



OIL & GAS MARKET OUTLOOK

IPAA ANNUAL MEETING, PALM SPRINGS, CA

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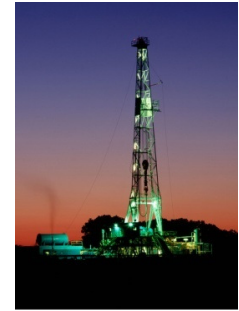
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1. OIL MARKET OUTLOOK: CAN SUPPLY KEEP UP WITH DEMAND?

**A) THE ROLE OF FLAWED
MODELING:
CAN OPEC DELIVER?**

OIL MARKET MODELS ARE OUTDATED

Estimated World Demand – Estimated Non-OPEC Production

=

Call on OPEC

- **The IEA (International Energy Agency) View: about 15 mb/d**
- **The EIA (Energy Information Administration) View: 12.5 mb/d**
- **The OPEC View: about 14 mb/d by 2030 (including NGLs)**
 - **Can OPEC add 1.2 mb/d+ every year for the next 25 years?**
 - **OPEC new trick of underestimating demand and overestimating supply**

B) THE FOUR VICIOUS CYCLES

THE OIL MARKET VICIOUS CYCLES

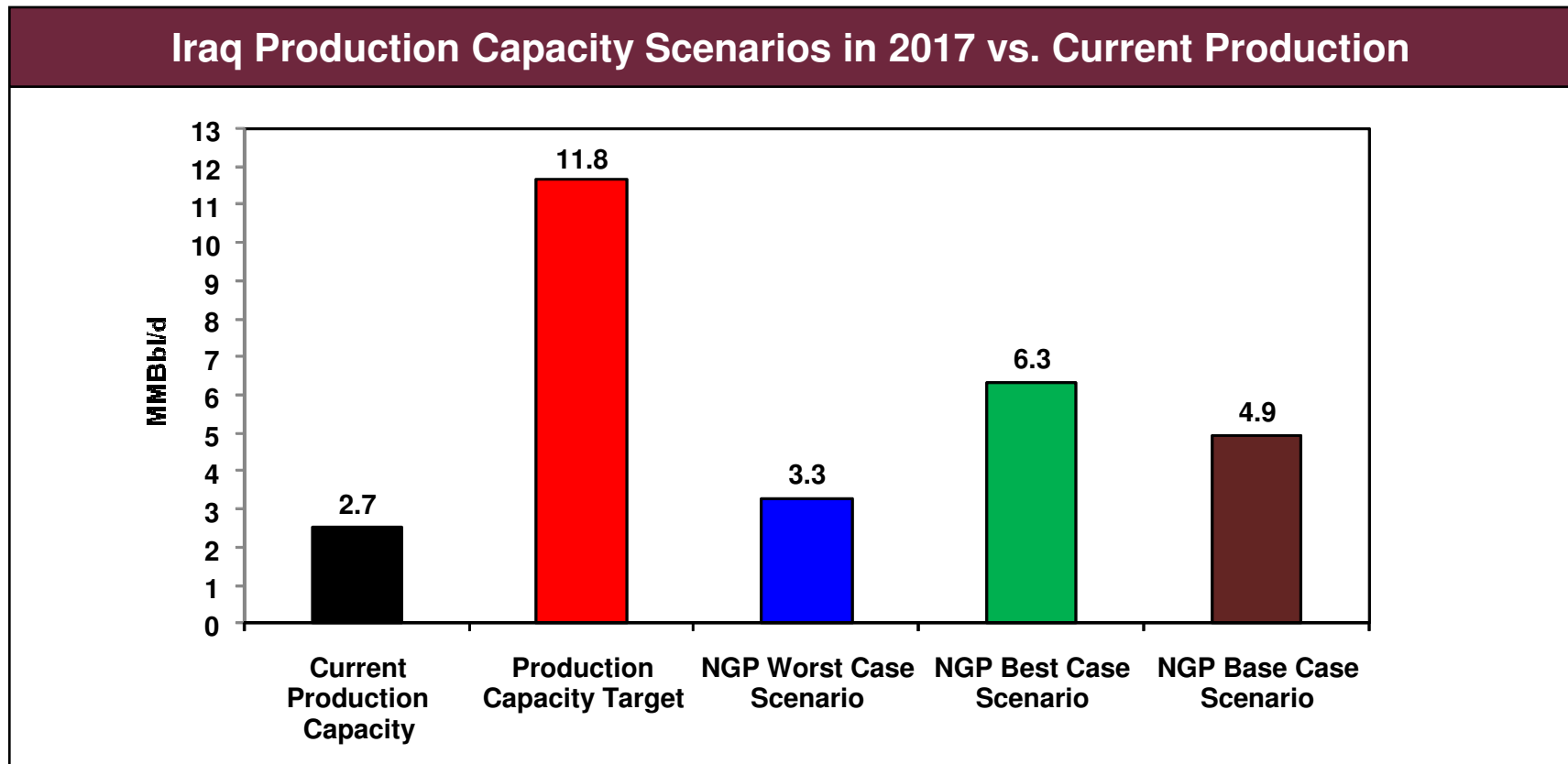
We Have Identified Four Vicious Cycles that Support High Oil Prices

- **Economic growth cycle in the oil-producing countries**
- **Income diversification cycle in the oil-producing countries**
 - The role of energy-intensive industries
 - The role of power shortages
- **U.S. dollar cycle in the world**
- **Monetary and fiscal policies cycle in the oil-consuming countries**

E) THE ROLE OF IRAQ

PRODUCTION SCENARIOS UNTIL

2017 *Even in the Best Circumstances, Iraq Cannot Achieve Its Planned Capacity of About 12 MMBbl/d by the End of 2017. NGP Expects Iraq's Production Capacity to Increase to Only 4.9 MMBbl/d. However, in All Scenarios, Iraq's Oil Production Should Increase*

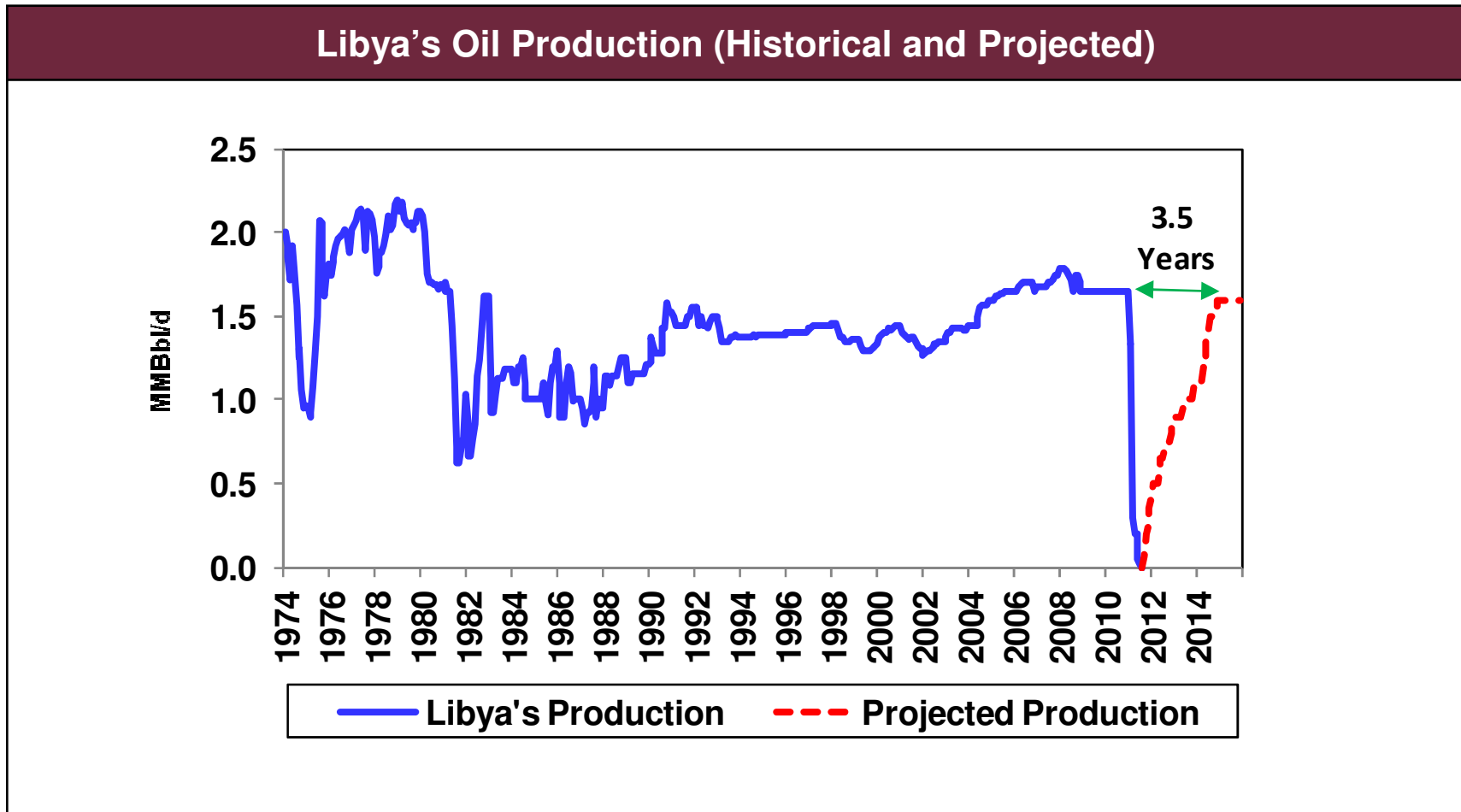


Source: NGP estimates, 2011.

F) THE ROLE OF LIBYA

THE LIKELY PRODUCTION SCENARIO

It Will Take Libya at Least Three Years to Restore Production. Any Significant Additions Will Take Time, Too

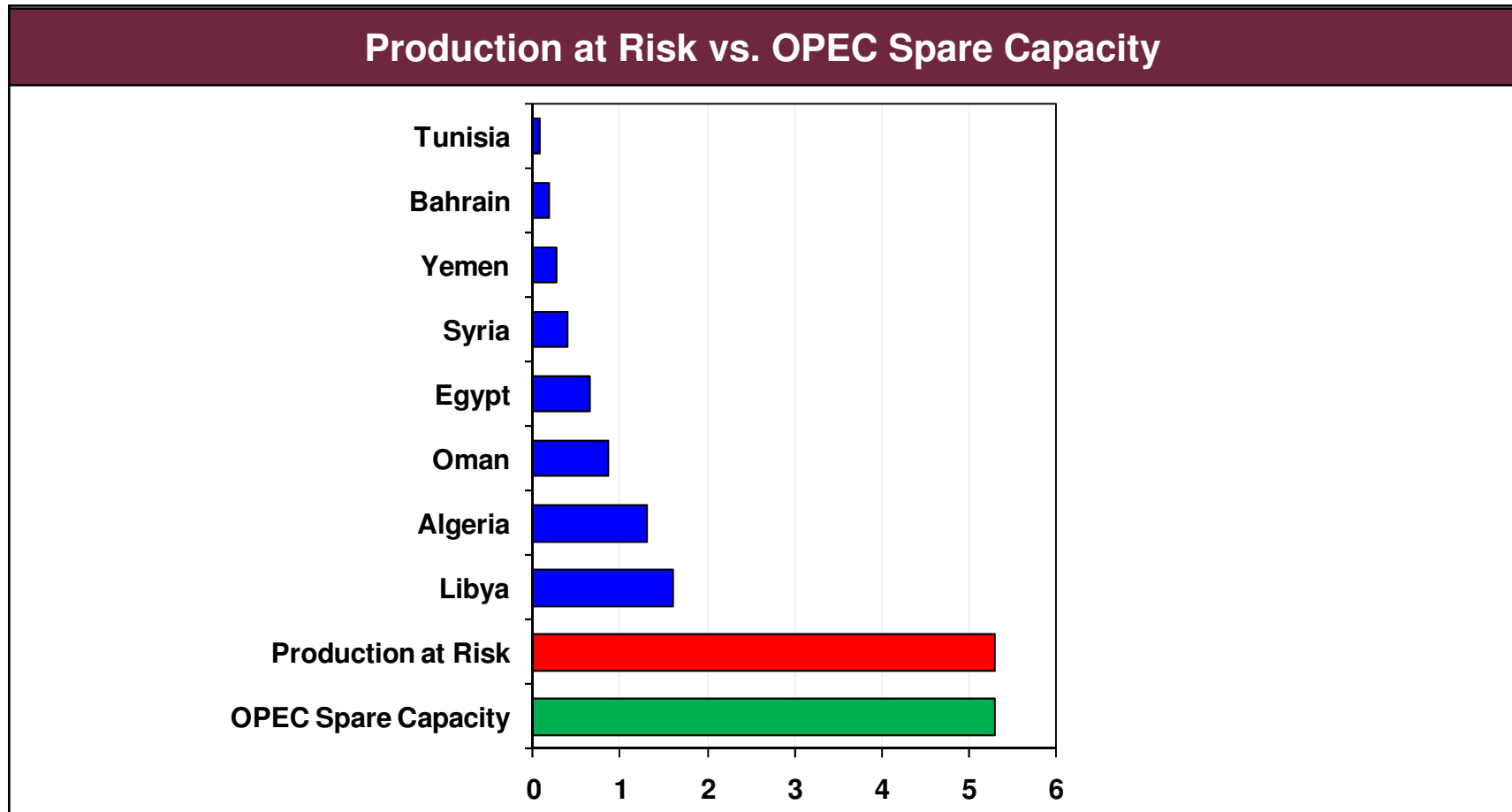


Source: EIA, 2011, and NGP estimates, 2011.

G) THE ROLE OF GEOPOLITICS

OIL PRODUCTION AT RISK

Even in the Worst Circumstances, the World Will Not Experience Shortages, But the Decline in OPEC Spare Capacity Will Increase Prices



Source: IEA, 2011 and various media sources and NGP estimates, 2011.

CONCLUSION

CONCLUSION

- **OPEC cannot deliver. Will non-OPEC surprise on the upside?**
- **Market and geopolitical fundamentals support high oil prices in the foreseeable future**
- **However, oil prices cannot continue to increase indefinitely:**
 - **OPEC still has about 3.9 mb/d of spare capacity**
 - **The IEA will use the Strategic Petroleum Reserve (SPR)**
 - **Exceptionally high prices cure exceptionally high prices**
 - **Developed world conserves (U.S. drivers at \$3.50/gallon)**
 - **Push for alternatives increases (fuel efficiency standards, alternative fuels)**
 - **Investments in new supply accelerate (especially in non-OPEC)**

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