

# WORLD ENERGY OUTLOOK 2005

## Middle East & North Africa Insights

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## Global Energy Trends: Reference Scenario

### International Energy Price Assumptions

- The assumed oil-price path in the Reference Scenario has been revised upwards from *WEO-2004*, in response to the results of detailed analysis of investment prospects:
  - Average IEA crude oil import price, which averages \$5 less than WTI, is assumed to ease from a recent peak of over \$60 to \$40 in 2010 rebounding to \$65 in 2030 in nominal terms
- In next few years, crude oil production capacity additions, new refinery investments & slower demand growth is expected to drive down prices
- But limited spare refining capacity, the rising cost of non-MENA crude projects and producer price targets/quotas could temper that decline
- Higher oil prices result in lower oil-demand, that reaches 115 mb/d in 2030 – 6 mb/d less than in *WEO-2004*

### World Primary Energy Demand

*Oil and gas together account for more than 60% of the growth in energy demand between now and 2030 in the Reference Scenario*

### Energy-Related CO<sub>2</sub> Emissions by Region

**2003**

24 Gt

**2030**

37 Gt

*Global emissions grow by just over half between now and 2030, with the bulk of the increase coming from developing countries*

### MENA Share in World Oil and Gas Reserves & Production, 2004

*MENA share of global oil & gas reserves is much higher than its share of current production, suggesting strong potential for growth*

**MENA Energy Trends**

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**World Oil Production Shifts Away from OECD**

Global oil production climbs from 82 mb/d in 2004 to 115 mb/d in 2030; OECD share falls from 25% to 12%

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**MENA Net Oil Exports**

MENA plays an increasingly important role in international trade, its net exports surging from 22 mb/d in 2004 to 39 mb/d in 2030

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**MENA Natural Gas Exports**

MENA becomes the world's leading gas exporter, with most of the increase in exports meeting surging European & US LNG demand

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**MENA Oil Exports through the "Dire Straits"**

Much of the additional oil and LNG exports from MENA in the future will be shipped through just three maritime routes

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**Implications of Deferred Investment**

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### Deferred Investment Scenario

- How would global energy markets evolve if investment MENA upstream oil industry grew slower than in the Reference Scenario?
- Investment is assumed to remain constant at its share of historical GDP in each country
- MENA oil production is lower compared to the Reference Scenario, and the gap is widening over time
- Oil prices are driven higher - an increase of 32% over the Reference Scenario in 2030 - dragging up gas, coal and electricity prices
- MENA gas production is also lower compared to the Reference Scenario due to
  - Reduced global gas demand & call on MENA gas
  - Lower associated oil/gas output

### MENA Crude Oil Production (including NGLs)

MENA's share of global oil production falls from 35% in 2004 to 33% in the DIS. Saudi production reaches 14 mb/d in 2030

### MENA Net Natural Gas Exports

MENA gas exports are much lower in the DIS, as higher gas prices & lower GDP choke off demand in the main importing regions

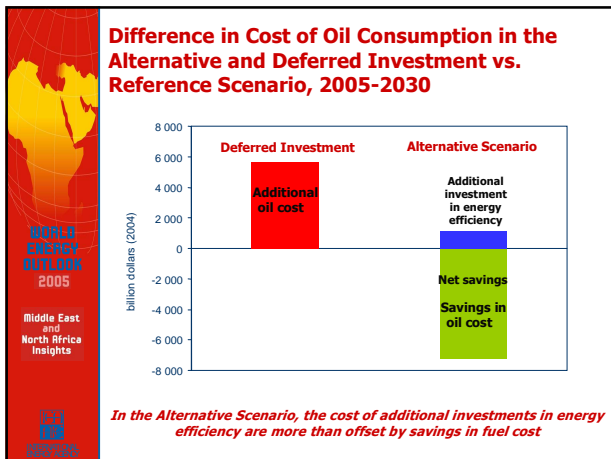
### World Alternative Policy Scenario

### Oil/Gas Demand in the Reference and Alternative Policy Scenarios

Oil & gas demand in the Alternative Scenario are both 10% lower in 2030 due to significant energy savings and a shift in the energy mix

### Global Energy-Related CO<sub>2</sub> Emissions in the Reference and Alternative Policy Scenarios

In 2030, CO<sub>2</sub> emissions are 16% lower than in the Reference Scenario, but are still more than 50% higher than 1990



- ### Key Messages
- If governments stick with current policies, global energy needs will be more than 50% higher in 2030 than today
  - In any plausible scenario, MENA oil & gas resources will be critical to meeting the world's growing appetite for energy
    - Countries like Saudi Arabia, Iran, Iraq and Algeria will play key roles
  - Further underinvestment in oil and gas would drive up prices & depress global GDP growth, eventually harming producers too
  - Major importing countries are already considering more vigorous policies to curb demand growth & reduce reliance on oil and gas
  - Continued need for dialogue between producers and consumers to find mutually beneficial outcomes