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The future of Middle East oil in a globalized world

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Long Term Prospects for Middle East Oil

Transparents

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III.6 Some basic conditions for a high level Gulf countries' oil supply by 2030

I. ON LONG-TERM CONSIDERATIONS IN ENERGY MARKETS OUTLOOK

I.I Long term scenarios and 2030 energy perspectives

- What cannot be expected
- Potential global contribution

I.2 Challenging issues of the 2030s energy perspectives for the Gulf countries

- The world "thirst for energy and the evolution of the most important market for Gulf oil: Asia?
- Will the Gulf producers, supply the bulk of the increase in oil supply by 2030? What security and economic risk?
- Will the main drivers for change come from resources constraints and security concerns, or from environment and technology?
- Substitutes for conventional oil, long term significance of the climate change syndrome and "anti-oil" bias.
- A possibility of an economic depletion of oil reserves before their physical depletion?
- Which policy mix of capacity ,volume of production and prices by Gulf producers?
- The opening of upstream oil sector: choice or constraint for Gulf countries?

I.3 Key factors and "hot spots" concerning energy supply and the role of oil by 2030

- No global resource constraint or oil scarcity
- The years 2015-2020 as a watershed period (Nuclear, non-conventional oil, carbon emissions policies)
- Oil will remain the dominant fuel
- Natural gas increases its share in world energy supply
- Non conventional oil will constitute a sizable part of total oil supply in 2030
- Coal may keep its place as an abundant and cheap fuel, especially in Asia
- The future of nuclear energy is widely opened, the decisive datelines are around 2015-2020
- Renewables may start playing a significant role after 2020

II. Two POLES Scenarios for total oil supply by 2030 and the contribution of Gulf producers

II.I Some basic relations in the POLES model

- Main assumptions in the oil and gas discovery model
- Ultimate Recuperable Resources (URR) estimated from USGS figures modified by increased recovery rates
- Discoveries depend on the drilling effort
- Reserves are equal to total discoveries minus the past cumulative production
- For all regions except the Gulf, the production depends on a price linked to R/P ratios
- Gulf producers act as "swing producers" to adjust supply to demand
- Oil international prices depend on world R/P ratios

II.2 Two scenarios for 2030: a reference case and an abundant resources case

Reference case

- URR are computed from USGS "mode estimate" (50% probability) integrating increasing Recovery Rates
- URR of world conventional oil: 4000 Gtep by 2030
- Increased RR and non-conventional limit the decline in total reserves
- Increased production levels half the R/R from 44 years to 22 by 2030

Abundant resources case

- URR: USGS upper estimates (5% probability)
- URR near 4500 Gtep. Increased resources benefit more non-Gulf and non-OECD countries
- Prices are lower

II. 3 Contribution for analysing the situation of ME producers

- Production structures and the role of the Gulf are very contrasted
- In the abundance case, world oil production is 128 Mbd, 121 in the reference scenario
- In the abundance case, Gulf production is 14% less by 2030, OECD 50% higher and other 63%
- Gulf share is 38% of world total production, (47% in the reference case), OECD 13% (9%), non OECD 40% (34%)
- The non-conventional share is significantly lower as a result of lower prices (9% instead of 14%)

Some implications of the comparisons

- Major importance of further studies on the art of reserves and resource endowment
- For the ME, an abundant resource scenario means reduced production and prices
- In any case, the demand adressed to Gulf producers is in the magnitude of 50 mbd or more by 2030

III. CAN AND WILL THE MIDDLE EAST COUNTRIES PRODUCE ABOUT 50 MBD BY 2030?

III.1 The global picture

- For most analysts the world, Asia first, will need around 50 Mbd from ME by 2030
- The 1999 ME oil production approximates 21 Mbd
- An increase of 30 Mbd cannot be taken for granted
- There exists serious possibilities of disruptive forces
- We examine some implications of the "ME as dominant producer" from the producers and consumers point of view

III.2 Geophysical and technical possibilities

- Controversy between "reserve pessimists" and the "reserves optimists" but ME pre-eminence
- Stronger ME position with low estimates of world resources.
- ME countries hold 2/3 of proved world oil reserves, supply less than 1/3 of total production and have a R/P ratio of100 years
- Cost of finding one bd of oil and cost of producing one barrel extremely low, especially in Saudi Arabia and Irak
- SA is practically the only producer with unused capacity (2 to 3 mbd)
- Extension of capacity in several ME countries is a political question
- The cost of advance spare capacity is lower than elsewhere

III.3 The issues of dependence and security risks: conflicting views

"Common sense evidence" — ME production exceeding 50% of world conventional supply means heavy dependence risk

Common sense under discussion

- Market forces dominate
- Fear of dependency is "self defeating"
- ME oil is needed, conditions can be established to allow orderly increases in production

Political instability risk?

- Possibilities of a brutal political change in the region opening the door for major disruptions
- External conflicts and unsettled relations both inside the region and with outside countries
- Domestic political and social problems in most countries
- Saudi Arabia is in the forefront of the "vulnerable states"

Political instability challenged

- When is the level of dependency "too high"?
- No examples of disruption for political reasons
- Suppliers loose more by disruption than buyers

- Stability is better assured by revenues high enough for ME states to distribute the benefits of a "social pact"

III.4 Incentives and hindrances for considerable increase of production by ME countries

"Why should ME countries, SA first, almost triple their production by 2030?" — Conflicting perspectives and complex strategies

The rentier schizophrenia:

- Civil peace and autocratic rule require huge revenues
- Genuine growth require diversification from oil, and an efficient economy
- For a difficult transition period, increase in oil revenues deter fundamental reforms

The high reserves-low costs producers dilemma (The British coal syndrome)

- Low prices and abundant oil lengthen the life of oil as a major energy
- They antagonize other producers and in the short term reduce the oil revenues for all
- All ME producers are now under strong pressures to maximize their revenues

Saudi Arabia has a decisive role to play

- Its major objective is to maintain a "sustainable growth in oil use"
- It has presently enormous revenues needs
- It has always use spare capacity as a weapon

The main rationale for high production from the Middle East in the LT is the challenge on oil as the dominant fuel

III.5 The future of oil and the case for an early economic depletion

"The stone age did not end because the world ran out of stones"

In case of accelerated substitution ME producers would loose their still important assets underground

- Growth of production of competitive oil from 'expensive" fields if prices remain high
- Technical progress, particularly improved recovery rates, increases supply
- Natural Gas uses increase for practical an environmental reasons
- Non-conventional oil plays a substantial role after 2020
- In the longer term, after 2020, major change in environmental perspectives may drastically reduce the demand for oil

The time factor

- ST interests and constraints, and LT menace if high prices prematurely deplete oil
- Irreversibilities and discontinuities as well as watershed periods (2010/2015) (Nuclear, non-conventional oil, carbon)
- Inertia of the energy system
- How long should a situation last to be considered as "durable" or long lasting by deciders
- Implications of the reduced lead time between "acquiring acreage and the flow of oil"

III.6 Some basic conditions for a high level Gulf countries oil supply by 2030

- Not by market alone
- Create the structural and institutional conditions for some kind of price range allowing ST fluctuations and LT security for investments ahead of anticipated demand, and revenues
- Energy problems have to be considered in a global perspectives, not oil alone
- Counter productive US policy stands should be revised Reliance on military presence to guarantee Gulf countries security

  The use of economic weapons for political goals

  Exclusion from the market of some major ME producers

  Opposition to diversification of oil routes
- Investments needed to develop known fields and discover new reserves are enormous

  The upstream opening will remain on the agenda
- Consumer countries should put an emphasis on flexibility in the satisfaction of their energy needs
- All parties have a role to play in establishing the conditions for a high level of oil supply from the ME by 2030. It should be a positive sum game
- Drastic changes in the rules of the game cannot be excluded