

Oil Prices & Its Impact on Iraq's Economy

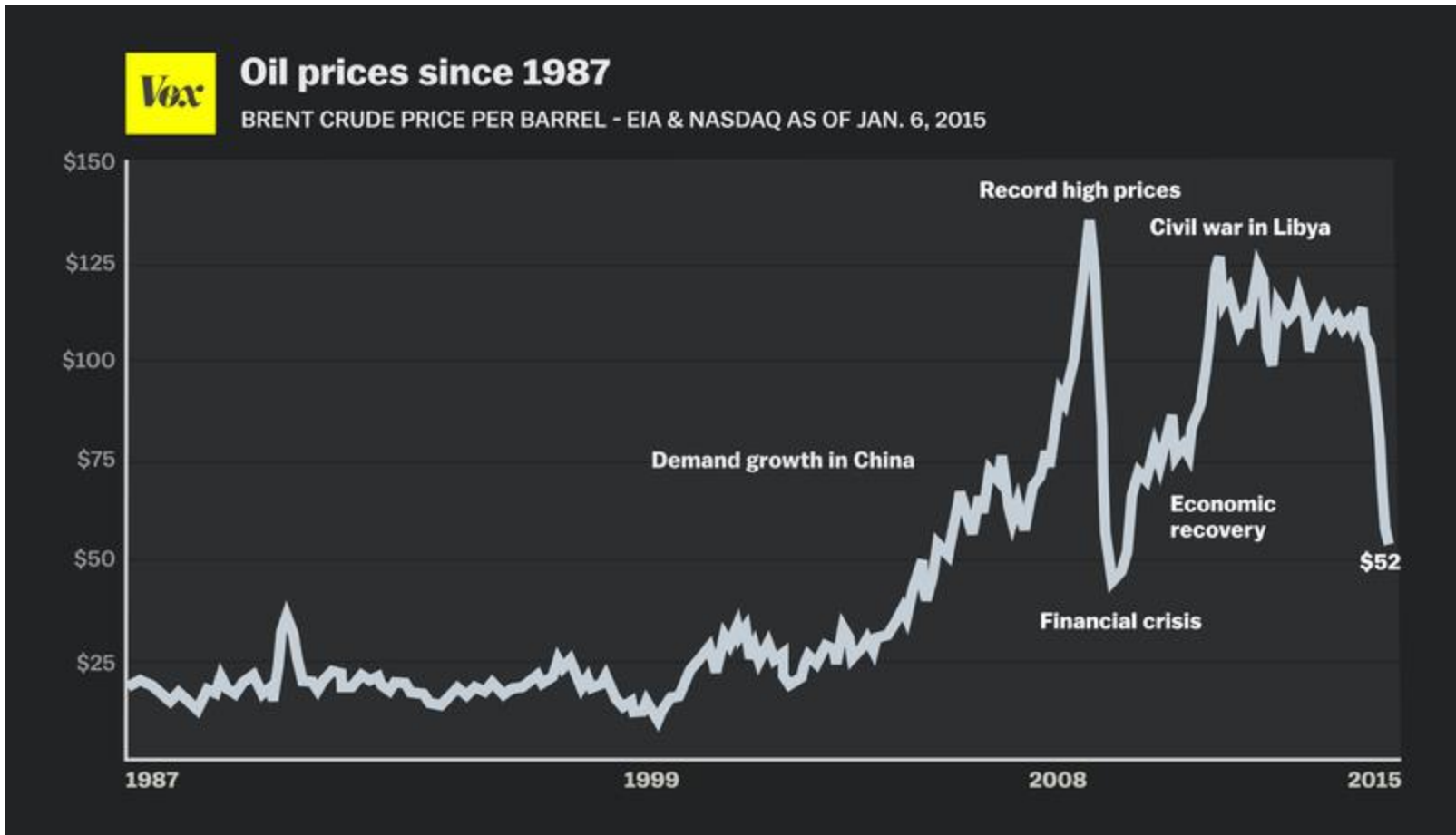
Risks & Opportunities



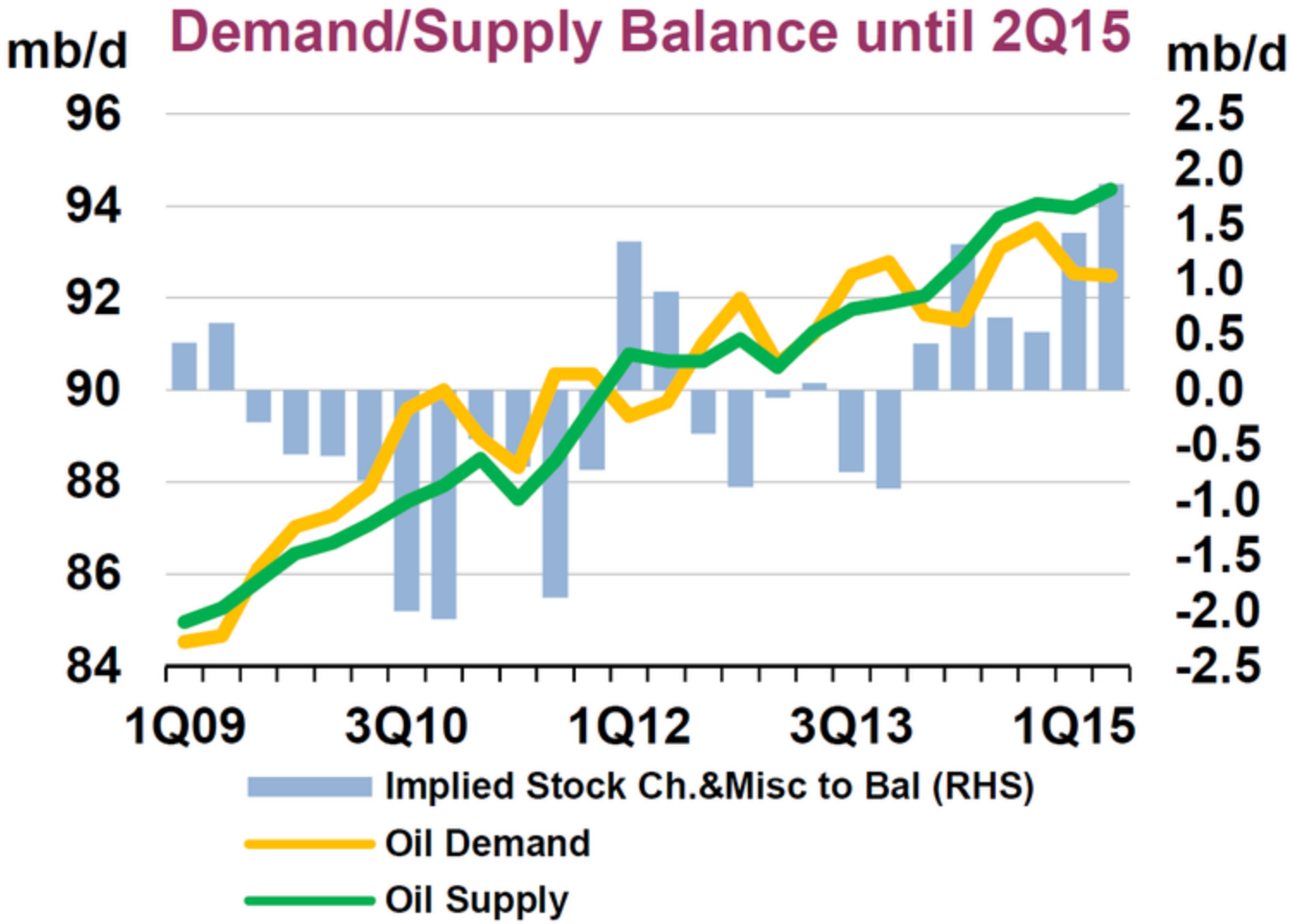
IEI Talk, Engineering Faculty, Petroleum Department
20th January 2015, The University of Baghdad
Luay J. Al Khatteeb, Iraq Energy Institute (IEI)
Email: Luay@iraqenergy.org , Twitter: [@AL_Khatteeb](https://twitter.com/AL_Khatteeb)



- OPEC member states will glut the market with a further 2 million/bbl/day in 2015
- Slowing global economic growth;
- Rising global oil production (especially in North America);
- Unexpected resumption of oil production in Libya, Nigeria, South Sudan and Iraq;
- Increasing energy efficiency, a response to three years of oil prices in excess of \$110 per barrel, which, in turn, had an impact and continues to impact long-term global demand;
- A decision by Saudi Arabia in August 2014 to cut oil production by 400 thousand barrels per day, an attempt to defend its market share in the face of falling global oil prices;
- Record oil output from Russia;
- Surging natural gas liquids and hydrocarbon gas liquids production outside the OPEC quota system;
- Natural gas eating away oil's market share as a refining fuel and as a feedstock in petrochemicals;
- The decision by Japan to restart some of its nuclear reactors, reducing forward demand for fuel oil in the power sector;
- Dumping of oil onto the marketplace by hedge fund managers who had gone long on oil prices (by some estimates as much as two million barrels per day) in anticipation of further price rises – the hedge funds had no alternative but to liquidate their positions when the market turned against them.



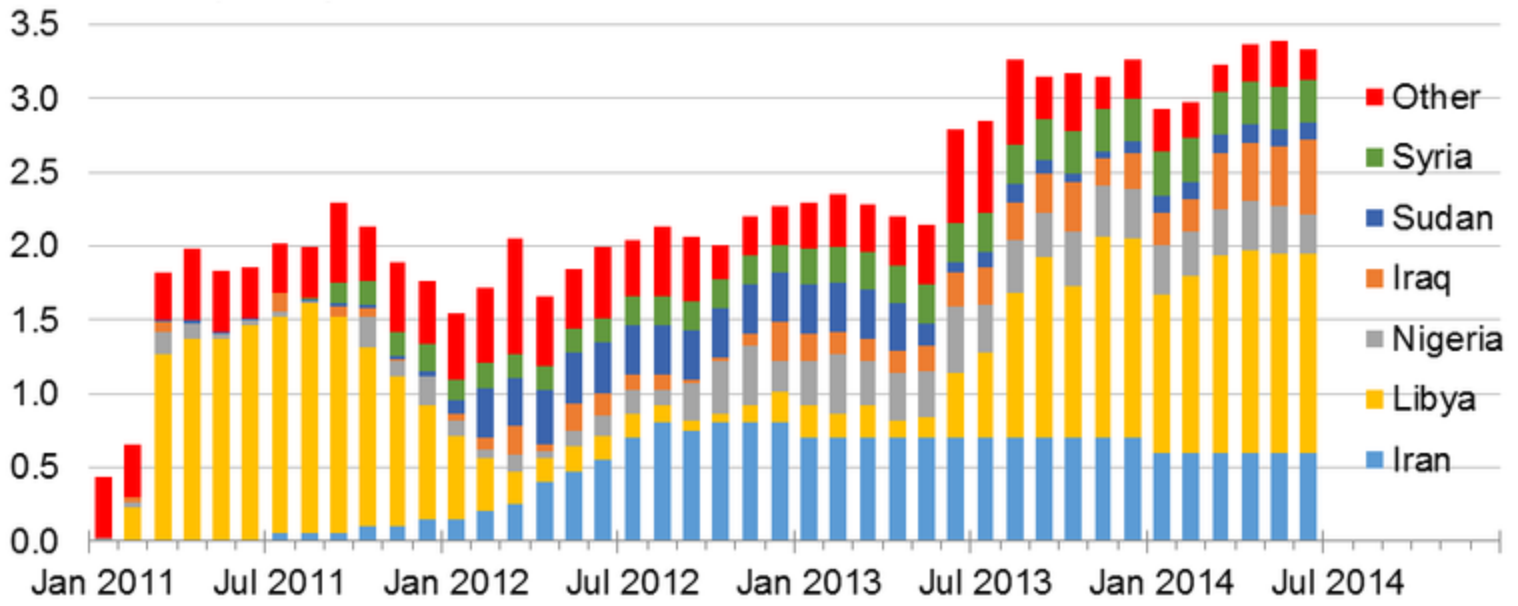
Spot price of Brent crude as of January 5, 2015



Estimated Historical Unplanned OPEC Crude Oil Production Outages

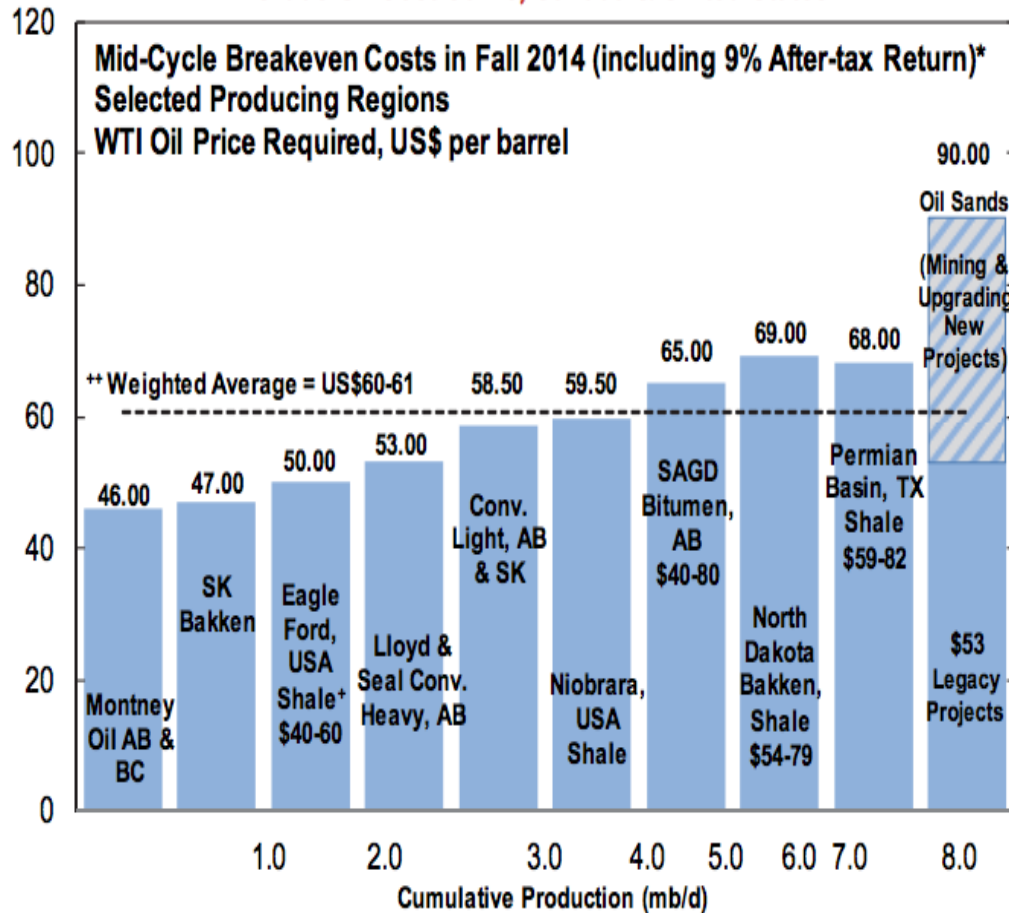


million barrels per day



Source: Short-Term Energy Outlook, July 2014.

Crude Oil Cost Curve, Canada & United States



120

Figure 4: OPEC median budgetary breakeven price

120

100

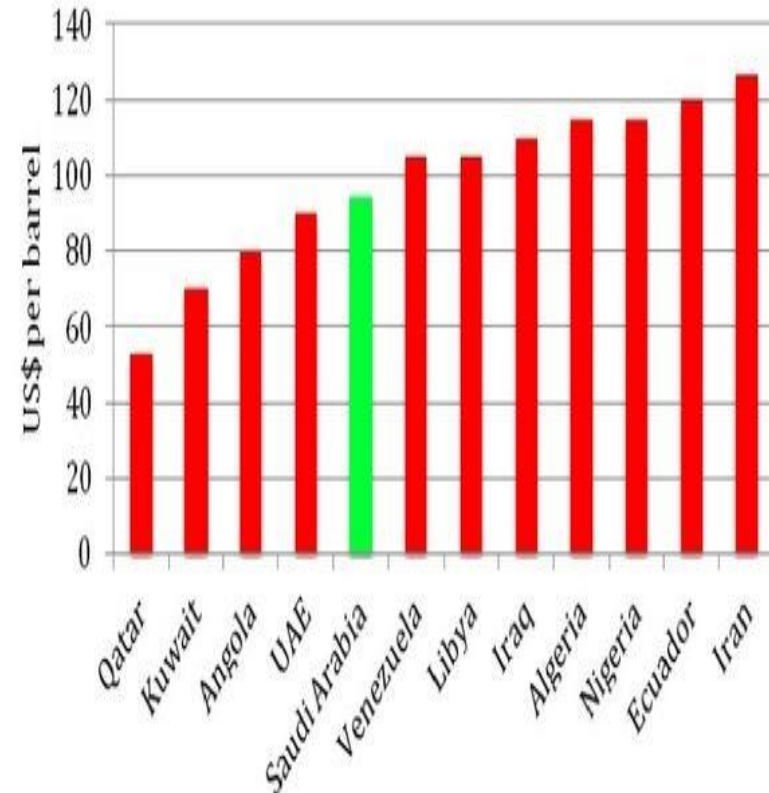
80

60

40

20

0



* Excludes 'up-front' costs (initial land acquisition, seismic and infrastructure costs): treats 'up-front' costs as 'sunk'. Rough estimate of 'up-front' costs = US\$5-10 per barrel, though wide regional differences exist. Includes royalties, which are more advantageous in Alberta/Saskatchewan.

+ Liquids-rich Eagle Ford plays, assuming natural gas prices of US\$3.80 per mmbtu.

** Weighted avg. = US\$60-61 including existing Integrated Oil Sands at C\$53 per barrel.

Saudi Arabia: US\$10-25 per barrel.

Data source: Scotiabank Equity Research and Scotiabank Economics.

Source: ScotiaBank

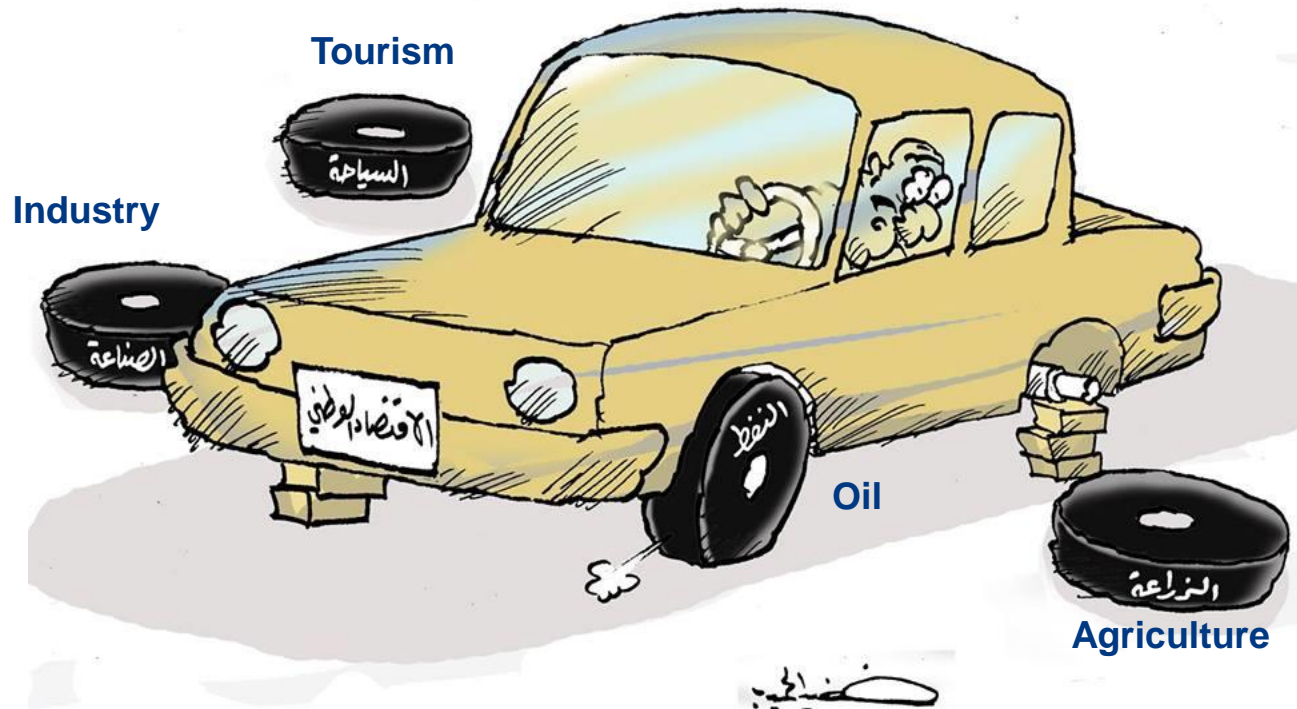
OPEC "break-even" prices in 2012. (Matthew Hulbert/European Energy Review)

Economy

- 2015 Budget: USD 104 billion
- Gov. estimate of Oil Price \$60/bbl
- Deficit: \$20bn and could double,
- Expenditure: 70% (around 6m people on Govt. payroll)
- Oil – single source of income

State & Nation Building

- Centralism
- No National Reconciliation
- Legacy Regime Rules

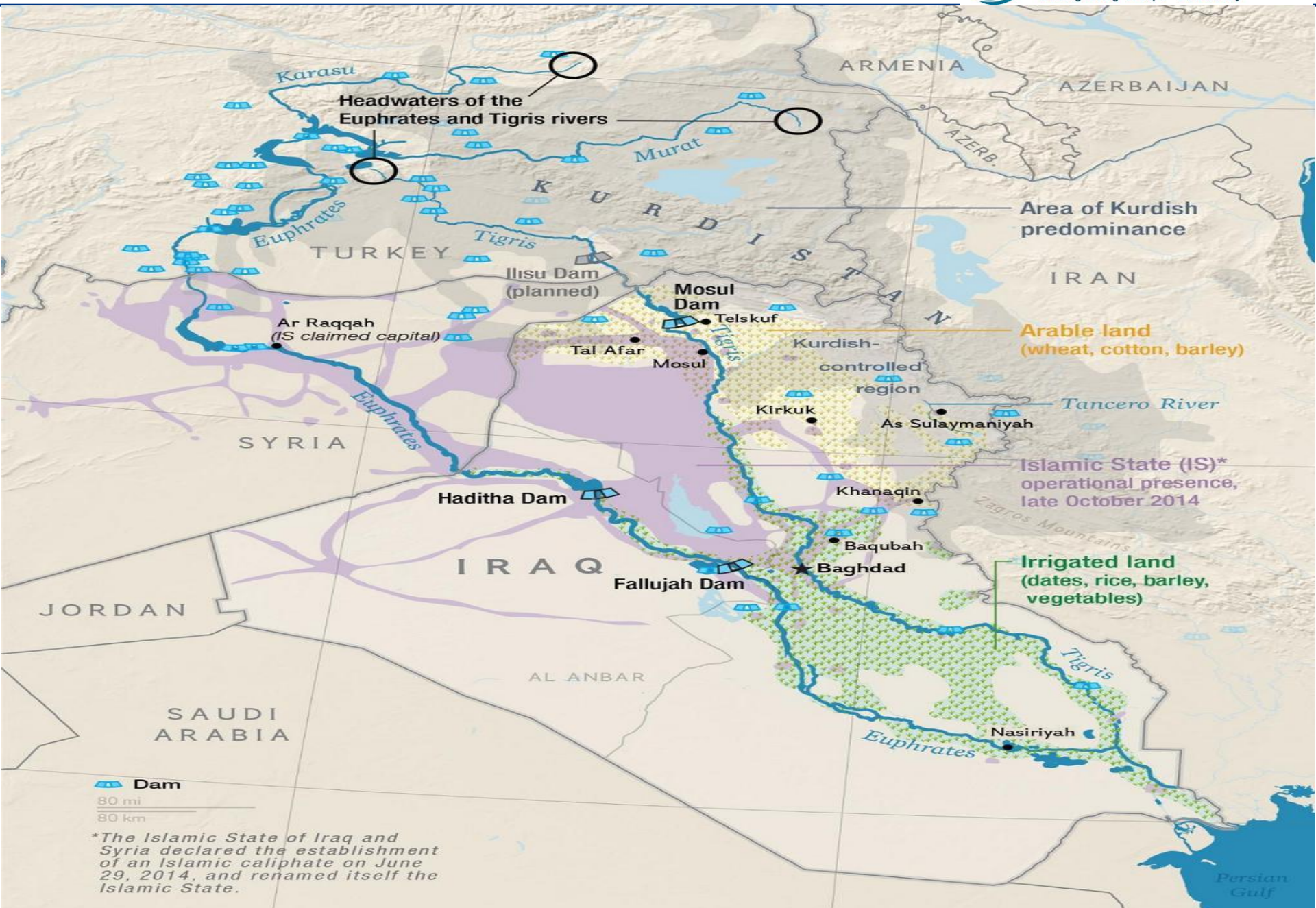


International Politics

- Troubled Region
- 6 difficult neighbors
- UNSC Members: Conflicting Foreign Policy

+ Security Crisis

Water Security & ISIS Threat



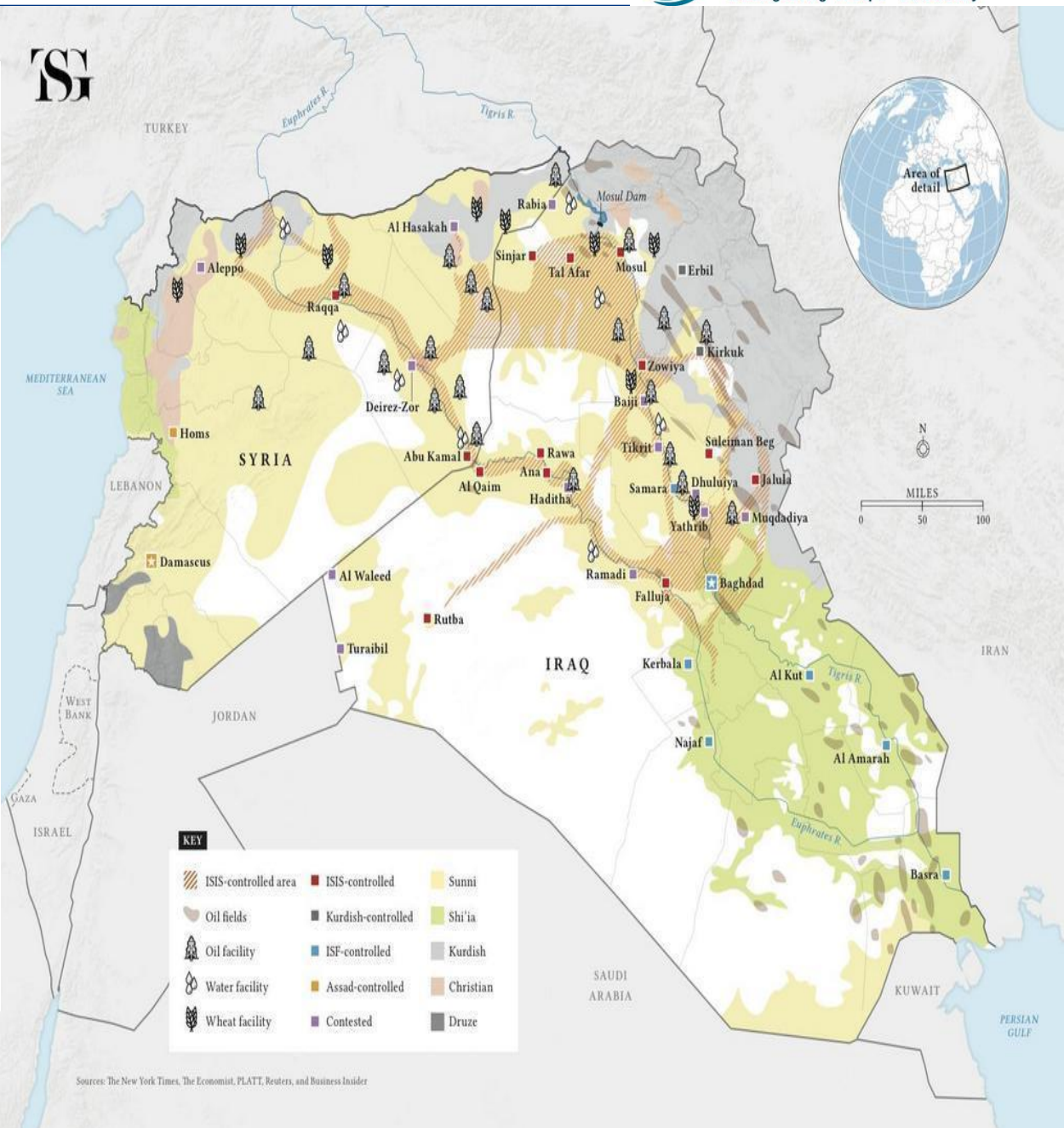
KRG Oil Security

The KRG's Near-Term Production Potential

Field [Operator]	Current Capacity*	End-2014 Capacity*
Khurmala [Kar Group]	110,000	150,000
Taq Taq [TTOPC-Oz]	129,000	200,000
Tawke [DNO]	130,000	200,000
Khor Mbr [Dana Gas/Crescent]†	15,500	15,500
Barda Rash [Afren]	3,000	10,000
Shaikan [Gulf Keystone]	15,000	40,000
Akre-Bijel [Mol]	3,500	10,000
Bina Bawi [OMV]	3,000	10,000
Miran [Genel Energy]†	3,000	3,000
Garmian [Western Zagros]	5,000	10,000
Sarsang [HKN]	0	10,000
Atrush [Taqa]	0	5,000
Hawler [Oryx Petroleum]	0	25,000
Kurdamir [Talisman]	0	5,000
Total	417,000	693,500

*In b/d. †Condensate. ‡55% Genel Energy, 45% Sinopec-owned Addax Petroleum
 Source: Companies, Energy Intelligence.
 End-2014 estimate depends on full green-lighting of KRG pipeline exports.

Source: International Oil Daily, March 2014



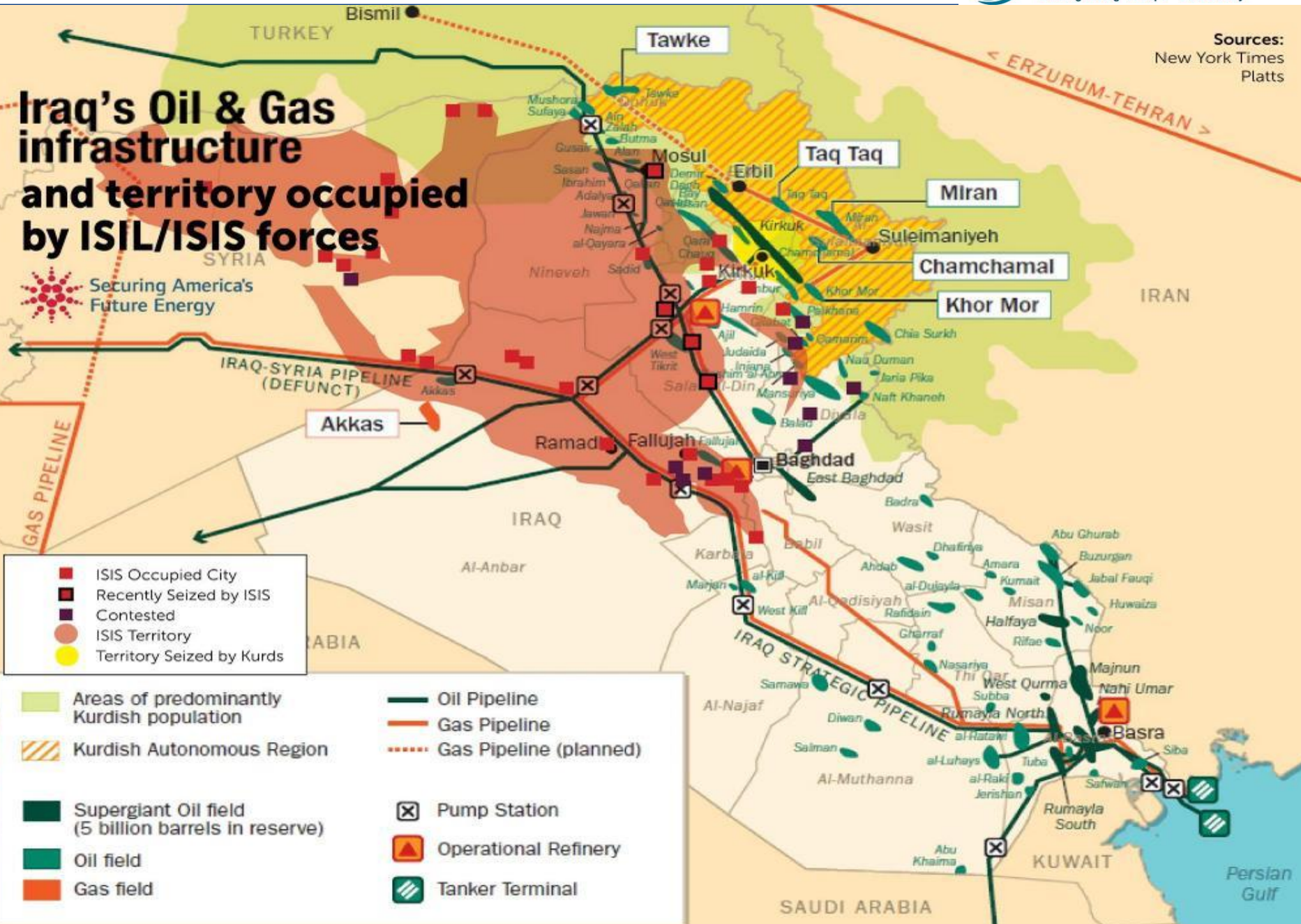
Sources: The New York Times, The Economist, PLATT, Reuters, and Business Insider

Oil Security & Black Market Economy

Sources:
New York Times
Platts

Iraq's Oil & Gas infrastructure and territory occupied by ISIL/ISIS forces

Securing America's Future Energy



Kurdistan Region: Production and Revenue Scenarios

	Price	A		B		C	
		Production	Revenue*	Production	Revenue*	Production	Revenue*
Kurdistan Region	\$80	200,000	5.8	300,000	8.7	400,000	11.6
	\$100		7.3		10.95		14.6
Kirkuk	\$80	200,000	5.8	300,000	8.7	400,000	11.6
	\$100		7.3		10.95		14.6
Total	\$80	400,000	11.6	600,000	17.4	800,000	23.2
	\$100		14.6		21.9		29.2

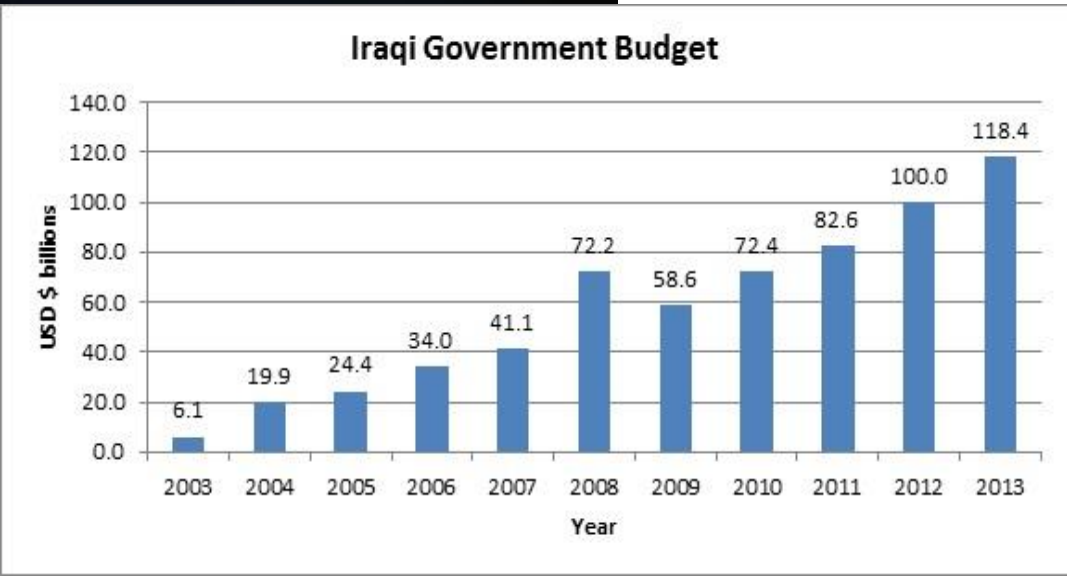
*Revenue in billions of dollars

COLUMBIA UNIVERSITY

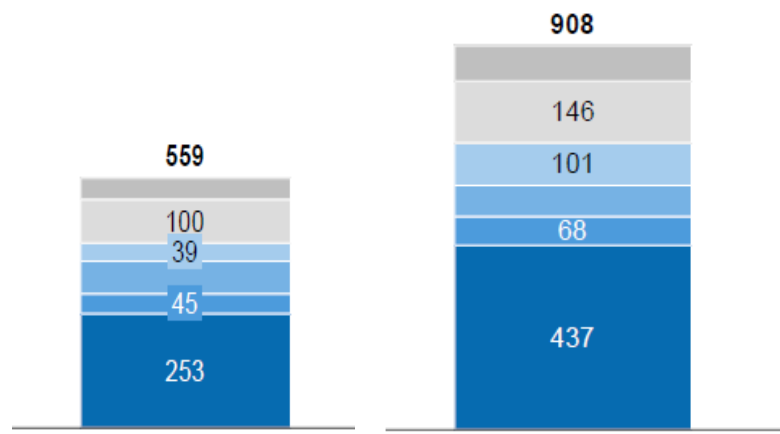
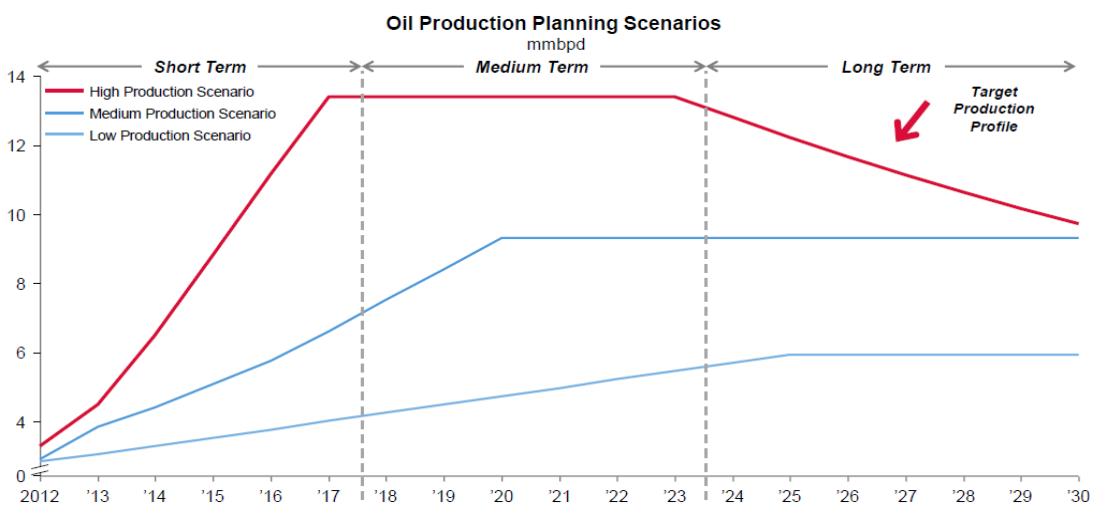
- *Kurdistan's Economic Independence requires \$14.5bn in 2015. This assumption will increase significantly as the population grow and regional security & political threats get imposed on Kurdistan.*
- **Kurdistan's future oil increase is heavily dependent on Kirkuk, a constitutionally disputed province**
- *Masked unemployment drains federal & regional budgets*



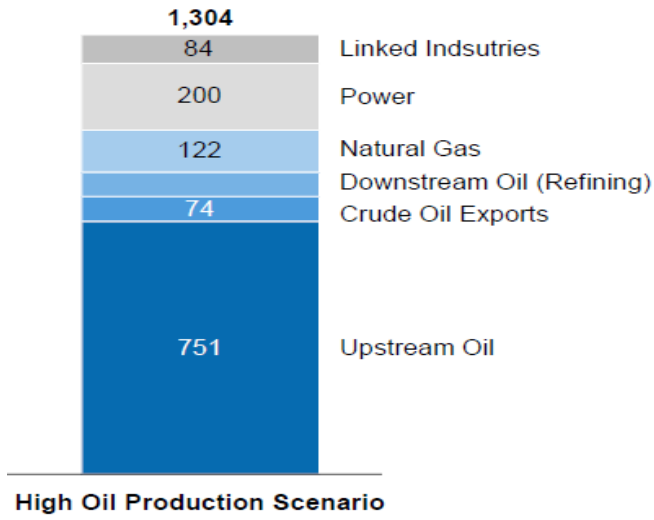
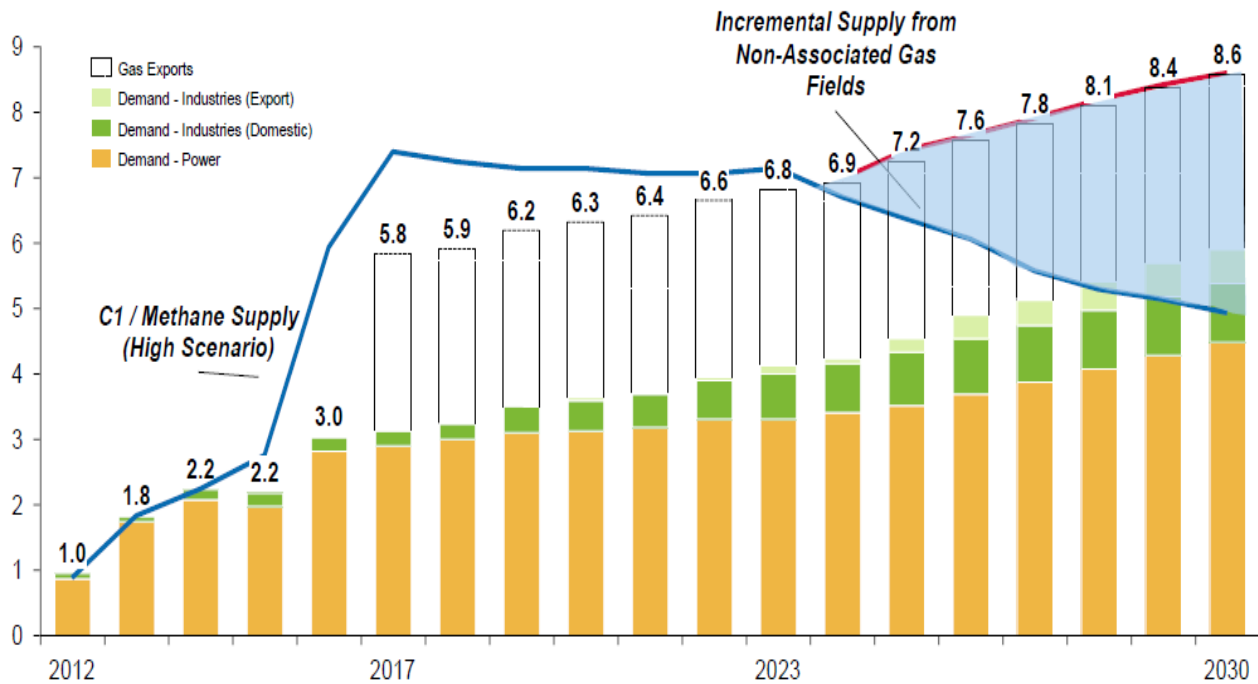
Ambassador Pascual, Istanbul, Atlantic Council, Energy & Economic Summit 2014



INES: Scenarios of Iraq's Oil & Gas Development Cost



Associated and Non-Associated Methane (C1) Supply Profiles vs. Demand
bscfd

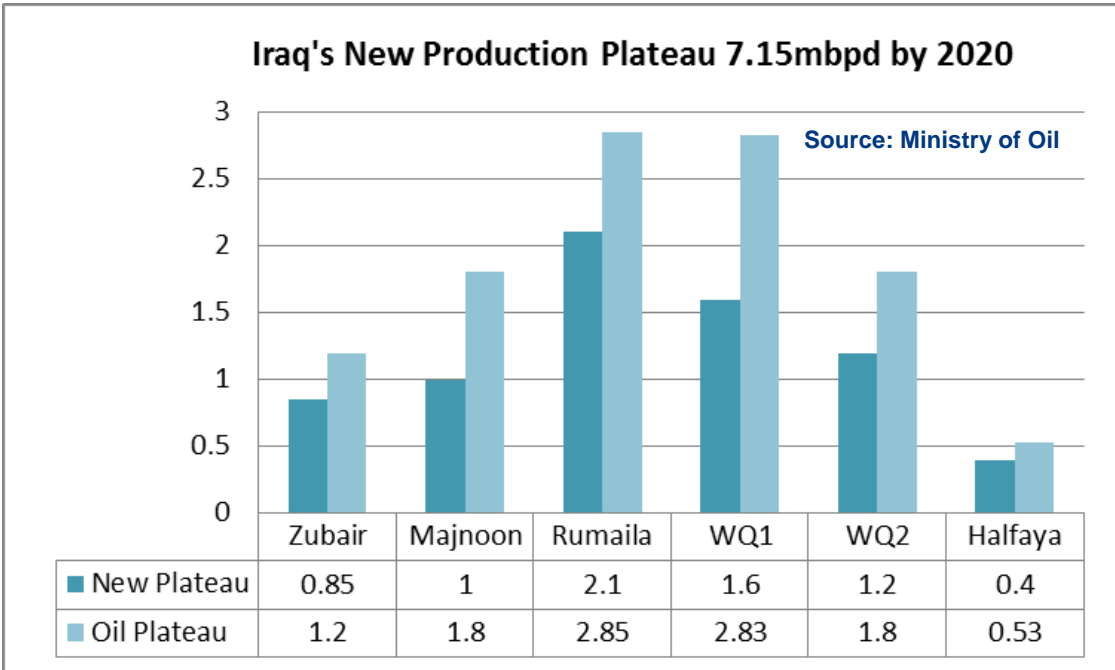


Cumulative Capital Expenditures by Sector
USD Bn, 2012-2030

IRAQ/KRG	South	North
Oil Prod/day	3.1m	500kb
Gas Prod/day	400mscf	350mscf
Gas Flaring	1.3bcf	?
Oil Prov.Res	155bn bbl	15bn bbl
Oil Prob.Res	?	45bn (MNR)
Gas Prov. Res	130tcf	30tcf
Gas Prob.Res	?	200tcf (MNR)
Oil Target	7.15mbpd	1mbpd
Gas Target	8bcf/day	2bcf/day
Consumption	600kb/day	150kb/day
Refining Target	1.5mb/day	?
Export	2.5mb/day	350kb/day

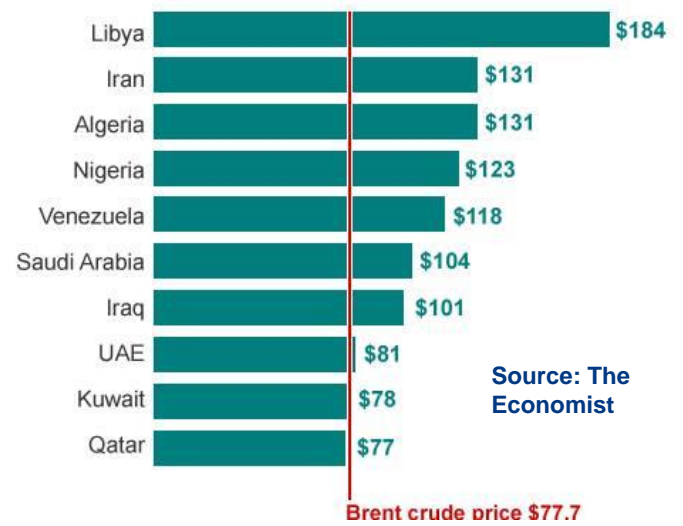
Note: Kirkuk (300kdb) is not included in the above

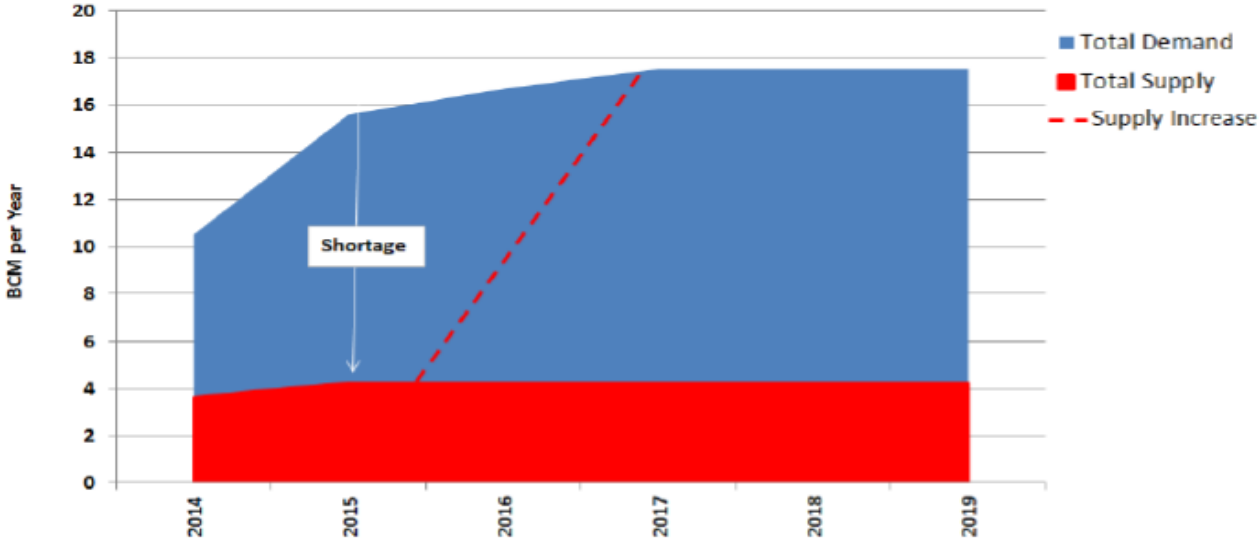
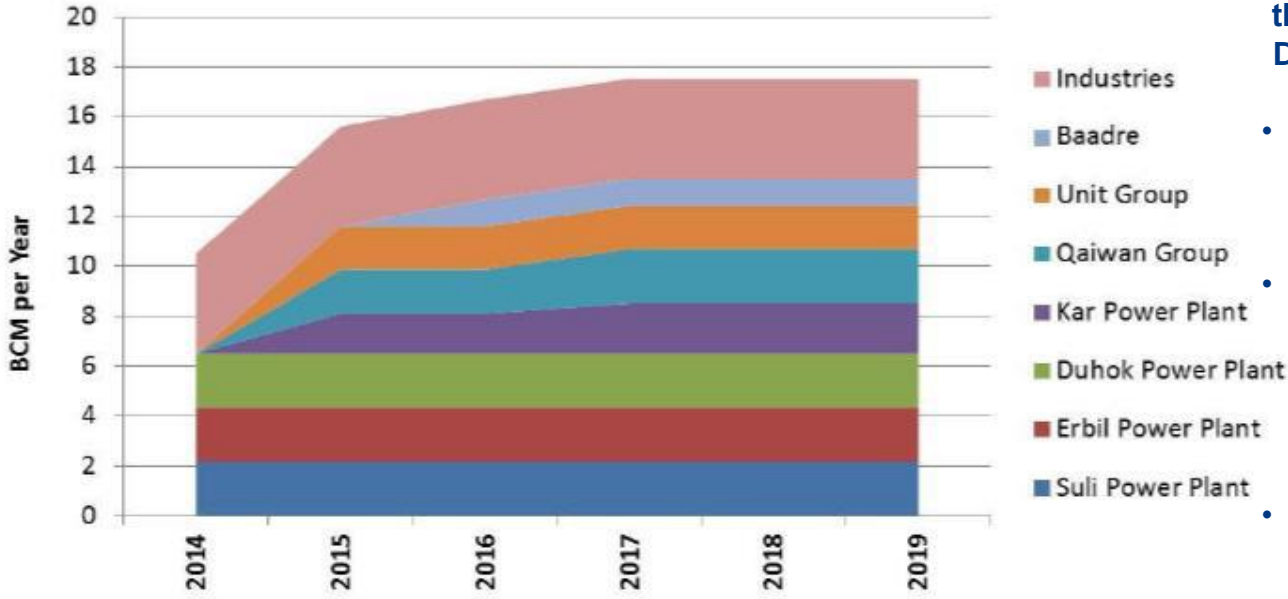
- **Prospect of the Western Desert: ?**
- **Iraq Investment Portfolio: \$1.5 Trillion (50% Energy)**
- **Oil market share competition is in Asia, not Europe.**



Old and New-Reviewed Oil Plateaus

Oil price needed to balance national budgets





Source: MNR - KRG

Clearing Local Gas Deficit & Seizing the Opportunity of Turkey's Energy Deficit (\$60bn/2013 & \$120bn/2023)

- Iraq, KRG and Turkey face serious gas deficit, while gas is flared in Iraq due to late projects & bad planning
- Being part of Federal Iraq, KRG could partner with Basra Gas to a) clear gas deficit and b) free surplus volumes for gas export to Europe and meet Turkey's local demand.
- Currently, southern Iraq flares 1.3bcf/day of associated gas. South Gas production target could exceed 8bcf/day if captured and monetized. This is equivalent to Germany's gas consumption.
- For Kurdistan to stay as part of Iraq means: 17% of total oil & gas production (export & local consumption), and securing maximum benefit of Federal Iraq's sovereignty and international trade deals. This also means reducing security threat, and avoiding interferences and pressure from unpredictable neighbors (in case of "independence").

Signing a contract does not mean producing oil next day!



	Short-term (1-3 years)	Medium-term (3-7 years)	Long-term (7+ years)
Banking			
Maintenance			
Power & water			
Drilling rigs			
Kurdistan full exports			
Security			
Personnel			
Ports & roads			
NOCs capacity			
People, Politics, HSE			
Water injection			
Domestic refining			
Gas handling			
Export infrastructure			
New facilities			
OPEC quotas			
Reservoir performance			

Issues

Institutional

Constitutional

Transparency

Federal Finances

Gas Development

O&G Marketing

Federalism & FDI

The way Forward

- It is time to end the era of unconstitutional and short-lived “Political Deals” and focus on State Building effort based on Constitutional Institutions. We need to establish the Federal Oil & Gas Council to act as a main regulator (Iraq Constitution, Article 112). FOGC members will include reps from: Fed-MoO, KRG-MNR, Producing Governorates of 100k barrel oil equivalent a day (Basra, Missan, Kirkuk). Also, to establish an independent Federal Revenue Sharing Commission & Auditing Entity to handle wealth distribution.
- Pass the federal hydrocarbon and revenue sharing laws by no later than June 2015, and setup the relevant institutions.
- FULL disclosure of Info - Every single barrel is counted (local or export), so as every single dollar: buyers, volumes, price, cost/profit, IOCs-take
- 1) Remove food rations to allocate for IDPs, 2) Phase-out subsidies on oil and gas products, 3) Allocate coupon payments for People-in-Need, 4) Cap sovereign expenses to a maximum of 20%, and 5) 80% to be allocate to regions and provinces pro-rata to population.
- Implement an aggressive federal plan to achieve zero-flaring of all associated gas by no later than mid-2016, and develop non-associated gas assets.
- 1) Develop local pipeline network to create vibrant local markets, 2) Implement an aggressive marketing strategy to secure market share of growth in Asia.
- Develop joint investment boards between provinces and regions to promote federalism, decentralization, and attract FDI for competitive markets.

“Iraq’s gateway to Europe is Kurdistan, Kurdistan’s gateway to Asia is Basra, and Western provinces gateway to the world is Kurdistan & Basra, we need each other.

Federalism, decentralization of power, transparency, institutional & legislative reform are key for economic diversity and the only way to build a state and serve a nation.”

Luay al-Khatteeb



Basra
The City Of Sinbad