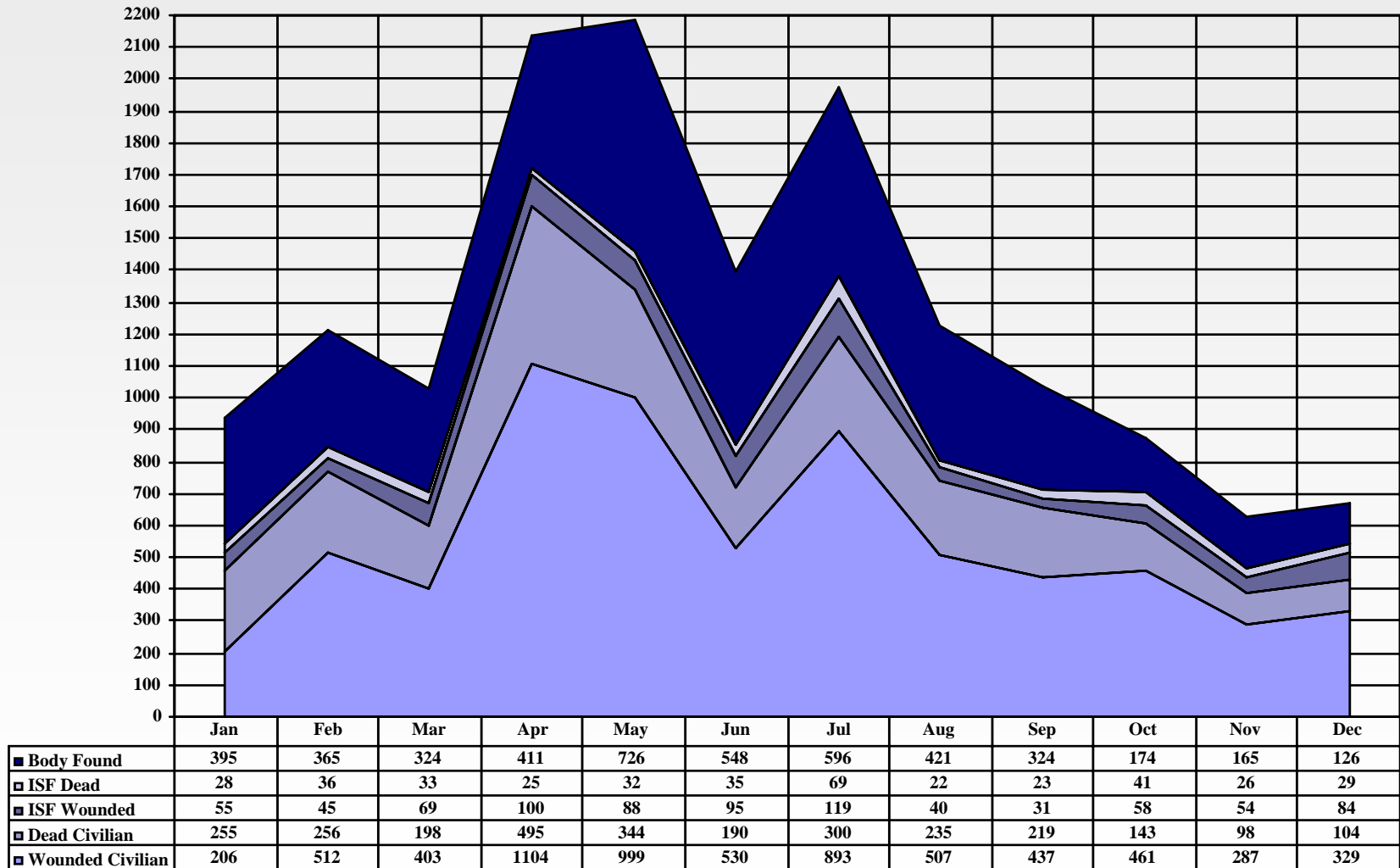
## (Monthly Distribution)



Source: Iraqi Official

# Baghdad: Major Iraqi Casualties in 2007

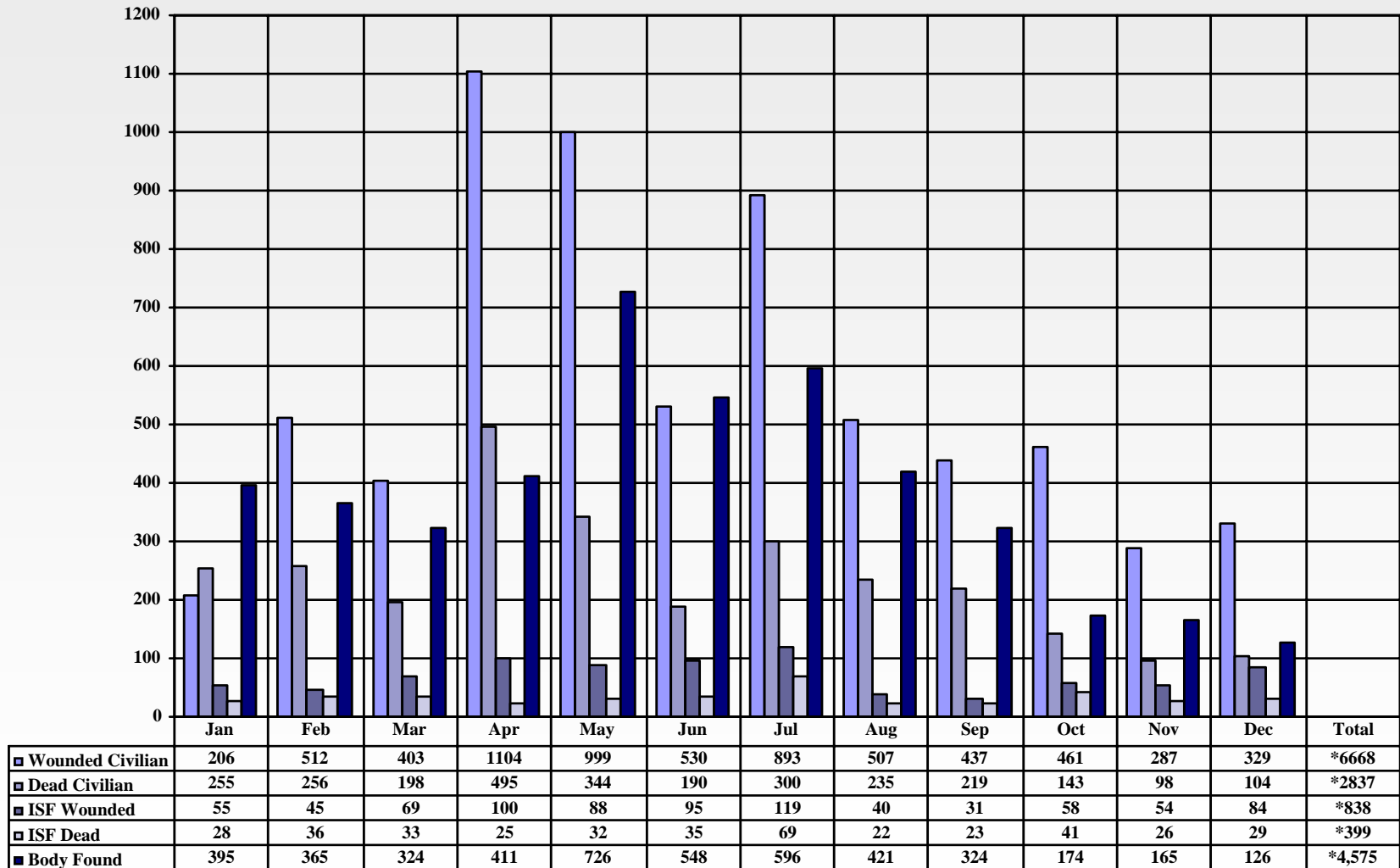
(Trend in total Incidents)



Source: Iraqi Official

# Baghdad: Major Iraqi Casualties in 2007

(Monthly Distribution by Type)

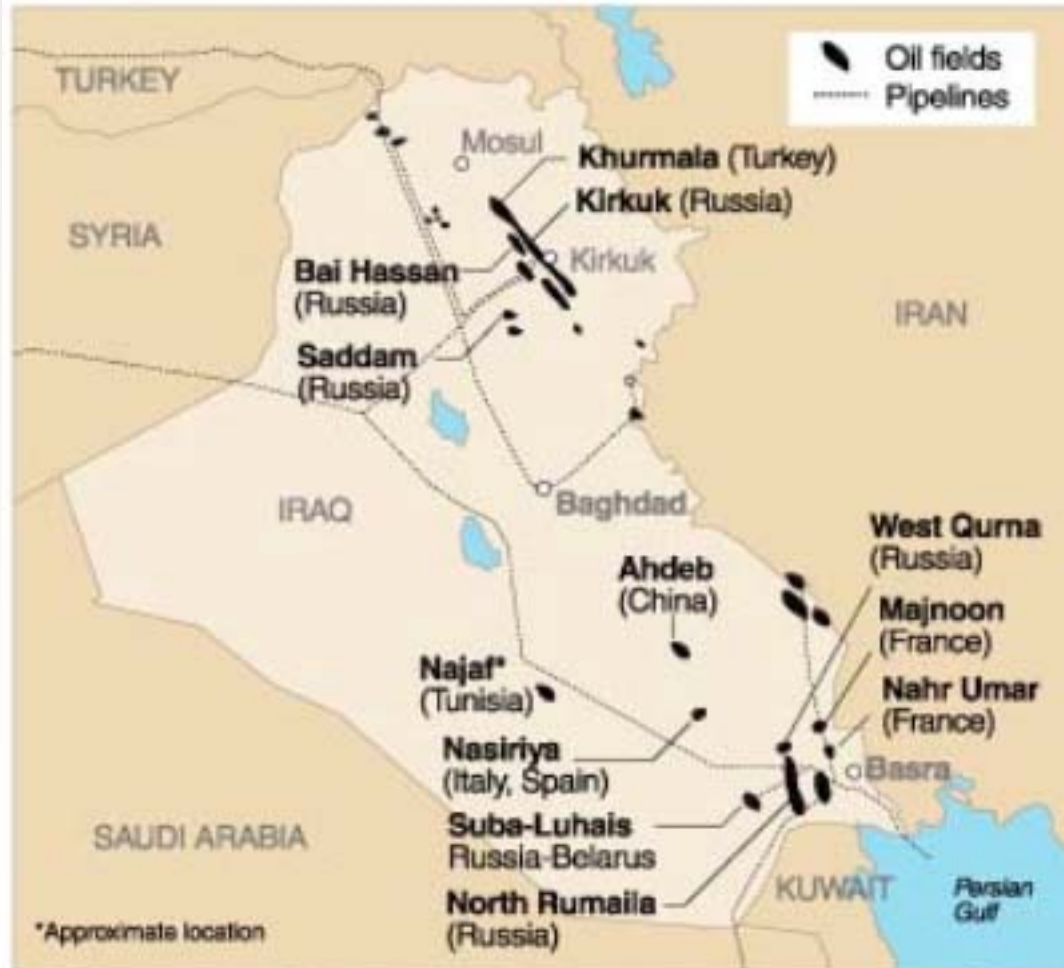


Source: Iraqi Official

# Iraqi Oil Fields

## The thirst for Iraqi oil

While U.S. oil firms have stood on the sidelines, Iraq has negotiated contracts or had serious talks with oil companies from many other nations to develop its vast oil reserves. The map shows some of the major fields and the countries involved.



Source: U.S. Department of Energy, American Petroleum Institute

Times art



# The Iran Challenge

- **Engagement and dialog but little chance of payoff without new regime.**
- **At same time, regime change must come from within.**
- **Preemption and prevention are real military options, but not good ones, and premature at best. Will always produce serious backlash, but need to exhaust diplomatic options, prepare and consult with local states. Better a convincing threat than a reality.**
- **Missile and air defense, extended conventional and nuclear deterrence are ways to contain Iranian nuclear and missile development. Need regional partners, and need to convince them better than acquiring their own weapons.**
- **Maintain naval-air dominance, air edge using Al Udeid.**
- **Work quietly with southern Gulf states on key asymmetric defenses: offshore, anti-mine, anti-raid, air and missile defenses, protection key facilities.**
- **Clear plan and capability to defeat Iranian Navy and IRGC in any naval clash threatening tanker traffic through Gulf.**

# Abu Musa, Tumbs, Hormuz



W14488 4-07 (E48285)

300 miles  
500 km

TURKEY

TURKMENISTAN

CASPIAN SEA



MIDDLE EAST

Lashkar A'bad

Tehran

Sites circled in red  
unknown pre-mid 2002

IRAQ

Arak

Natanz

Isfahan

IRAN

Saghand

Ardekan

AFGHANISTAN

- MW** Megawatts
- Uranium processing facility
- Uranium mines
- Heavy-water facility
- Research reactors / research facilities
- Uranium enrichment facility
- Light-water reactor (under construction)

KUWAIT

1000 MW

Bushehr

PAKISTAN

The Gulf

Gachin

SAUDI ARABIA

BAHRAIN

QATAR

Gulf of Oman

# Arak 40 MWth Heavy Water Reactor

Foundation for reactor and containment structure

Foundation for reactor ventilation stack

Auxiliary building foundation (for Laboratory/Hot cells?)



# Arak 40 MWth Heavy Water Reactor

Foundation for reactor and containment structure

New excavation

Foundation for reactor ventilation stack

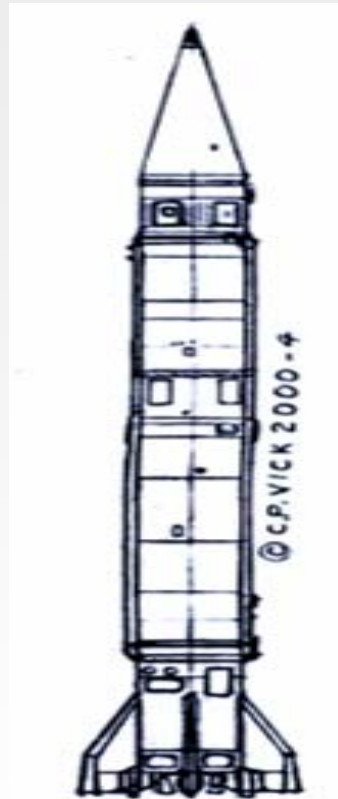
Auxiliary building foundation (for Laboratory/Hot cells?)

# Iranian Missile Program

Shahab-3



No Dong



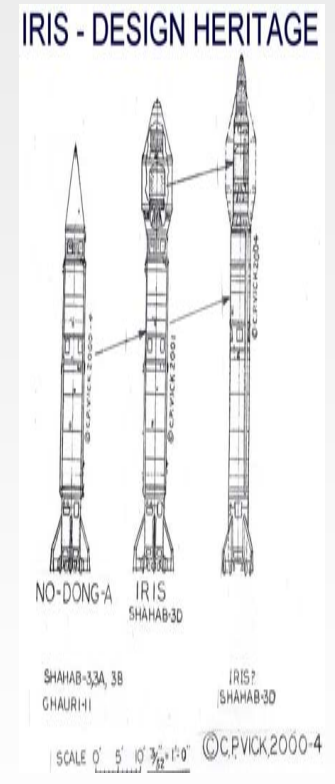
Shahab-4



Variant

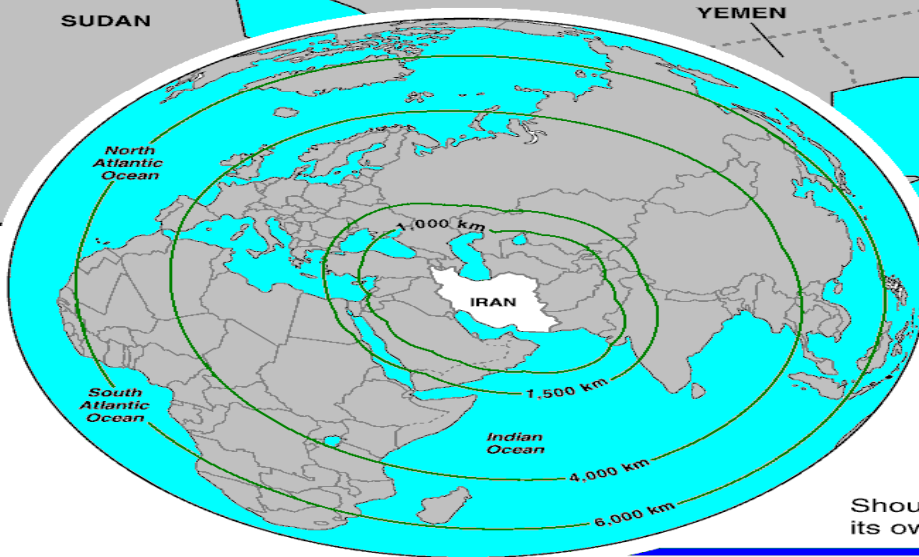


IRIS



<u>Range</u>	1,300	1,300	2,000	2,000	3,000
<u>Payload</u>	~1,000	700-1000	?	700	~1,000
<u>IOC</u>	2002	?	?	?	2005

# *Estimated Ranges of Current and Potential Iranian Ballistic Missiles*



<b>IRAN</b>		
<b>Current Missile Delivery System</b>	<b>Range (km)</b>	<b>Source</b>
..... CSS-8	150	China
———— SCUD B	300	Libya; North Korea
- - - - SCUD C	500	North Korea
<b>Potential Missile Delivery System</b>	<b>Range (km)</b>	<b>Potential Source</b>
No Dong	1,000	North Korea
Taepo Dong 1	More than 1,500	North Korea
Taepo Dong 2	4,000–6,000	North Korea

Should Iran receive long range missiles from North Korea, or develop its own, it could threaten a much wider area.

# The Gulf Challenge

- **No illusions:**
  - **Iran will not be our friend or strike grand bargain and must be contained and deterred.**
  - **The GCC will not be effective and new regional security structures will not be effective,**
  - **NATO and other nations will not ease the burden of US presence.**
  - **Most effective cooperation in counterterrorism will continue to be bilateral.**
- **Need engagement with our Gulf allies, Jordan, and Egypt based on frankness, treating as partners, building up local capabilities one nation at a time, and seeking stronger regional efforts with understanding progress will be slow and faltering.**



### Selected Oil and Gas Pipeline Infrastructure in the Middle East



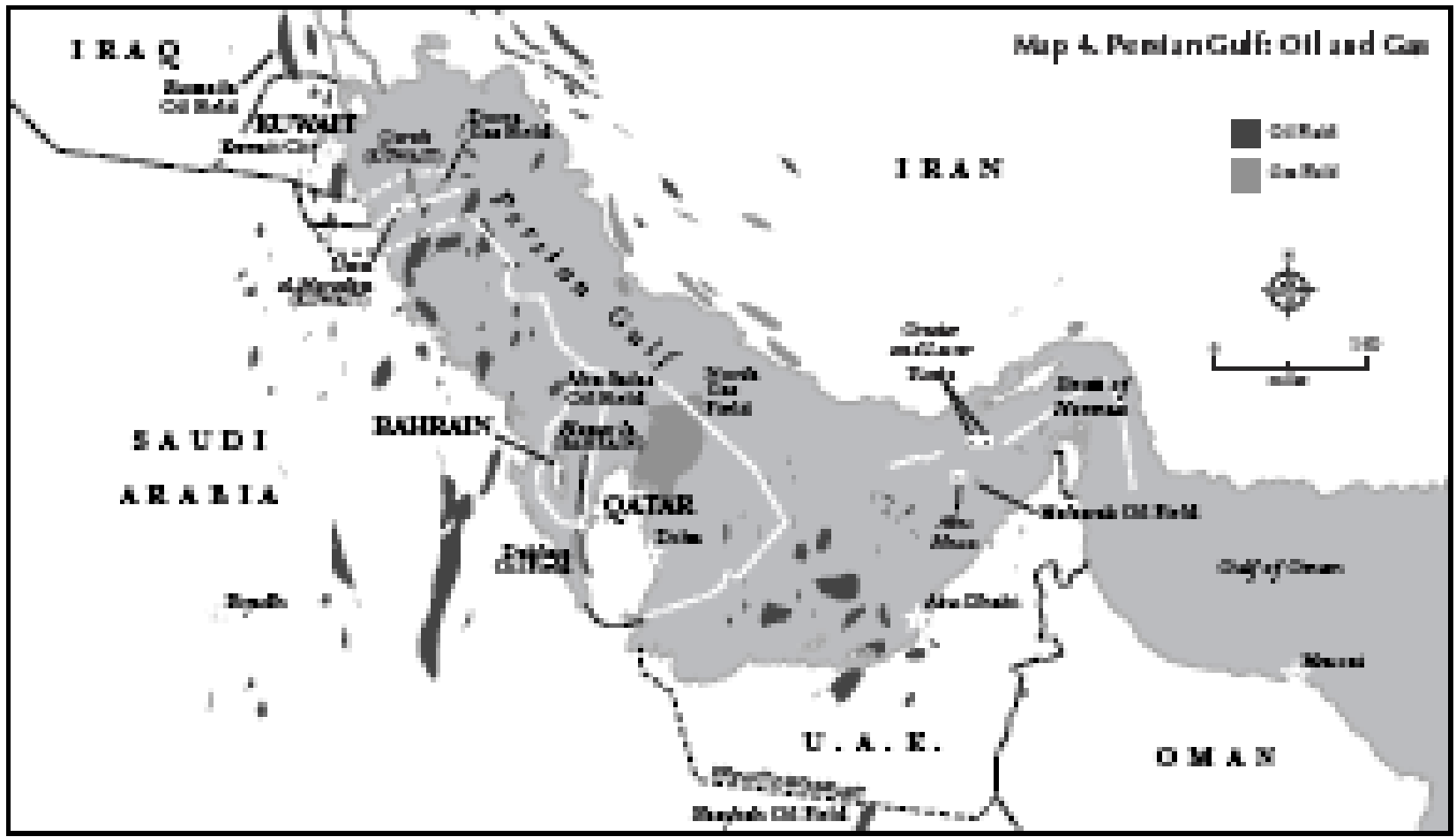
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# The Gulf



# Gulf Oil Fields



# Strait of Hormuz-Imagery



# The Red Sea



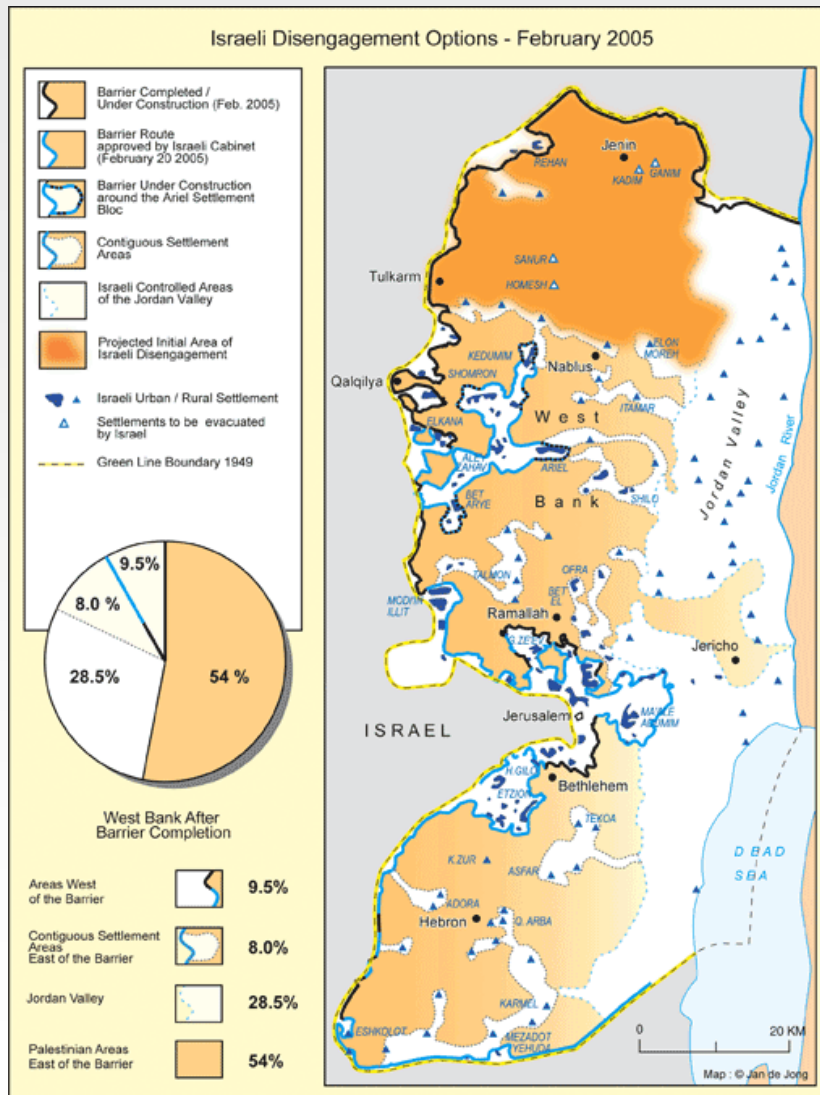
# The Arab-Israel Challenge

38

- **Press on actively and seriously in spite of odds.**
- **Engage with Syria as with Iran. May be more prospects of at least a limited modus vivendi.**
- **Do what can in Lebanon, but not over engage.**
- **Boost Abbas, but beware of Potemkin Palestinian entity.**
- **Aid to Egypt and Jordan.**
- **Not back off on post-Marabark liberalization. Egypt is key strategic asset.**
- **Maintain Israel's "edge" as best way of keeping confident and flexible.**
- **Quietly and covertly approach on nuclear changes and response to Iran.**



# The West Bank



**Population: 2,535,927  
Palestinians (705,207  
refugees) and 187,000  
Israeli settlers in West  
Bank plus 187,000  
Israelis in East  
Jerusalem**

**42.4%: 14 years of age or  
younger**

**Growth rate: 2.99%**

**45.7% below poverty line  
in 2005**

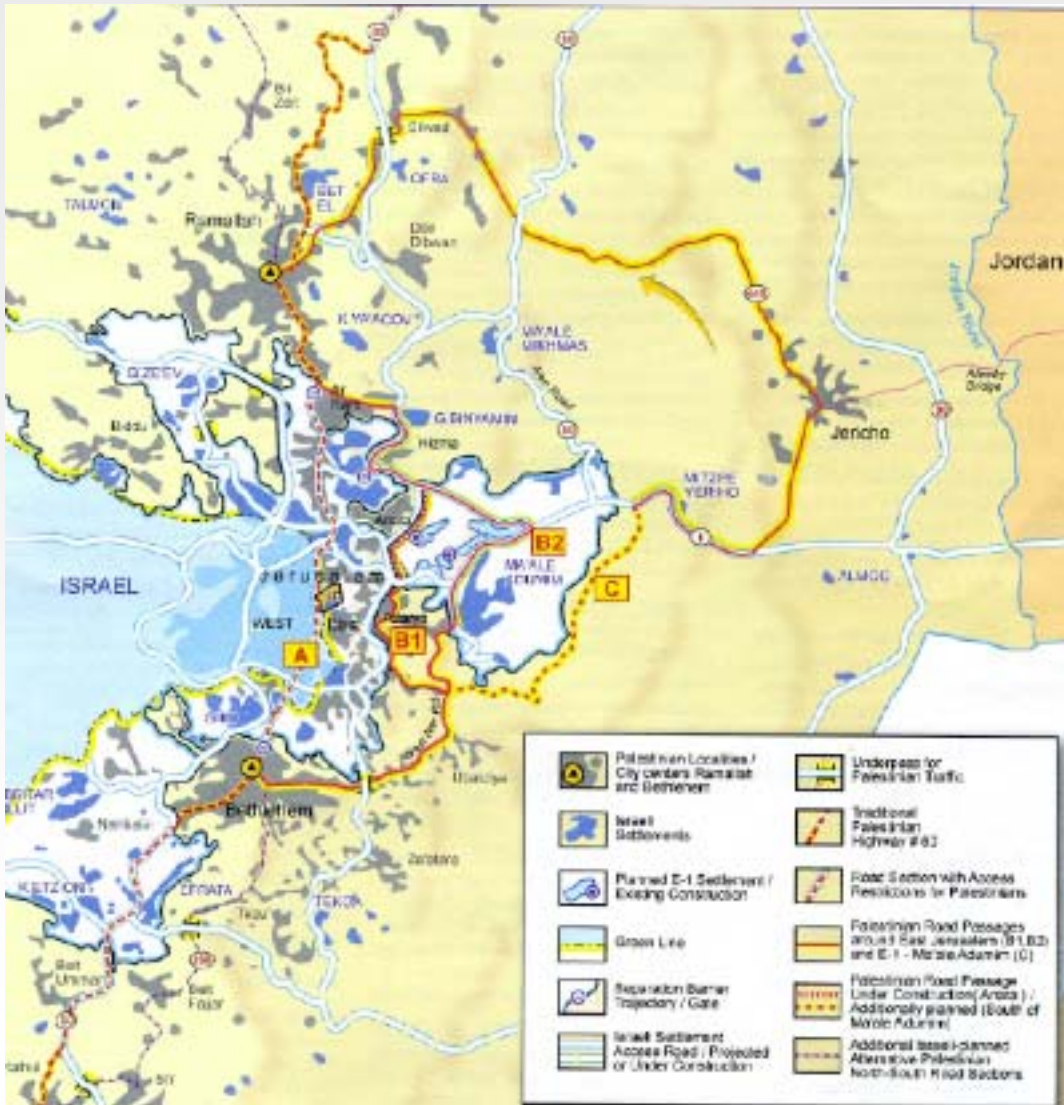
**Labor force: 568,000 in  
2005**

**Jobs: 55% services, 29%  
industry, 16% agriculture**

**Area: 5,860 square  
kilometers, 16.9% arable**

# Jerusalem

40





# The Gaza Strip

41



**Population: 1,482,405**

**47.6%: 14 years of age or younger**

**Growth rate: 3.66%**

**63.1% below poverty line in 2005**

**Labor force: 259,000 in 2005**

**Jobs: 70% services, 18% industry, 12% agriculture**

**Area: 360 square kilometers - 29% arable**

# The Golan



**Population: 16,500-20,000 Israel settlers, 19,300 Druze, and 2,100 Muslims**

**Area: 1,800 square kilometers**

# Lebanon



# The “Terrorism” Challenge

- **Region-wide impact of Neo-Salafi Islamist extremism. The franchising of Al Qaida, and its impact inside and outside the region**
- **Quiet bilateral cooperation. Training, intelligence, paramilitary operations aid.**
- **Facility active and passive defense.**
- **Efforts in dealing with Islam and good governance will count, not efforts at democracy and reform. Cannot really win from our side, political diplomacy weak tool at best,**
- **Strong country teams, patient country by country encouragement of reform from within: Economics, governance, rule of law, human rights, and demographics as important as political “legitimacy”**

# The Afghan Challenge

- **Dealing with the war in Afghanistan, potential destabilization of as nuclear Pakistan, and its impact on proliferation and Islamist extremism in the Middle East.**
- **10 year problem of armed nation building in Afghanistan. Needs patience and resources.**
- **NATO roll will not increase, US must lead.**
- **Pakistan part of the “war,” and more dangerous as potential Islamist state/sanctuary than Afghanistan, sale of proliferation key threat, particularly as up Plutonium production.**
- **No good answers; need constant flexible engagement.**





# Major Ethnic Divisions

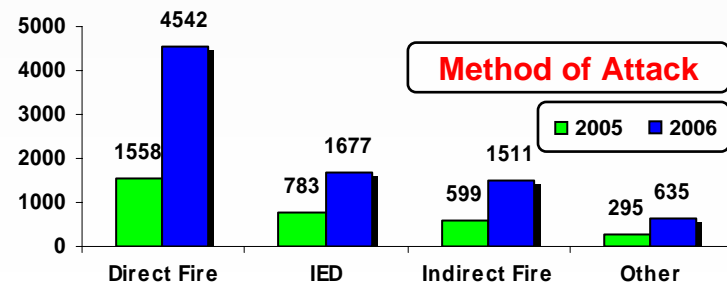
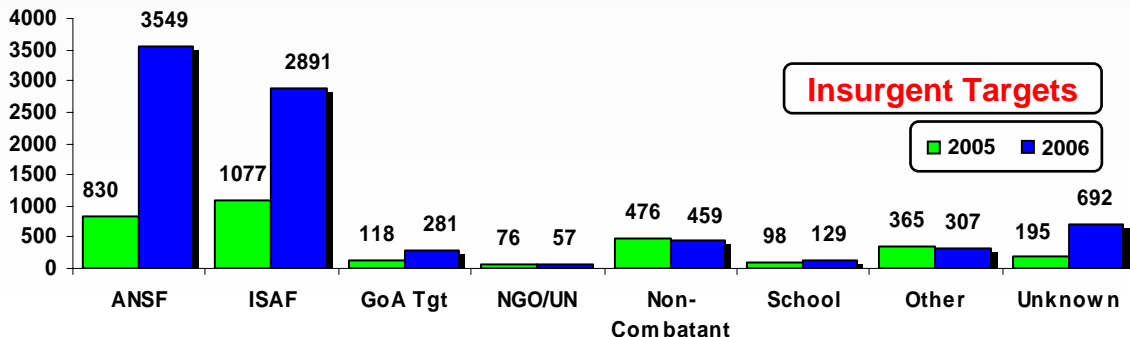
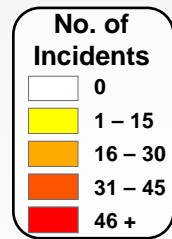
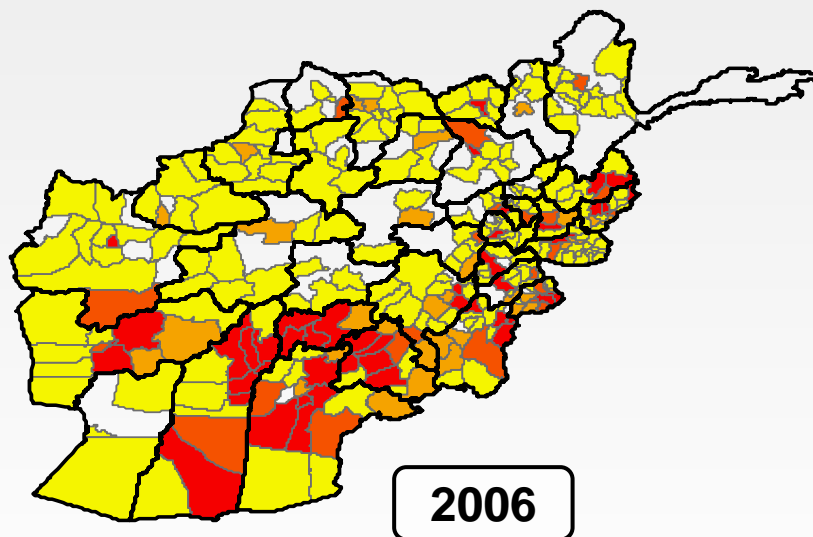
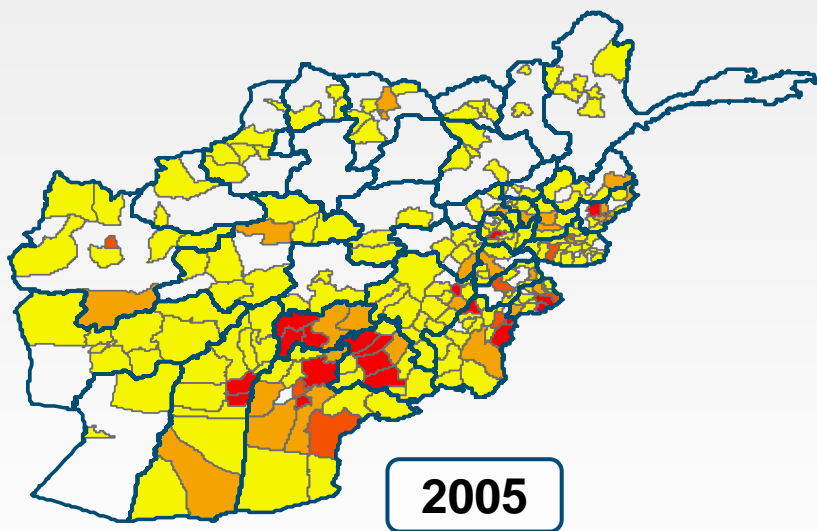




# Enemy Activity Snap-shot (Weeks 1 – 52 for 2005 & 2006)

01 January – 31 December (2005 & 2006)

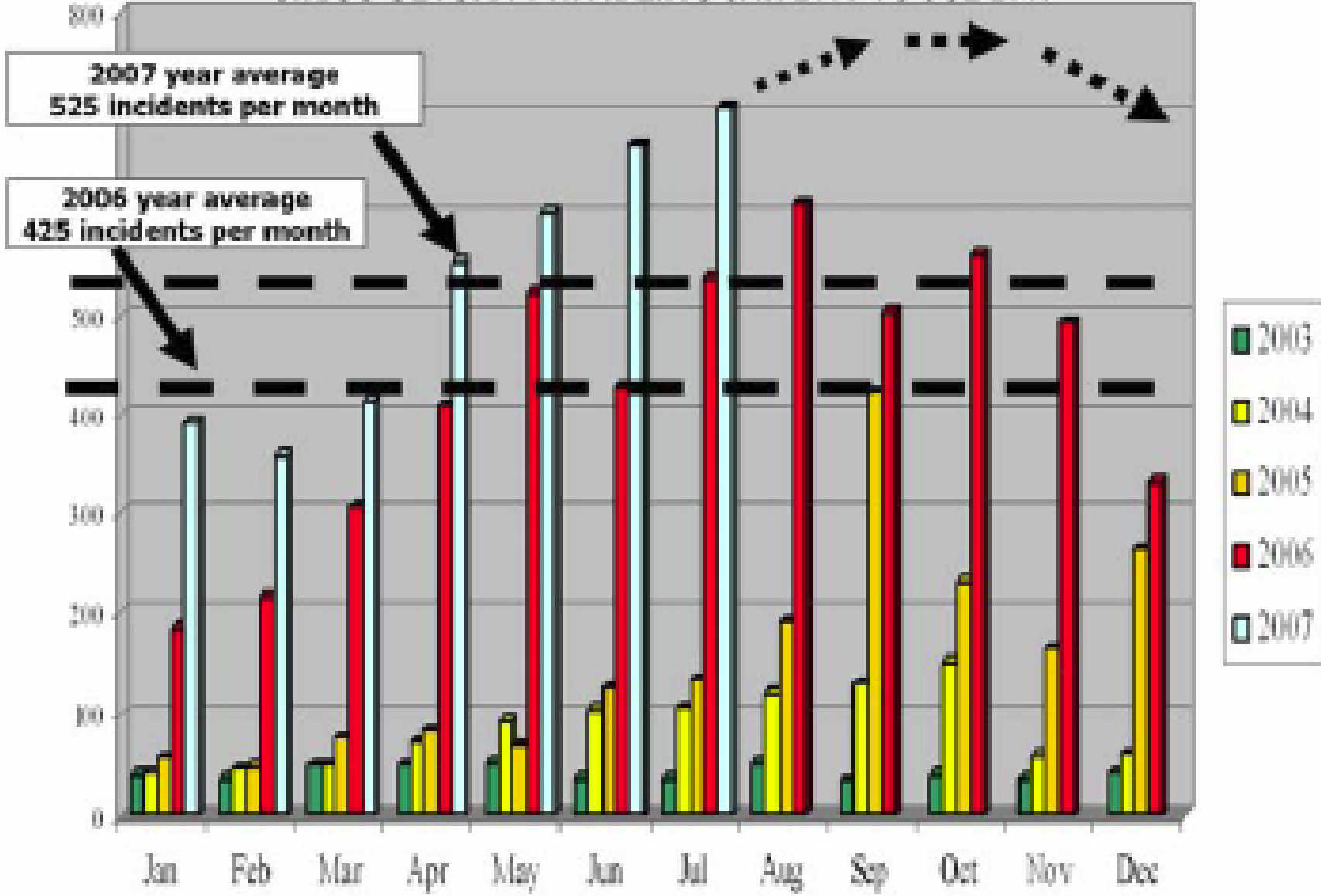
Activity for Period		
Type of Activity	2005	2006
Suicide Attacks	27	139
School Attacks	98	129
Direct Fire*	1558	4542
Indirect Fire	599	1511
IEDs	783	1677



Note: Does not include land mine strikes

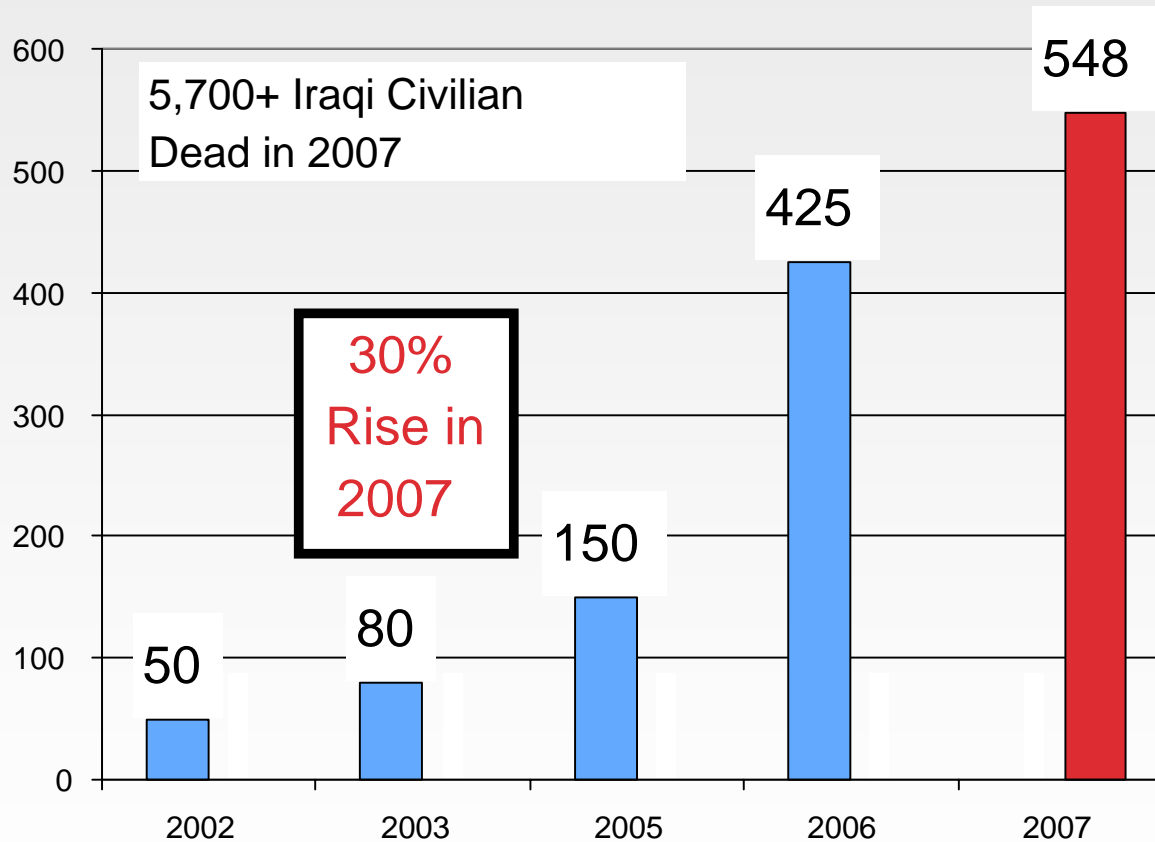
\* Direct Fire includes SAFIRE events

# UNDSS SECURITY INCIDENTS JAN 2003 TO JUL 2007

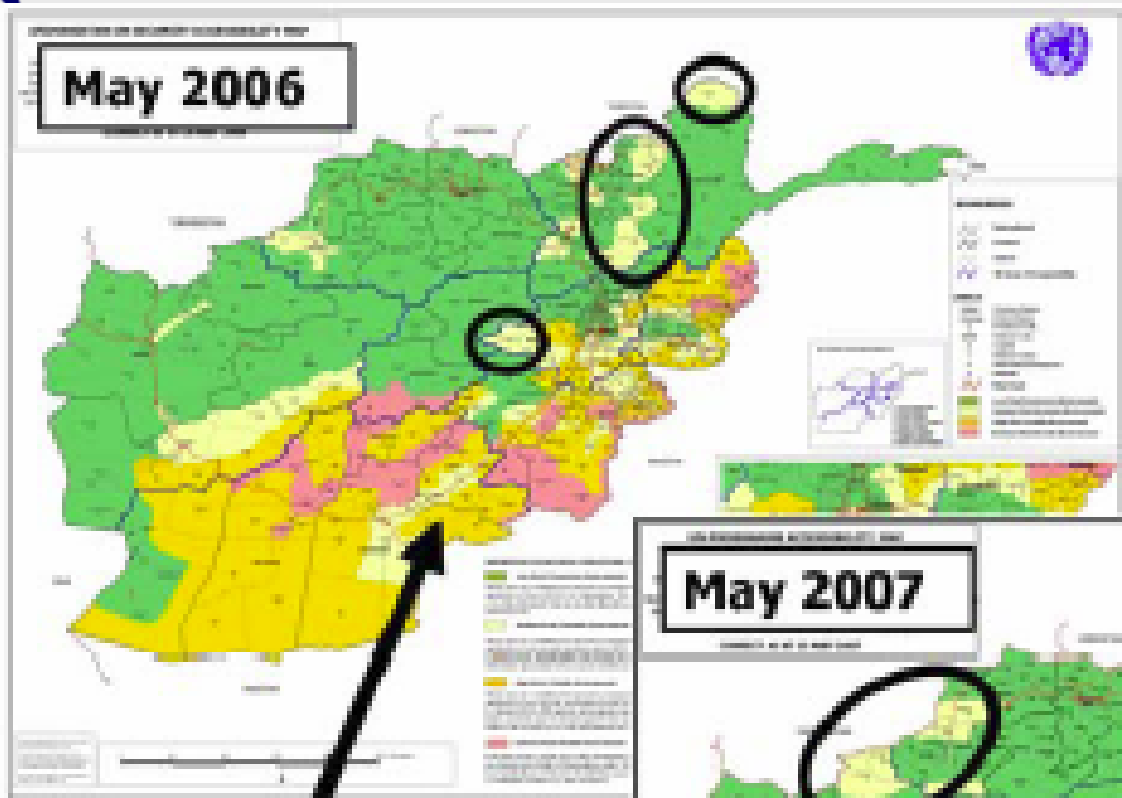


# Rise in Afghan Violence: 2006 vs. 2007

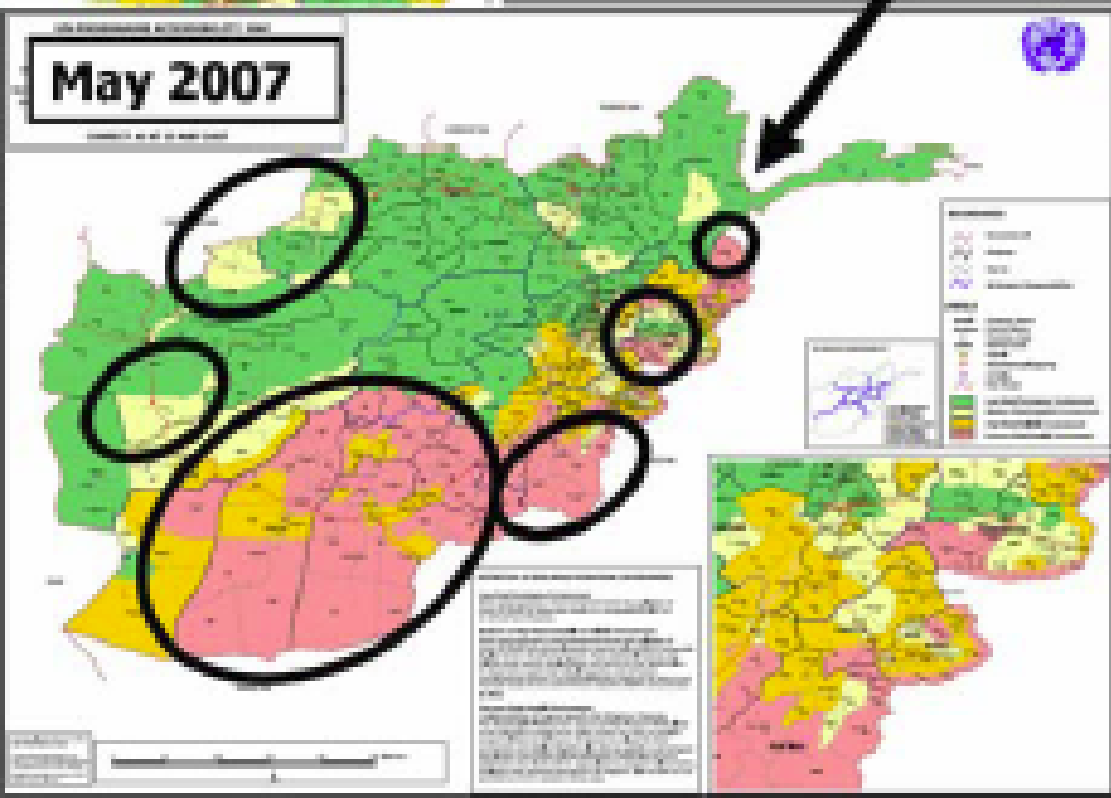
## Average Annual Monthly Incidents



Adapted from USCENTCOM brief. Covers first 9 months in 2007.



**Areas where the accessibility deteriorated between May 2006 and May 2007**



**Areas where the accessibility improved between May 2006 and May 2007**

## HIGH ABDUCTION RISK MAP

