

Turmoil, Energy, Infrastructure & Transformations in MENA: Challenges & Outlook

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Agenda

- **Global Energy: Trends, Changing Structures & Dynamics**
- **MENA Energy Characteristics: Dependence & Subsidies**
- **Energy Infrastructure: Chokepoints & New Strategic Links**
- **Arab Firestorm & Vulnerabilities; Turmoil & Transitions**
- **Reforms & Transformational agenda for Arab countries**

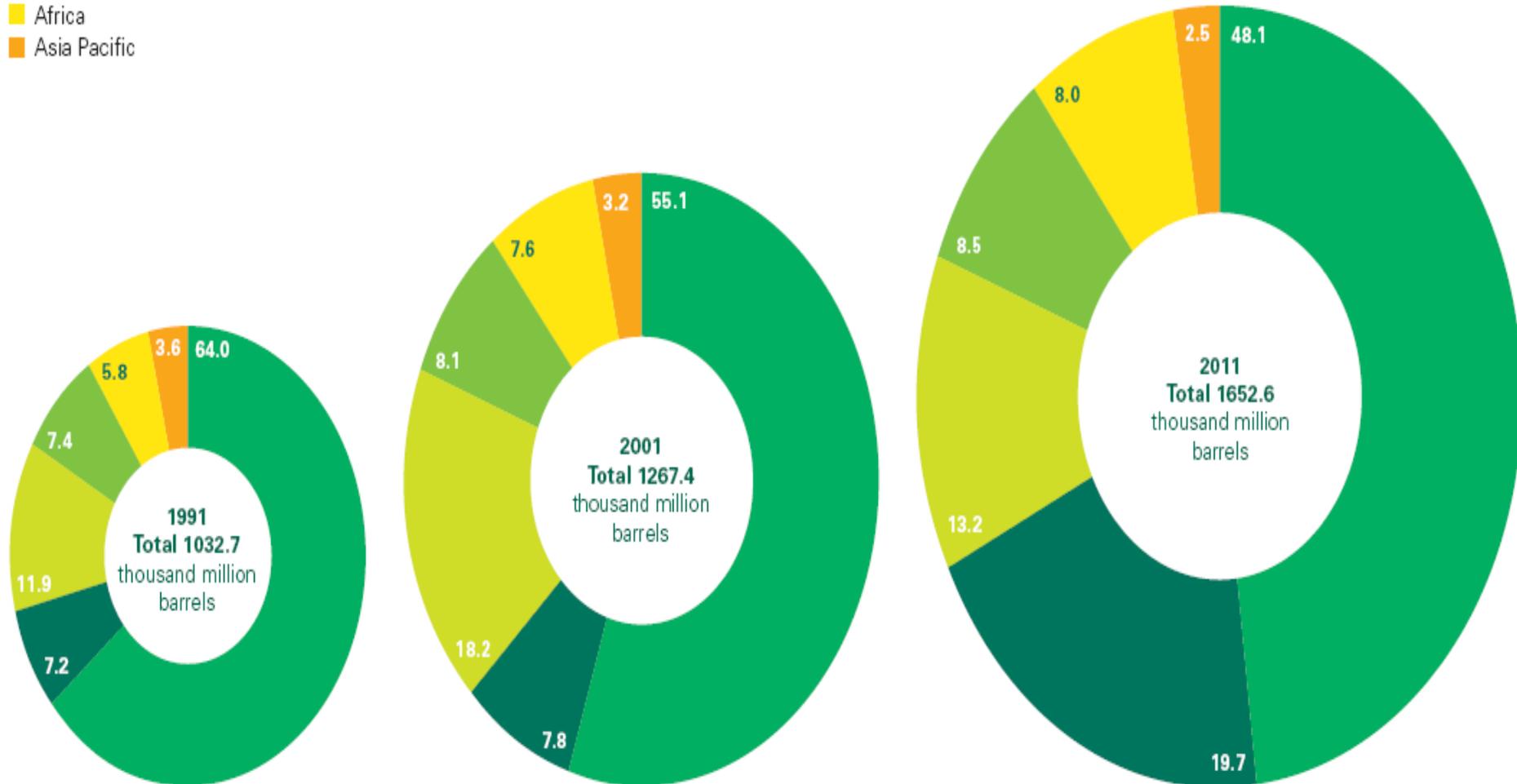
Global Energy: Trends,

Changing Structures

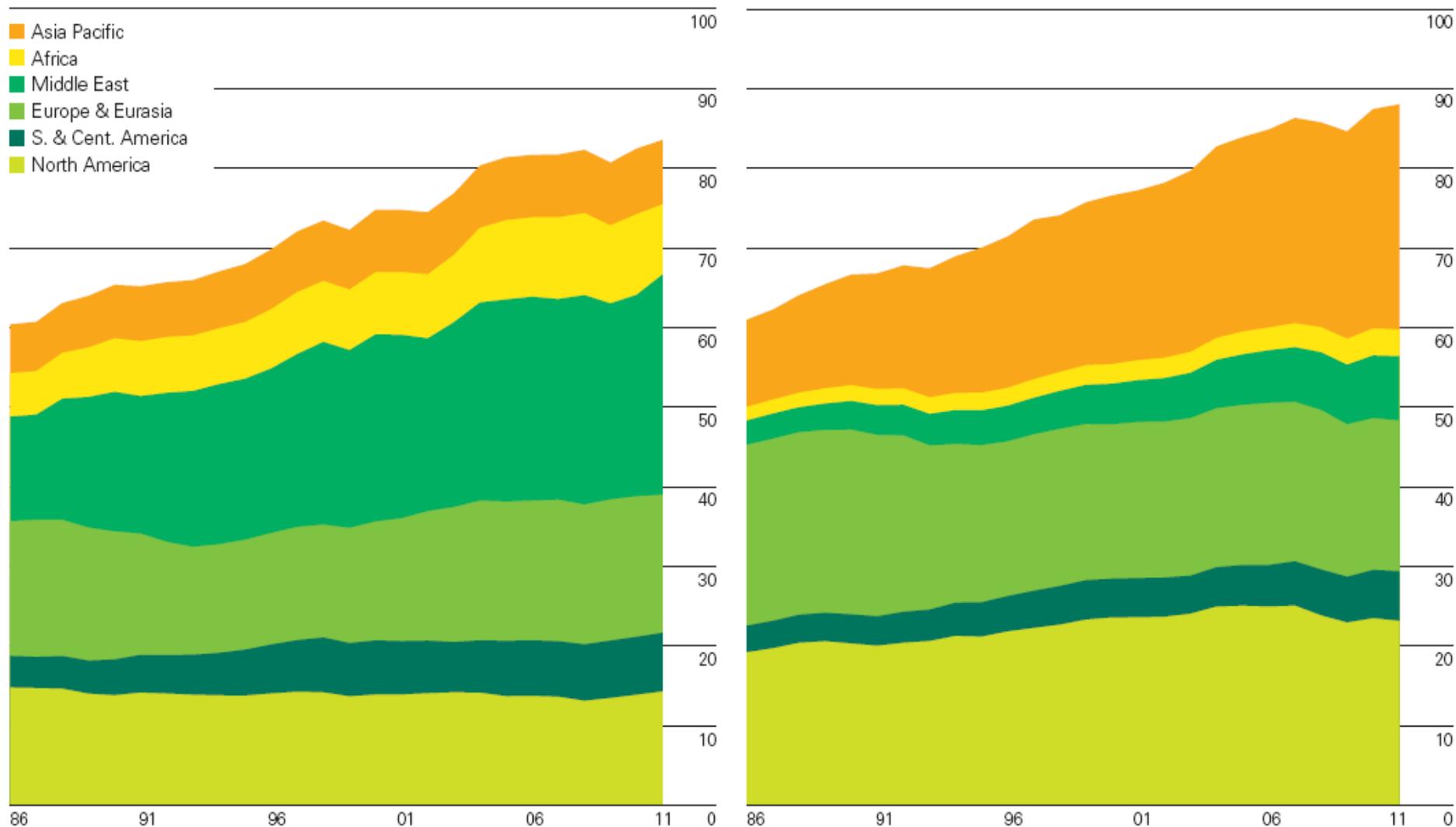
& Dynamics

Distribution of Proved Oil Reserves: 1991,2001,2011

- Middle East
- S. & Cent. America
- North America
- Europe & Eurasia
- Africa
- Asia Pacific



Production(LHS) & Consumption(RHS) by Region(MN barrels)



World oil production increased by 1.1 million b/d in 2011, with OPEC accounting for nearly all of the increase despite a 1.2 million b/d reduction in Libyan production. The US had the largest growth in non-OPEC supply for a third consecutive year. World oil consumption increased by roughly 600,000 b/d. All of the net growth came from emerging economies in Asia, South & Central America, and the Middle East, offsetting declines in Europe and North America.

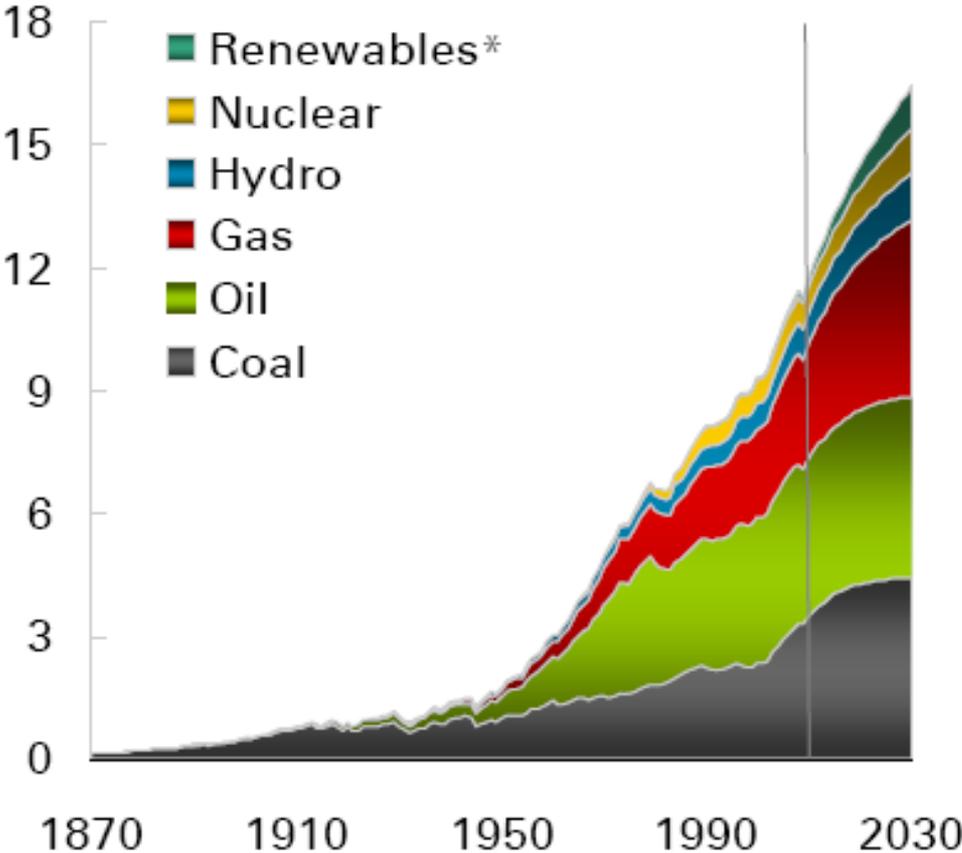
World Energy trends and developments

- World primary **energy consumption** grew by 2.5% in 2011, roughly in line with the 10-year average.
- Oil remains the world's leading fuel, at 33.1% of global energy consumption, but oil continued to lose market share for the 12th consecutive year.
- Changing Nature of Energy Consumption:
 - Consumption in **OECD** countries fell by 0.8%, led by a sharp decline in Japan - in volumetric terms, the world's largest decline.
 - **Non-OECD** consumption grew 5.3%, in line with 10Y average; China alone accounted for 71% of global energy consumption growth.
- Global oil trade in 2011 grew by 2%, or 1.1 million b/d. At 54.6 million b/d, trade accounted for 62% of global consumption, up from 58% a decade ago.
- China accounted for roughly two-thirds of the growth in trade last year, with net imports (6 million b/d) rising by 13%. US net imports were 29% below their 2005 peak.
- While crude oil accounted for 70% of global trade in 2011, refined products accounted for two-thirds of the growth in global trade last year.
- **Middle East** countries accounted for 81% of the growth in exports in 2011.
- **China has become Saudi Arabia's main importer of oil**

Energy Fuel Mix: Distinct Shift Away From Oil

World commercial energy use

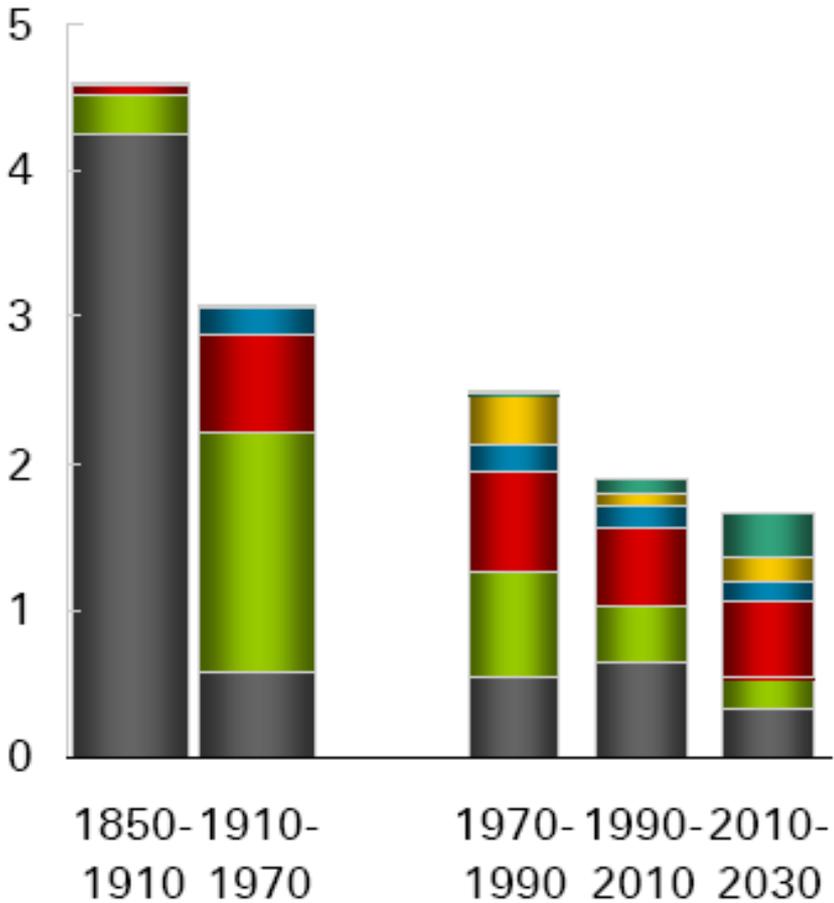
Billion toe



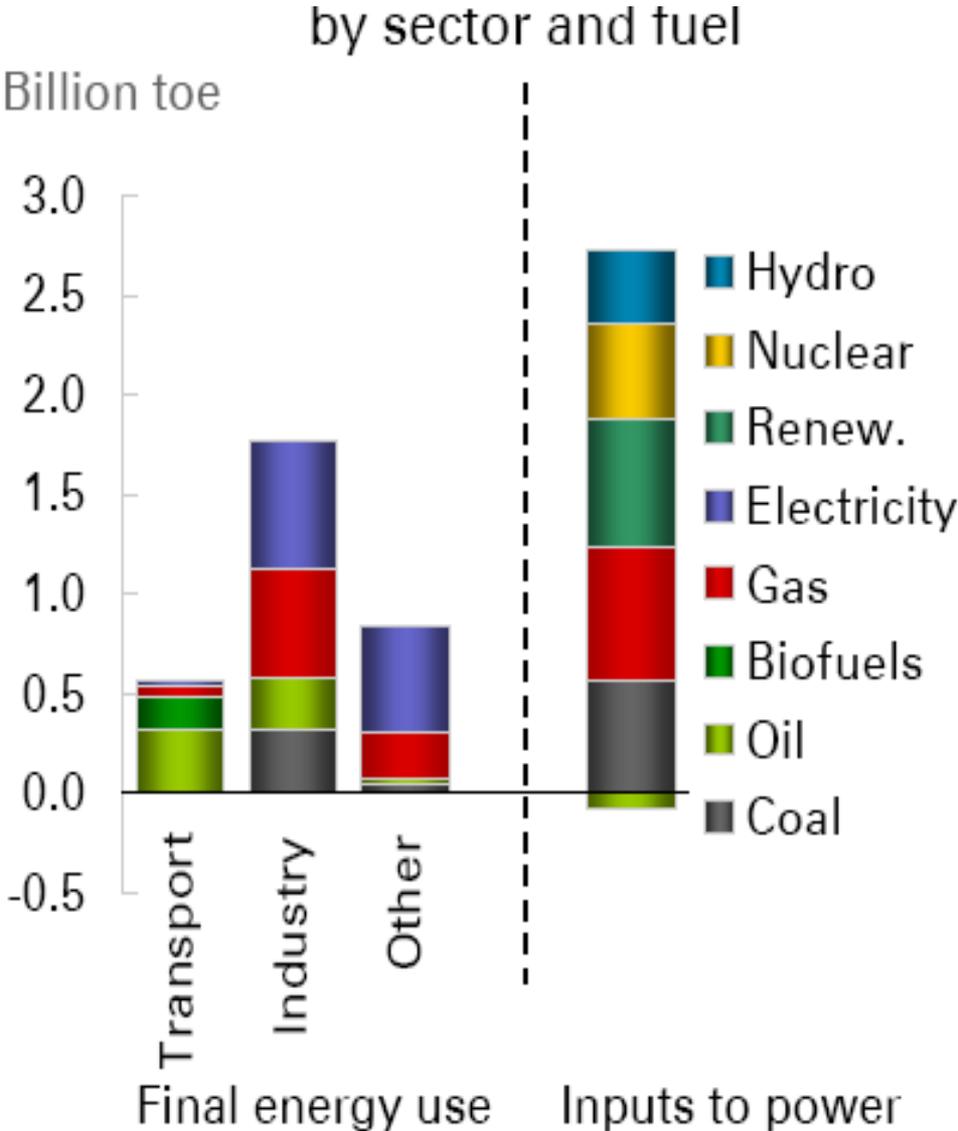
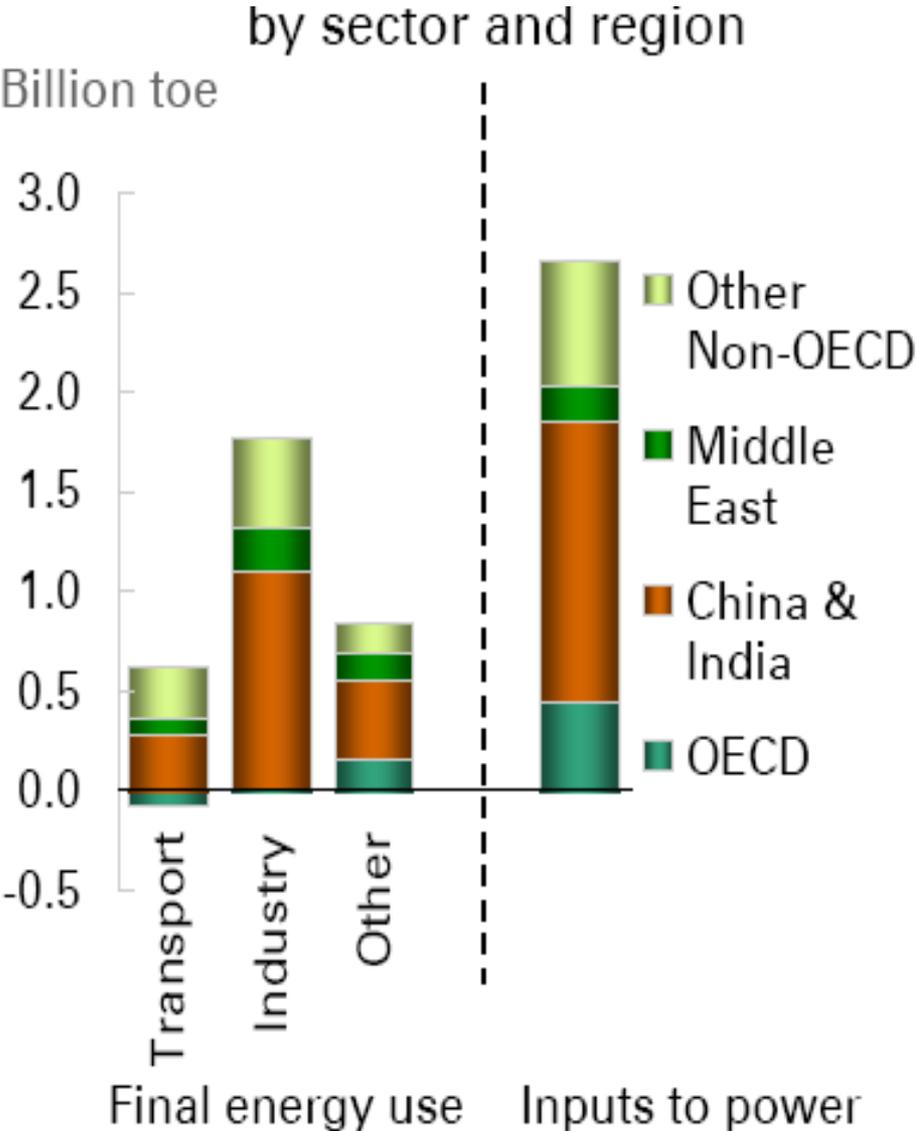
* Includes biofuels

Contribution to total energy growth

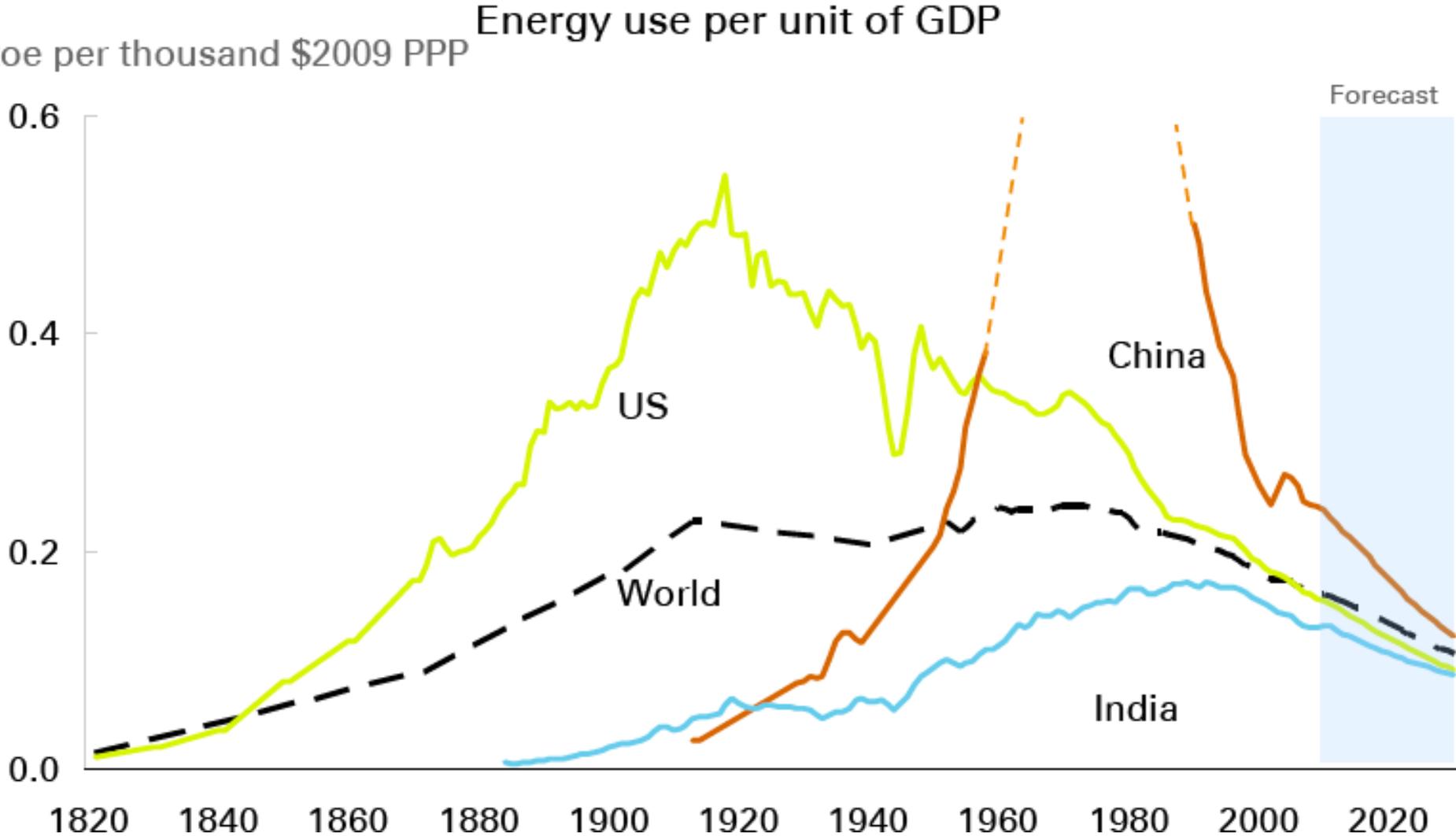
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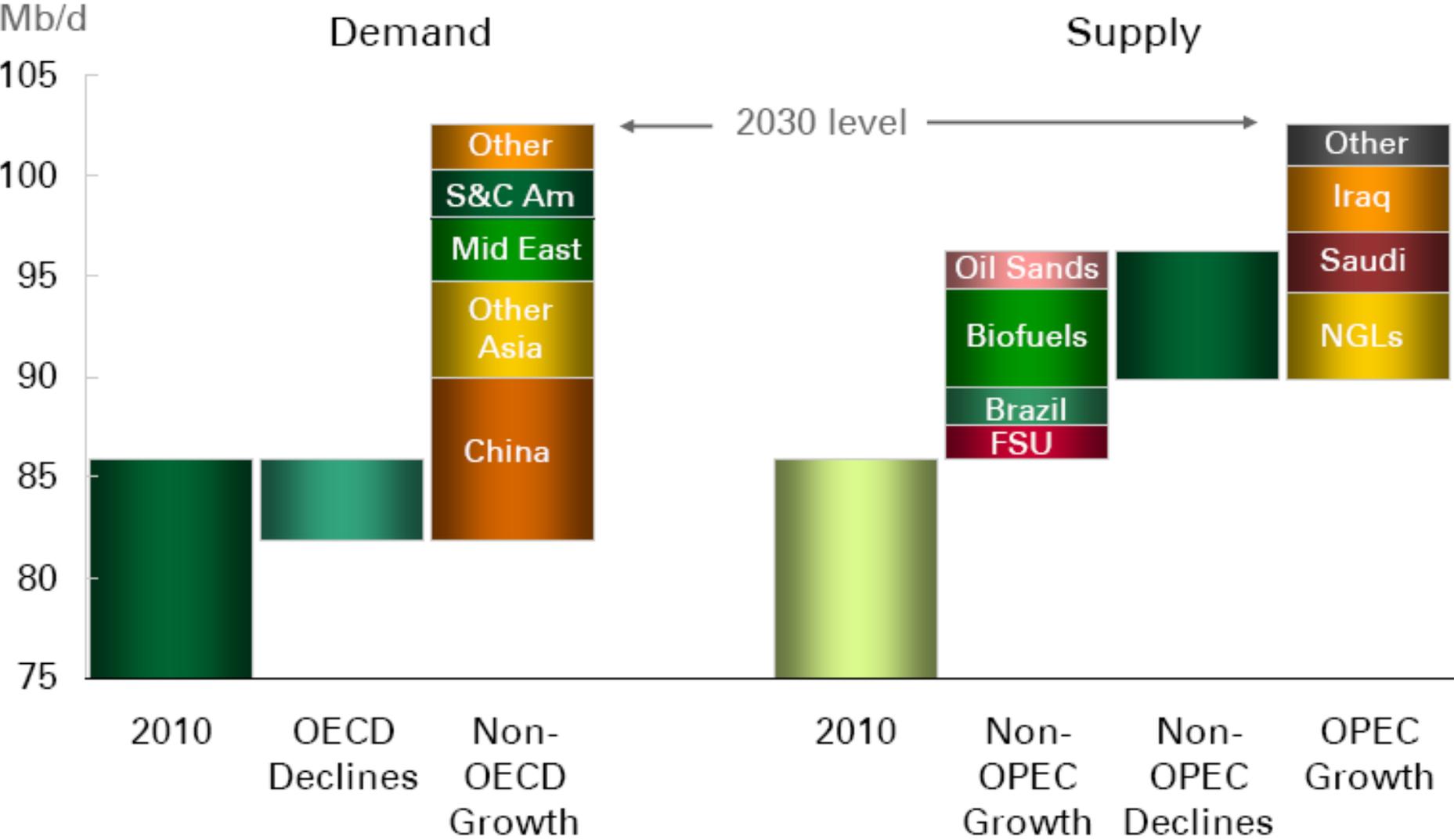
Growth of world energy consumption 2010-30



Energy Intensity declining including in EMEs



Middle East Will Remain a Dominant Oil Supplier



Source: BP Energy Outlook 2030

MENA Energy Characteristics:

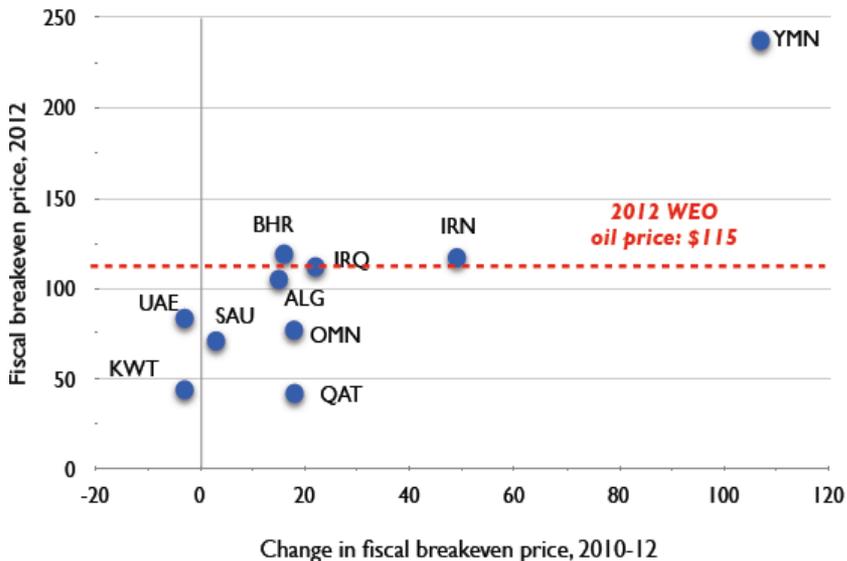
Dependence & Subsidies

MENA Oil Producers: Role of Energy

- The Middle East is the largest oil-exporting region in the world—in 2011 it produced almost one-third of the world's oil, while its share in global oil consumption amounted to just 9.1%.
- Economic activity in GCC continues to be driven by **strong government spending**, financed by surging oil and gas revenues and setting the pace for private sector activity.
- Increase in oil exports + higher fiscal revenues will offset expansionary gov't spending => **wider external current account & fiscal surpluses** through 2013.
- **Higher breakeven oil prices** that would balance the projected budgets for 2012 remain below the projected average Brent oil price for this year for all the GCC countries.

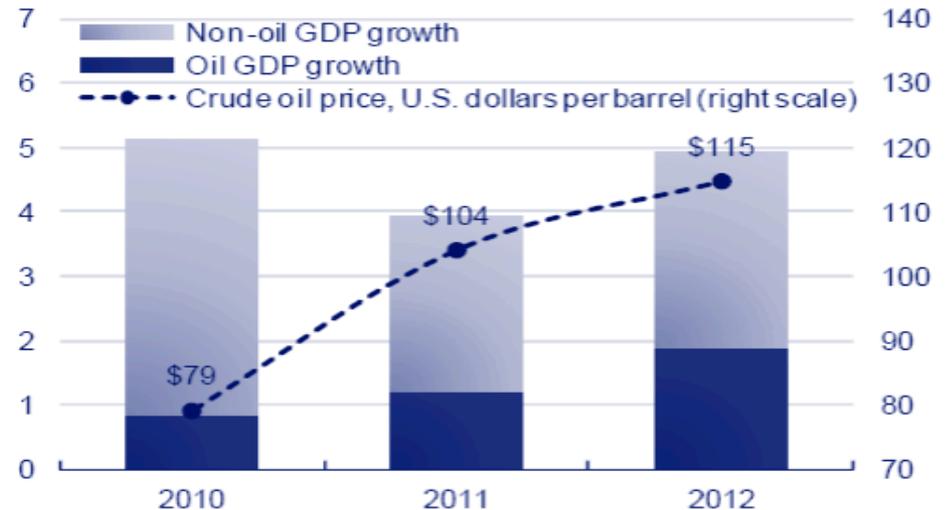
Breakeven Oil Prices

U.S. dollars per barrel



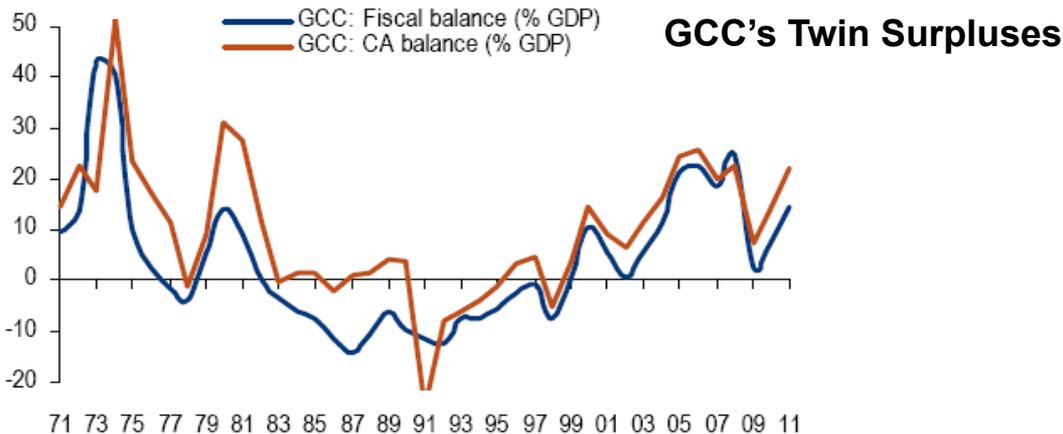
Despite high and rising oil prices, the majority of growth comes from non-oil GDP.

Percent



Source: IMF REO, MENA Apr 2012

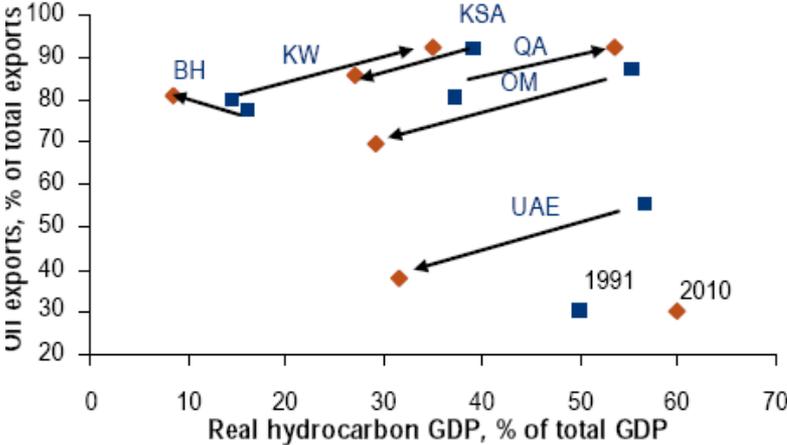
GCC Remains Highly Dependent on Oil Revenues



GCC FX Reserves at an All-time High



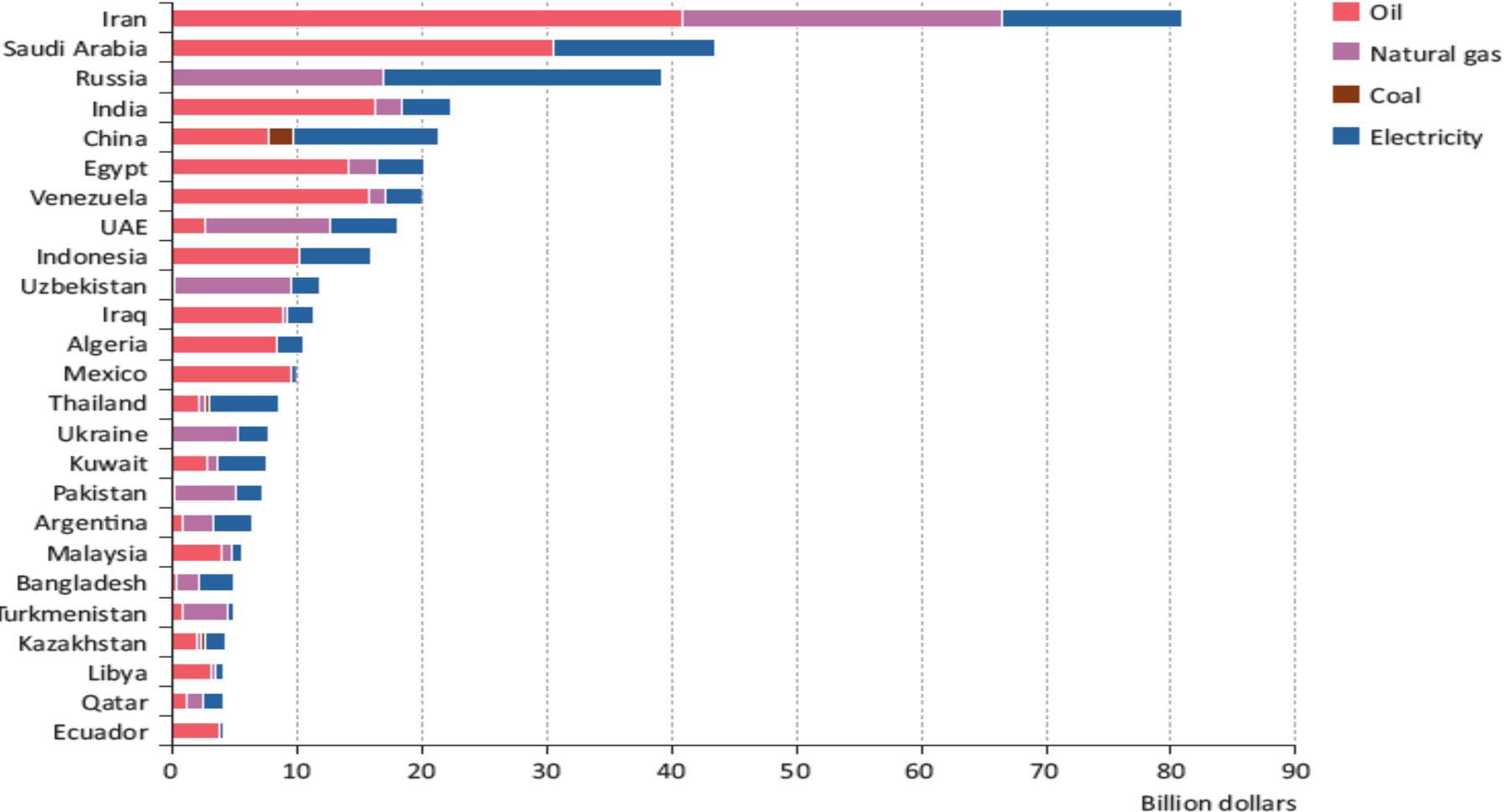
UAE: most diversified so far



Source: BoA ML Report on GCC, 2012

Economic Cost of Consumption Subsidies

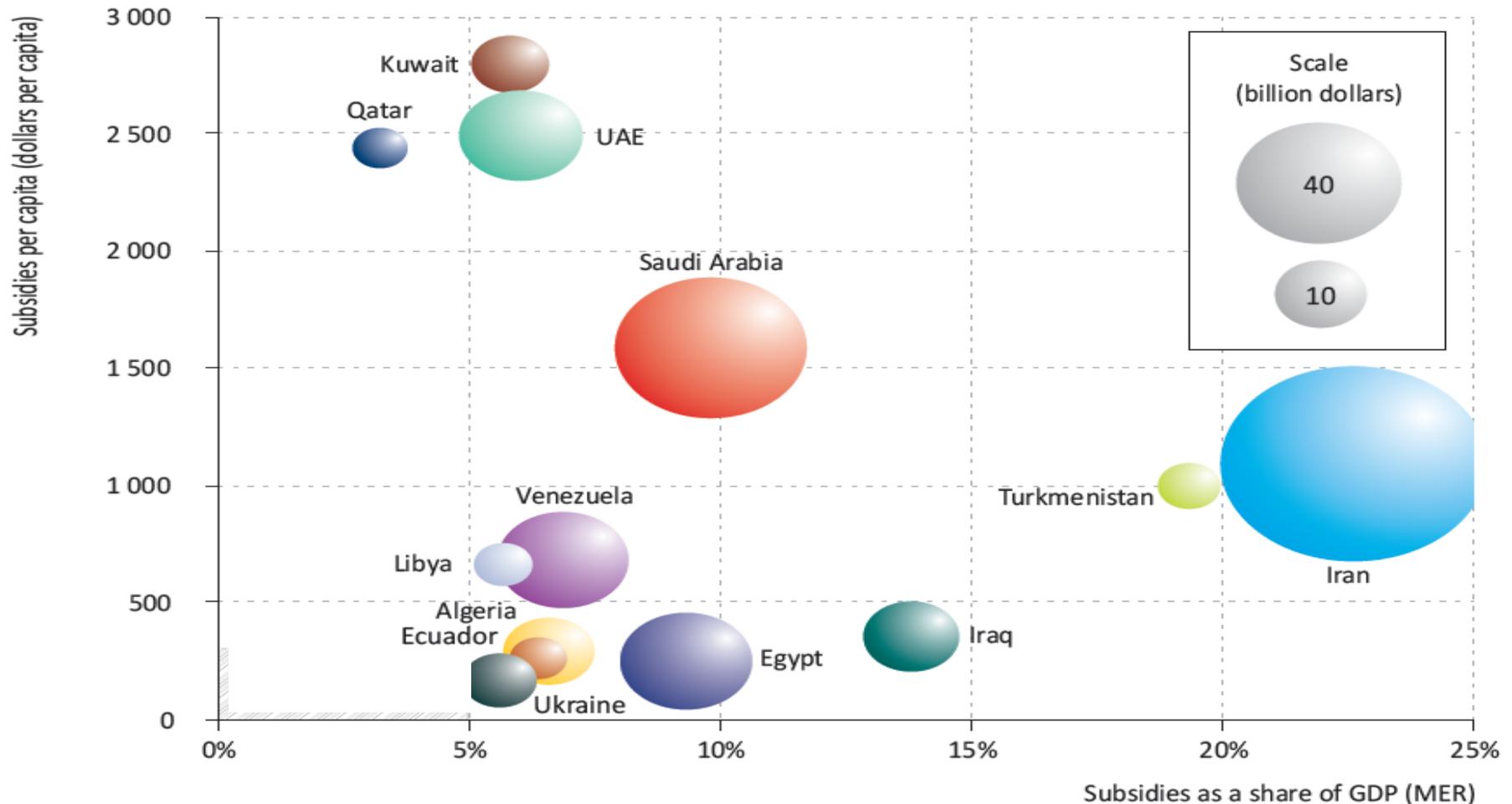
- Fossil-fuel subsidies remain most prevalent in the Middle East, amounting in 2010 to USD 166bn, or 41% of the global total.
- At \$81 billion, Iran’s subsidies (prior to recent reforms) were the highest of any country, followed by Saudi Arabia and Russia, at \$44 billion and \$39 billion respectively.



Source: IEA World Energy Outlook 2011

Fossil-fuel consumption subsidies (per capita & % of GDP)

- In per-capita terms, subsidies tend to be highest in resource-rich countries, ranging from over \$350 per person in Iraq to nearly \$2800 in Kuwait.
- While the magnitude of fossil-fuel subsidies is large in China and India, they are considerably smaller when viewed as a share of their economic output or relative to their large populations



Renewable Energy: Depleting oil + Rising Subsidies

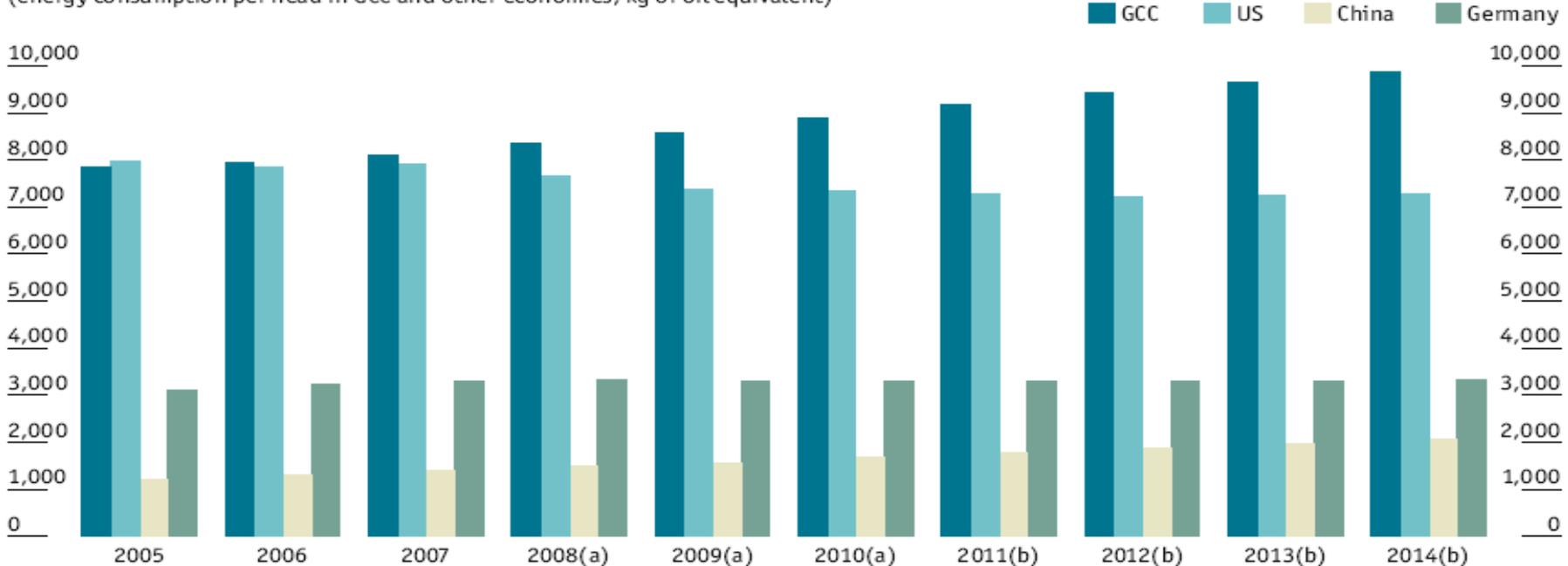
Kuwait will have exhausted all its oil savings by 2017 if it keeps on spending money at the current rate
 - IMF Article IV

Bottomline: Move To Clean Energy Is Imperative For MENA

"If no efficiency improvements are achieved, and the business is as usual, the oil availability for exports is likely to decline to less than 7 million barrels per day by 2028, a fall of 3 million barrels per day while the global demand for our oil will continue to rise"
 - CEO, Saudi Aramco

Energy-guzzlers

(energy consumption per head in GCC and other economies; kg of oil equivalent)



(a) Estimates. (b) Forecasts.

Source: Economist Intelligence Unit.

Takeaways on Global Energy Markets & MENA

1. Energy market structure, production and trade and their dynamics are rapidly changing
2. Growing dominance of Emerging Market Economies
3. Demand driven by Demographics, Urbanisation and Industrialisation in EMEs
4. Energy fuel mix and output intensity rapidly changing driven by (a) New Technologies and (b) Changing Final Output Mix
5. MENA region will remain major oil/gas supplier and exporter of capital, but faces challenges of
 - i. High GDP & Export Dependence on Energy Revenues. This vulnerability & source of risk drives economic diversification strategy in order to create jobs
 - ii. High Dependence of Government Revenues on Energy Revenues has led to a pro-cyclical bias in fiscal policies. MENA oil exporters will need to diversify their sources of revenue.
 - iii. High energy intensity of production & consumption resulting in part from high fossil fuel subsidy levels are leading to fiscal & economic vulnerability.
 - iv. Countries will move to greater investment in renewables and a gradual removal of subsidies.

Energy Infrastructure:

Chokepoints & New

Strategic Links

Energy Infrastructure

- Energy infrastructure includes:
 - ✓ Physical infrastructure required for the exploration, development and production of energy;
 - ✓ Transformation of energy, such as electric power generation and oil refining;
 - ✓ Transmission and distribution of energy, such as electric power transmission lines and oil and gas pipelines;
 - ✓ Storage of energy products.

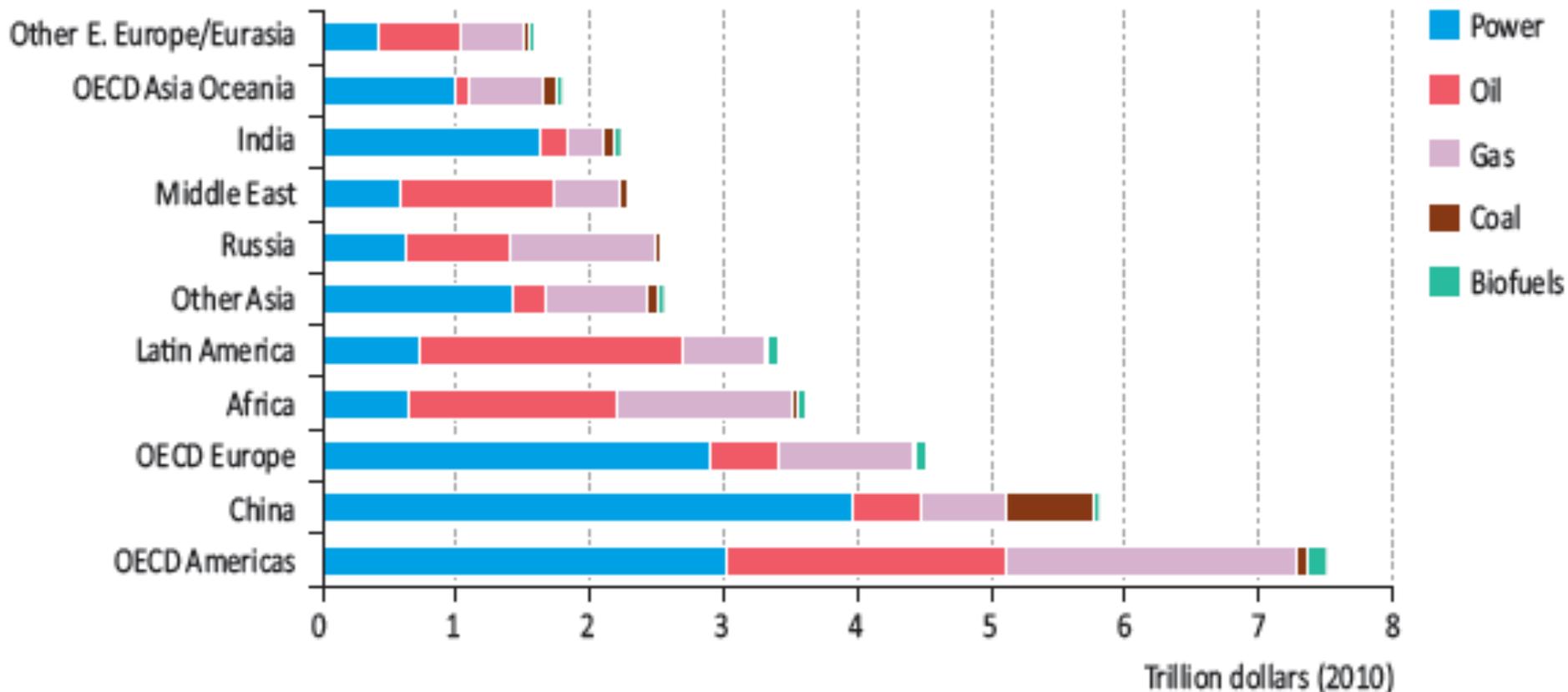
Energy Infrastructure

- The IEA estimates that a global cumulative investment of about \$38 trillion (in 2010 dollars) is required in energy-supply infrastructure for the period 2011-2035
- Globally, renewable energy accounts for 60% of the investment in the power sector over the same period.
- Investment in new power plants in non-OECD countries, particularly China, increasingly outstrips that in the OECD over time.
- China adds more new generating capacity powered by coal, gas, nuclear, hydropower, biomass, wind and solar than any other country.

Investments Required in Energy Infrastructure

Latin America, Africa, the Middle East and Russia all require significant levels of investment, particularly in oil and gas, over the period.

- **Cumulative investment in energy-supply infrastructure by region in the New Policies Scenario, 2011-2035**



World Energy Choke Points



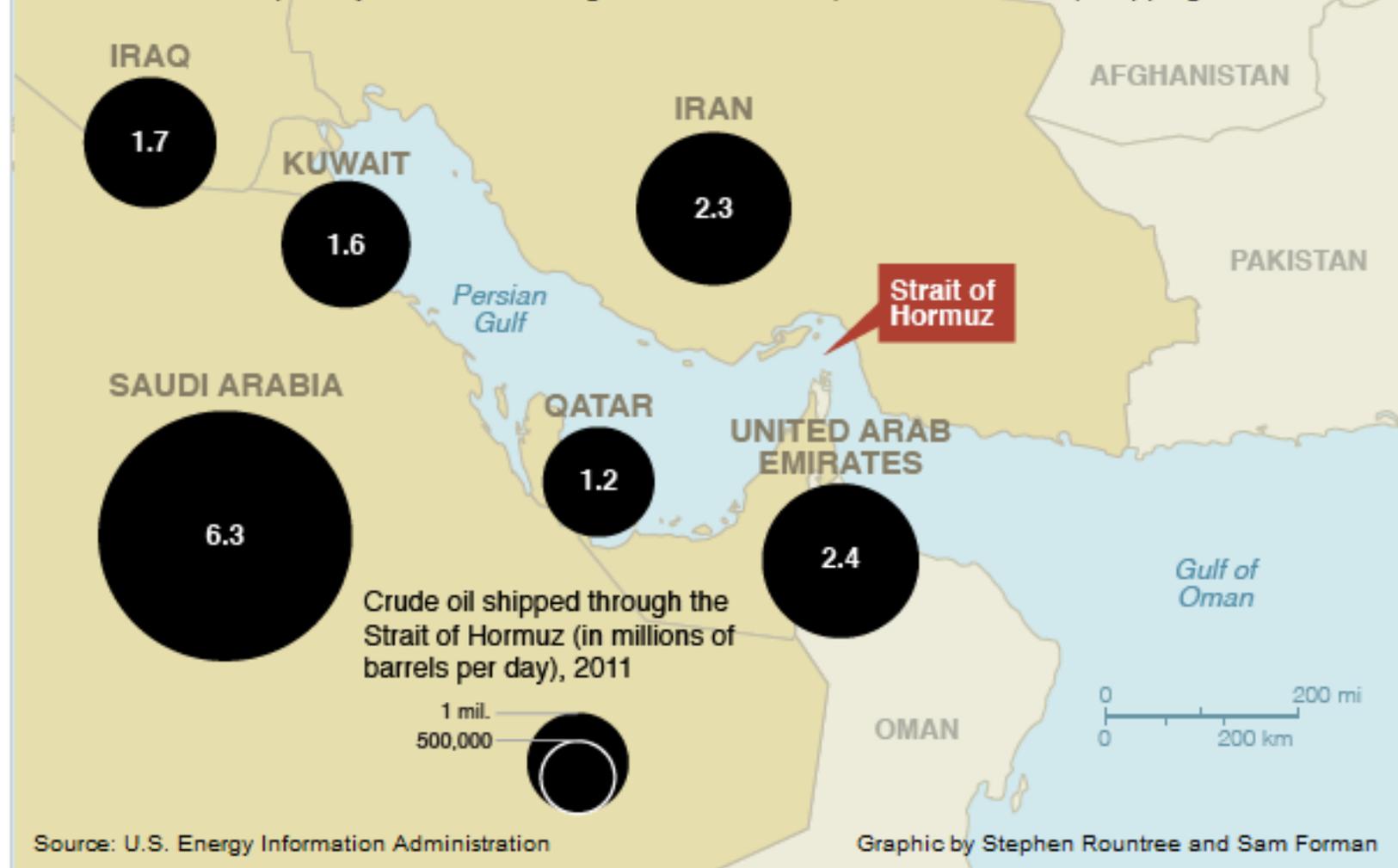
Strait of Hormuz: The World's Key Oil Choke Point

Regional Oil Sources

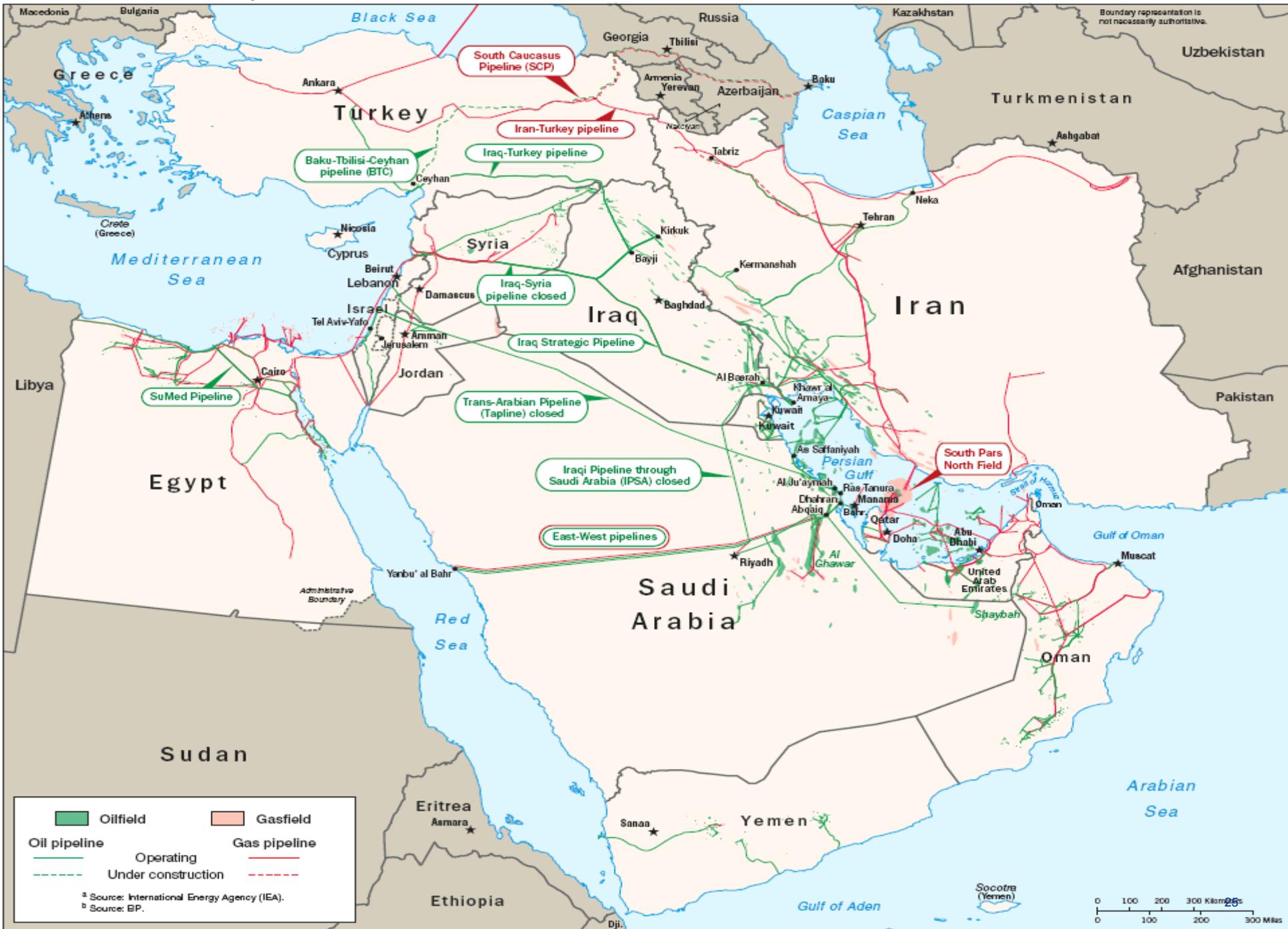
Flows & Destinations

Dire Strait

Twenty percent of oil traded worldwide moves by tanker through the Strait of Hormuz, the world's most important petroleum transit choke point. In 2011, Saudi Arabia led six Persian Gulf nations in exporting 16 million barrels per day of crude oil through the 2-mile-wide (3.2-kilometer-wide) shipping lane.



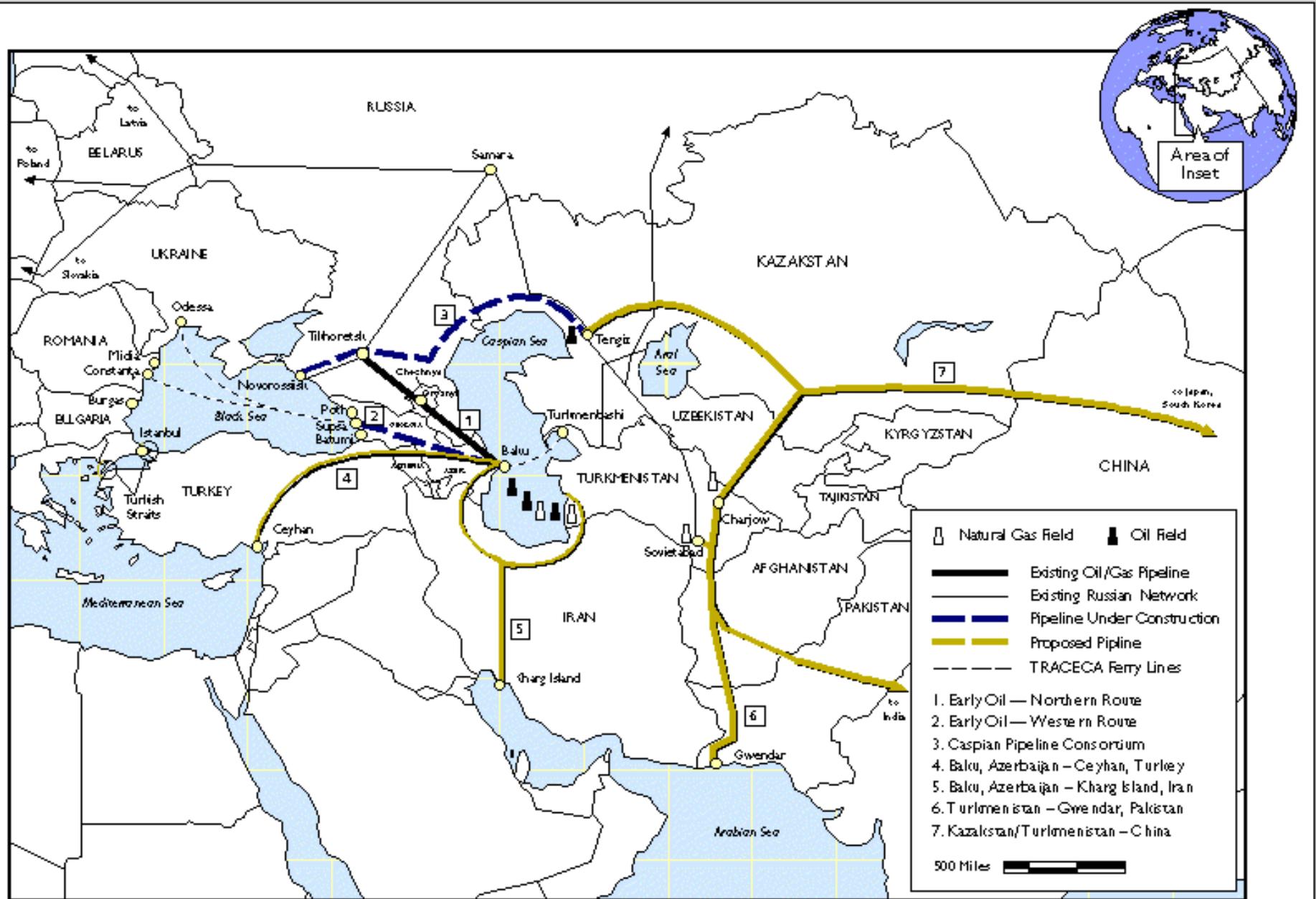
Selected Oil and Gas Pipeline Infrastructure in the Middle East



■ Oilfield	■ Gasfield
— Oil pipeline	— Gas pipeline
— Operating	— Operating
- - - Under construction	- - - Under construction

^a Source: International Energy Agency (IEA).
^b Source: BP.





Oil and Natural Gas Export Infrastructure in Central Asia and the Caucasus

Sources: U.S. Department of State.

Energy Infrastructure

- Energy Choke points are major source of geopolitical risk & energy supply vulnerability
- Middle East/Gulf has the major choke points: Hormuz, Bab El Mandeb, Suez
- Massive investments are required in energy infrastructure as a result of shift in global economy towards emerging markets & Asia/China
- Infrastructure investments have potential to change economic geography and are a game changer:
 - Massive investments in core infrastructure in EMEs
 - New pipelines & investments in energy infrastructure in Middle East, Africa & Central Asia
- China's investments in energy infrastructure can transform energy markets & Central Asia economies

Arab Firestorm &

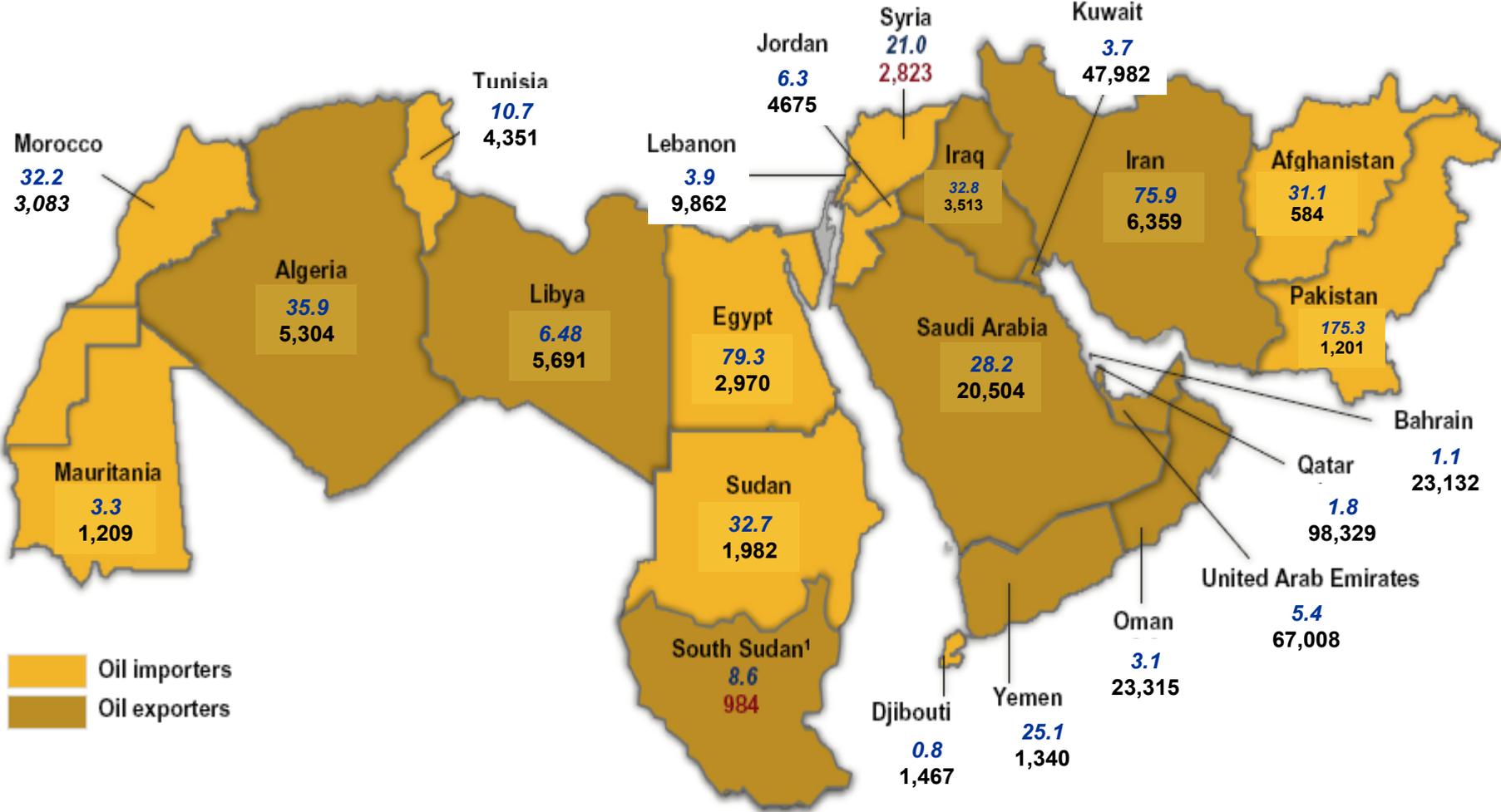
Vulnerabilities;

Turmoil & Transitions

MENA: wide differences in resources & incomes

Population, millions (2011)

GDP per capita, USD (2011)



Sources: IMF Regional Economic Outlook database; and Microsoft Map Land.

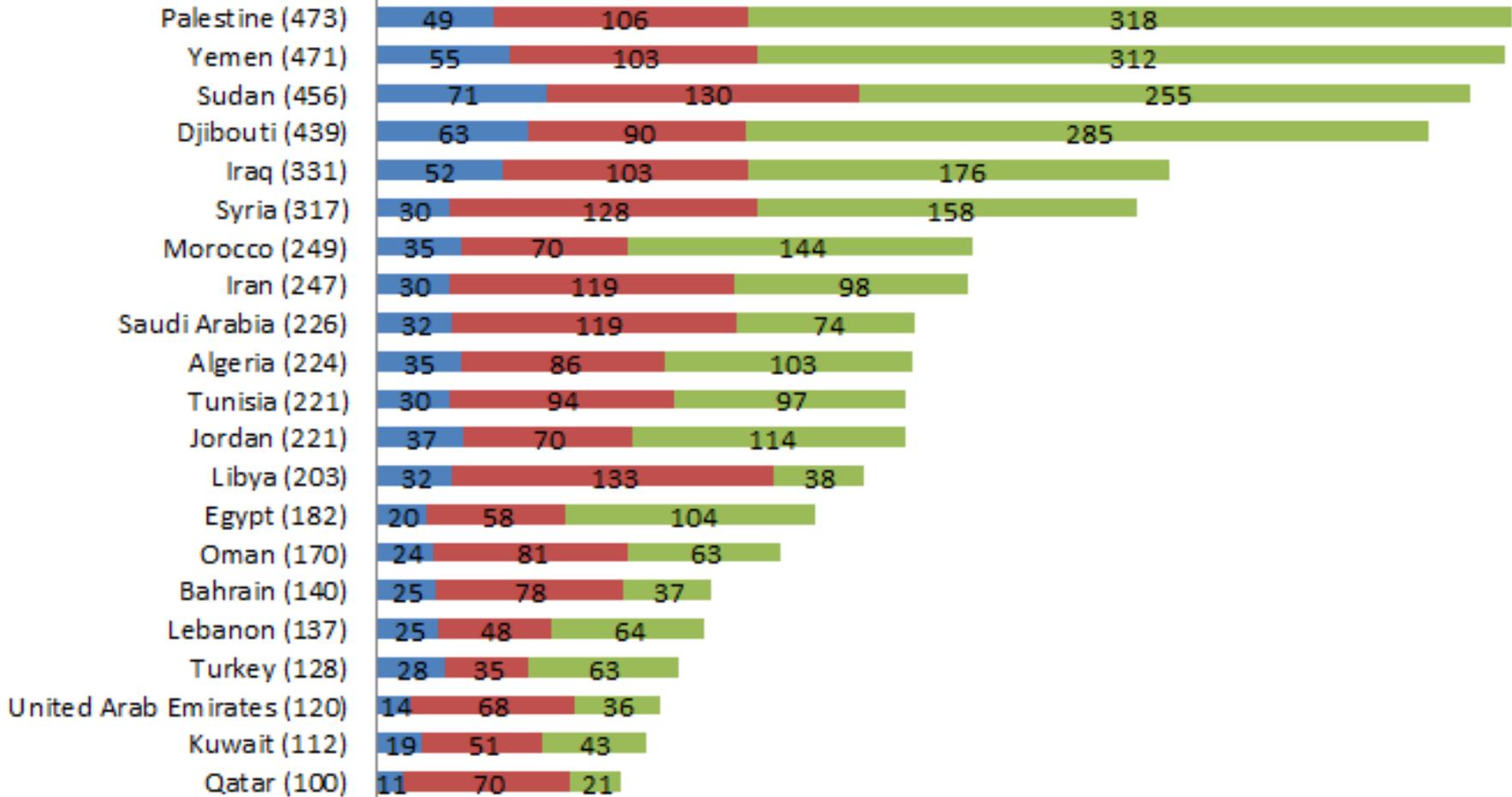
Arab Firestorm => Rising Vulnerabilities

- MENA region going through a historic transition period with many 'fault lines'
- MENA countries face and share a number of common vulnerabilities and legacies:
 - *Socio-Demographic*
 - *Political & Governance*
 - *Economic*
- **Successful Transitions Require Structural Reforms to address the factors leading to vulnerability**

MENAT Vulnerability Index (2011)

MENA Vulnerability Index (2011)

■ Demographics (30%) ■ Political (40%) ■ Economics (30%)

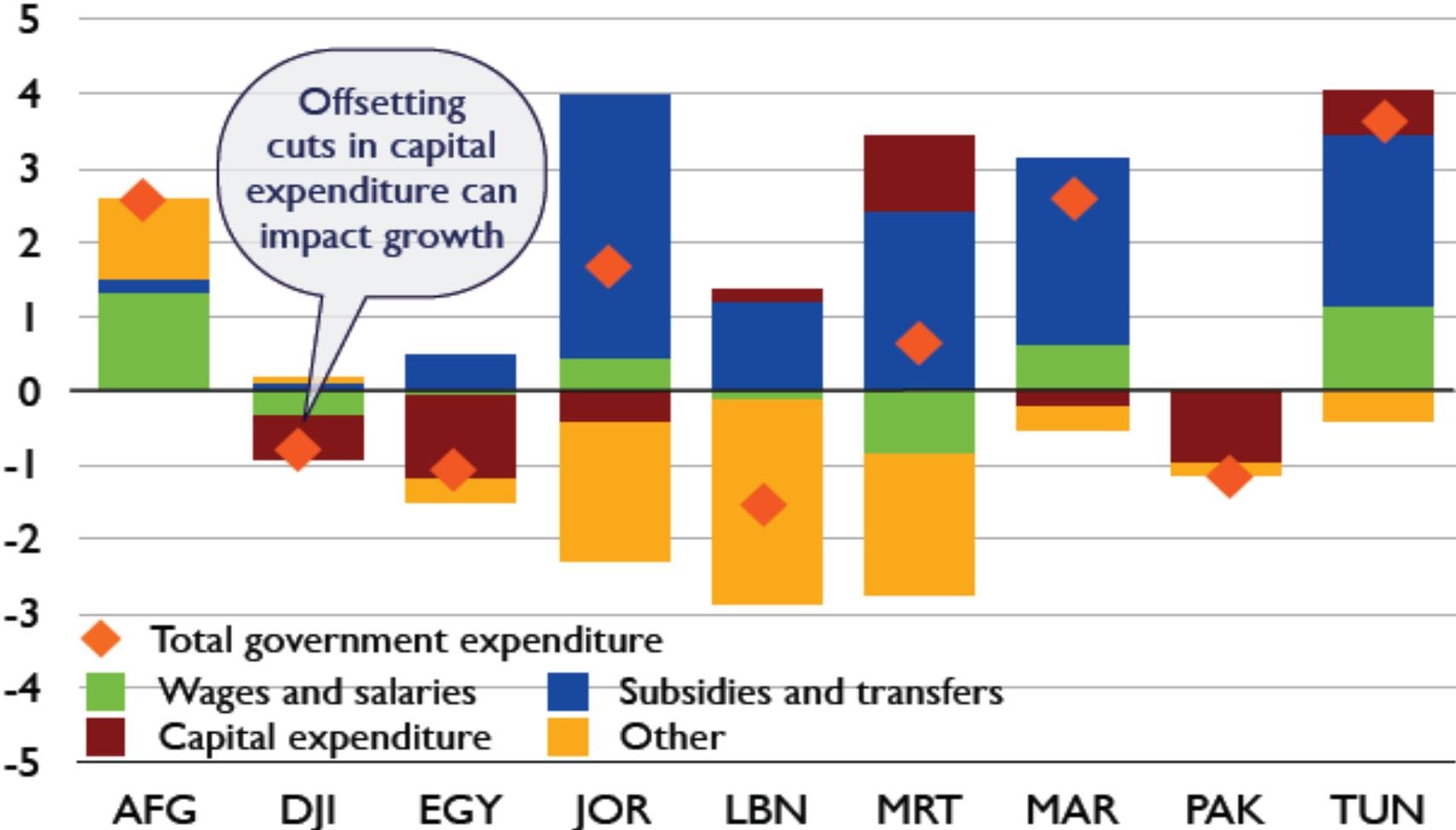


Transition countries: continued turmoil

- Short-term outlook subject to unusually large uncertainties: political & security situation, growing uncertainty + adverse impact from external environment.
- Growth, Remittances, Tourism & FDI have declined: exacerbating high unemployment rates & budget deficits
- Fiscal expansion could further crowd out needed private investment, perpetuating the problems with job creation in the private sector.
- Transition countries have limited fiscal space: external financial assistance is required

Policy Response was to Increase Current Spending..

Percent of GDP, 2011 versus 2010

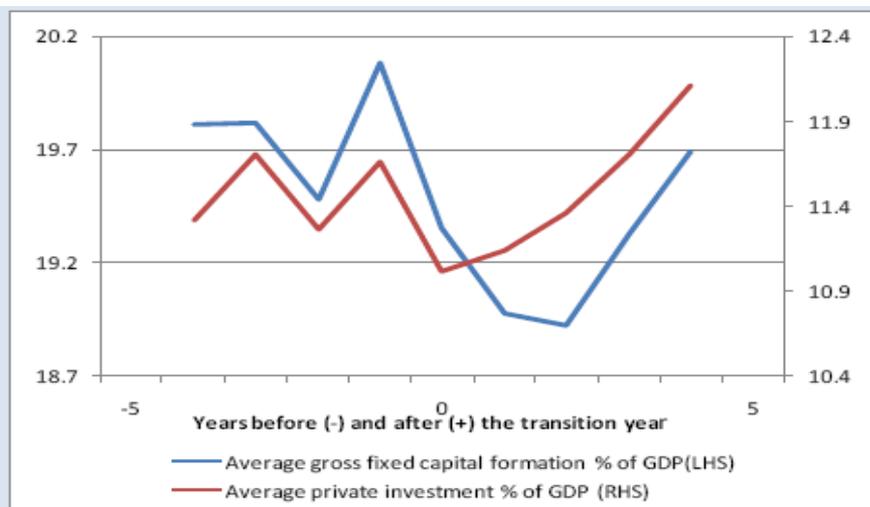
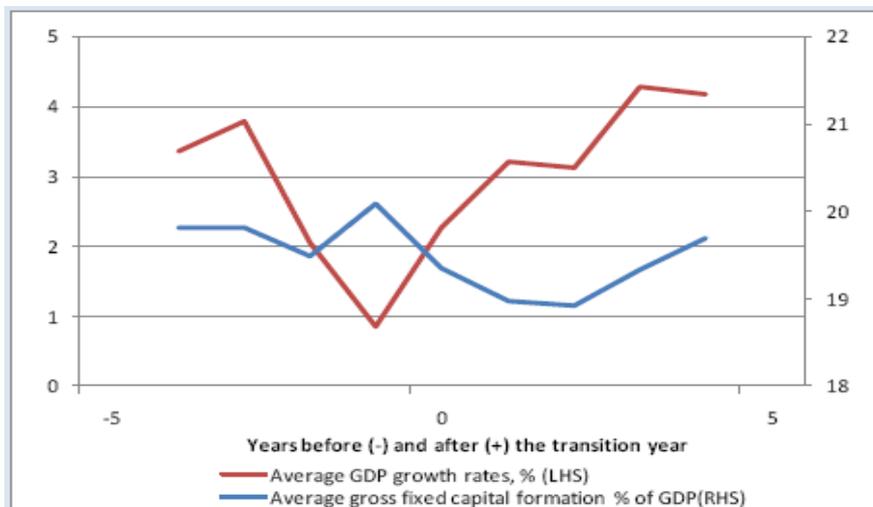


Sources: National authorities; and IMF staff calculations.

Characteristics of Successful Transitions

- On average growth declines by around 3% during transition, but rebounds to or above its pre-transition rate within one to two years.
- Average investment rate declines with a delay, by less than 2%, but takes at least 5 years to recover.
- Private investment bottoms out more quickly than public investment but leads the recovery.

Average growth & investment performance during a successful transition



Source: Freund and Mottaghi (2011). *Note: Mean growth performance during more than 40 successful transitions based on information in the database of the Polity IV Project, which includes an index of regime characteristics, scaled from 0 (authoritarian) to 10 (democracy). Successful transitions are those for which the index must jump by at least 5 points, and the new higher level must be sustained for at least 5 years to qualify as a transition. Thus, this data includes only countries with complete transitions. The graph records performance for a balanced panel of 42 countries with data for 11 years. See Annex Table 1 for the list of countries in the panel.

Democratisation: Lessons from Successful Transition

- Determinants of democratisation scenario: evidence suggests that **higher inequality before the transition is associated with a significantly larger likelihood of violent civil conflicts** during period of regime change.
- Evidence documents **significant interactions between inequality and political freedom for the quality of democracies**.
- Evidence from democratisation transitions during 1970-2003 suggests that **countries that rely less on natural resources and have lower inequality are more likely to experience non-violent democratic transitions**.
- **Lessons for Arab world:**
 - Regime shifts will follow different transition paths in different countries.
 - Level of violence which characterises a regime transition may persistently affect the future prospects of democracy
 - Management of Transitions will affect final outcomes; path dependence

Source: Cervellati et.al (2011): "Violence, democratisation and civil liberties: The new Arab awakening in light of the experiences from the "third wave" of democratisation", voxeu.org, March.

Will Perceptions Change to Attract Investment?



Reforms &

Transformational agenda

for Arab countries

Policy Agendas for Transformation & Stabilization

DOMESTIC

- Political Transformation
- Governance
- Social Safety Nets
- Educational Transformation
- Women Empowerment
- Fiscal Transformation
- Economic Diversification
- Job Creation

REGIONAL

- MENA Bank for Development & Reconstruction
- GCC Common Market & Common Currency
- Regional Economic Integration
- Develop Local Currency Financial Markets
- Shift Economic Policy Toward Asia & EMEs

- Resolve Israel-Palestine Cancer
- Aid
- Trade
- Investment
- Economic Focus not Military Engagement

INTERNATIONAL

10 Transformations for the Arab countries

Arab countries need to own & achieve their own transformation - need an Arab Renaissance and a new Development paradigm:

1. Political & Governance transformation (MT/LT)
2. Educational transformation to remedy the weak link between education & economic growth, income distribution & poverty reduction (MT/LT)
3. Empowerment of Women: if FLFP were same level as in OECD (60%) we could increase GDP by 20-25%! (MT/LT)
4. Shift in trade, investment & financial policies towards Asia and EMEs: integrate into New Silk Road (MT)
5. Regional Economic Integration: infrastructure; trade & investment; set-up Arab Bank for Reconstruction and Development (ST/MT)
6. Economic diversification (MT/LT)
7. Transformation of Role of the State and greater Private sector role (ST/MT)
8. Develop Local Currency Financial Markets =>Access to finance for SMEs, FOEs (ST/MT)
9. Build Capacity & Institutions for Economic & Financial Management (ST/MT)
10. Fiscal reform: revenue diversification/ Expenditure rationalisation (MT)

Thank You!

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