

WORLD ENERGY OUTLOOK 2005

Middle East & North Africa Insights

Laura Cozzi
International Energy Agency

e-2050, Wien, 24 November 2005

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 CO₂ Emissions by Region

Region	2003 (%)	2030 (%)
OECD	52%	42%
Transition economies	11%	9%
China	16%	19%
India	4%	6%
Other	11%	16%
MENA	6%	8%

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

Category	Share (%)
Proven oil reserves	~65%
Oil production	~35%
Proven gas reserves	~45%
Gas production	~15%

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

MENA Energy Trends

WORLD ENERGY OUTLOOK 2005
Middle East and North Africa Insights

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%

WORLD ENERGY OUTLOOK 2005
Middle East and North Africa Insights

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

WORLD ENERGY OUTLOOK 2005
Middle East and North Africa Insights

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

WORLD ENERGY OUTLOOK 2005
Middle East and North Africa Insights

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

WORLD ENERGY OUTLOOK 2005
Middle East and North Africa Insights

Implications of Deferred Investment

WORLD ENERGY OUTLOOK 2005
Middle East and North Africa Insights

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

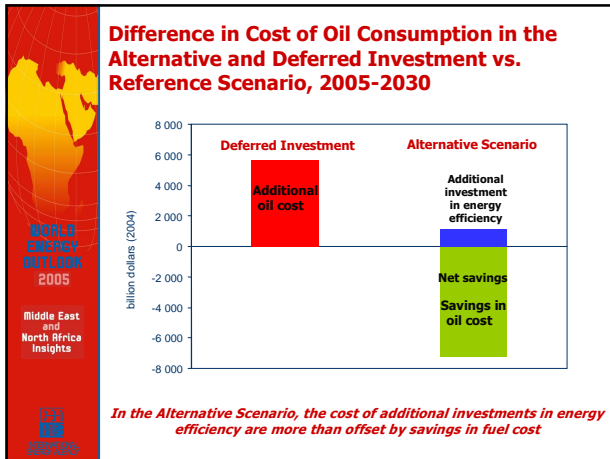
World Alternative Policy Scenario

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 CO₂ Emissions in the Reference and Alternative Policy Scenarios

In 2030, CO₂ 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