



Dieter Helm is the author of
Burn Out: The endgame for fossil fuels

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LECTURE ONE

FOSSIL FUELS

PRESENTED BY

PROFESSOR DIETER HELM CBE

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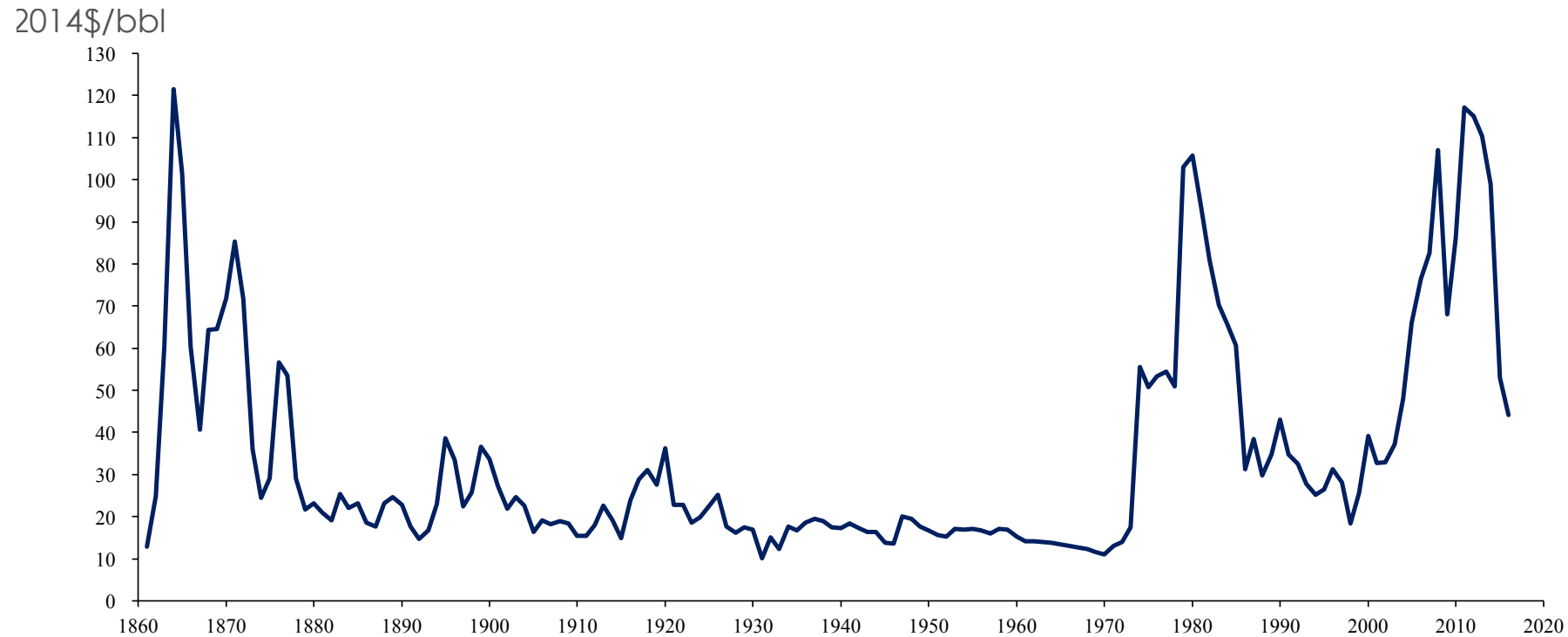
OUTLINE

- How the fossil fuels shaped the 20th century
- The long run price of oil
- OPEC's fleeting market power
- The 2000-2014 super cycle for commodities

HOW THE FOSSIL FUELS SHAPED THE TWENTIETH CENTURY

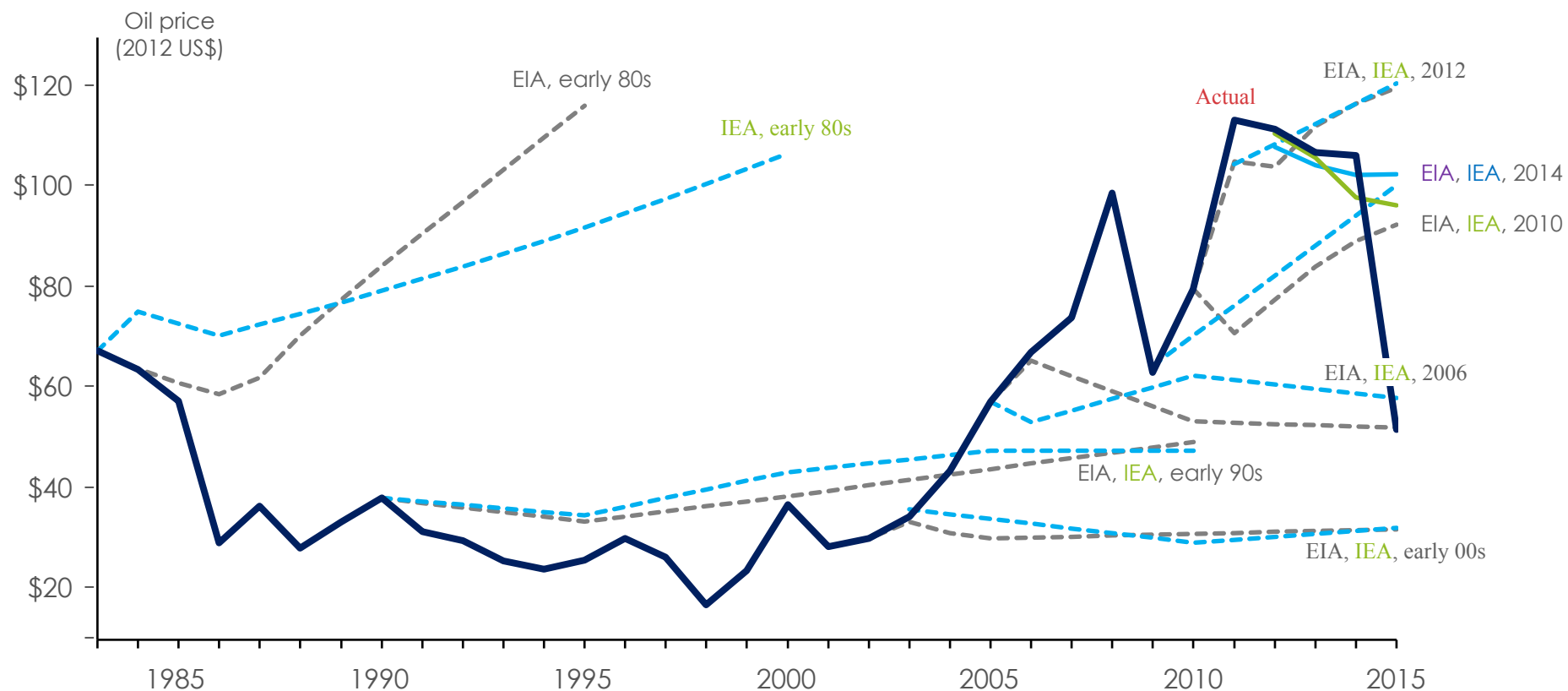
1900	2000
2 billion	7 billion
Steam and horse transport	Diesel, petrol transport
Railways	Cars and lorries
Horse power in agriculture	Tractors and farm machinery
Travel by land and sea	Aviation
Gas lighting	Electricity
Coal power station	Coal and nuclear power stations
Telegraphs and mail	Telephones
Etc. etc....	Etc. etc....

THE LONG RUN PRICE OF OIL



Source: BP and Thomson Reuters

OPEC AND THE GREAT OIL STOCKS



Sources: IEA, *World Energy Outlook*, 1982, 1993, 2000, 2006, 2010, 2012, 2014 : EIA, *Annual Energy Outlook*, 1983, 1993, 2000, 2006, 2010, 2012, 2014

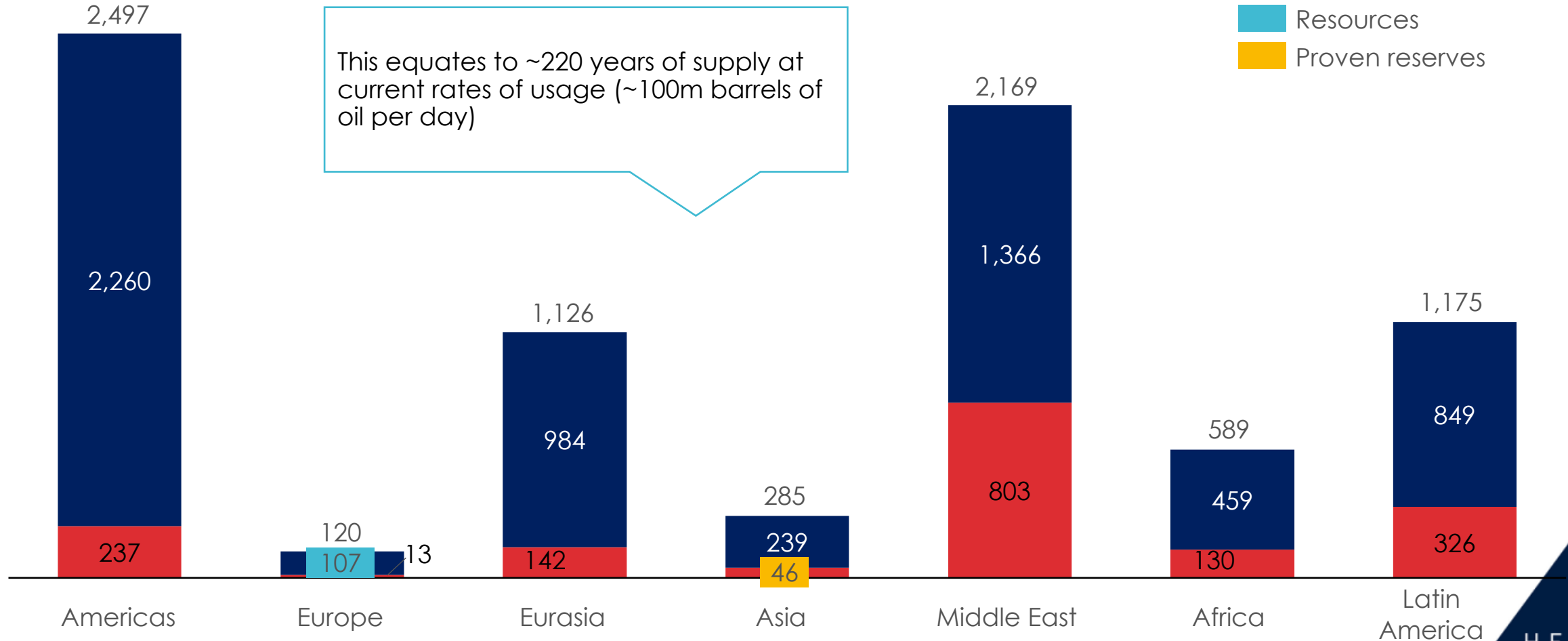
Notes: IEA and EIA imported crude oil price forecasts, selected years, baseline scenarios. All figures are in constant 2012 US\$/bbl.

THE 2000-2014 SUPER-CYCLE

- The great asset bubbles
- Post 2000 crash ↓ interest rates and ↑ fiscal stimuli
- US consumers and the trade deficits
- Growth of China

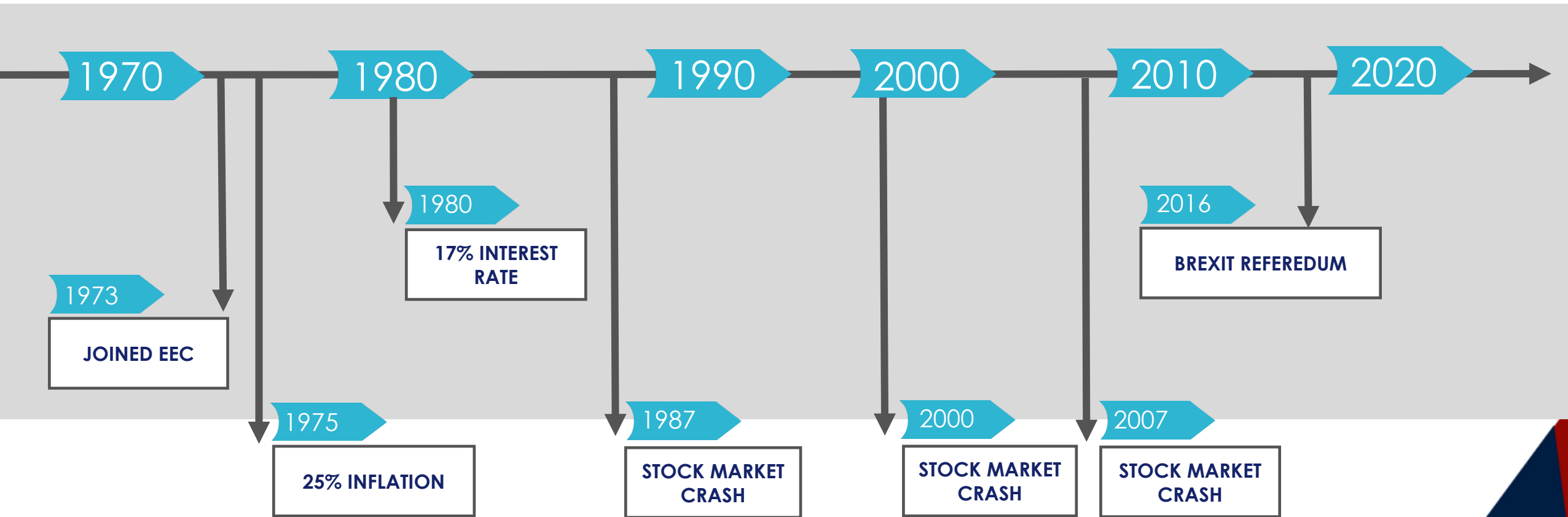
THERE'S A LOT OF OIL STILL LEFT IN THE WORLD

Oil reserves
Billion barrels



Sources: IEA, World Energy Outlook, 2016

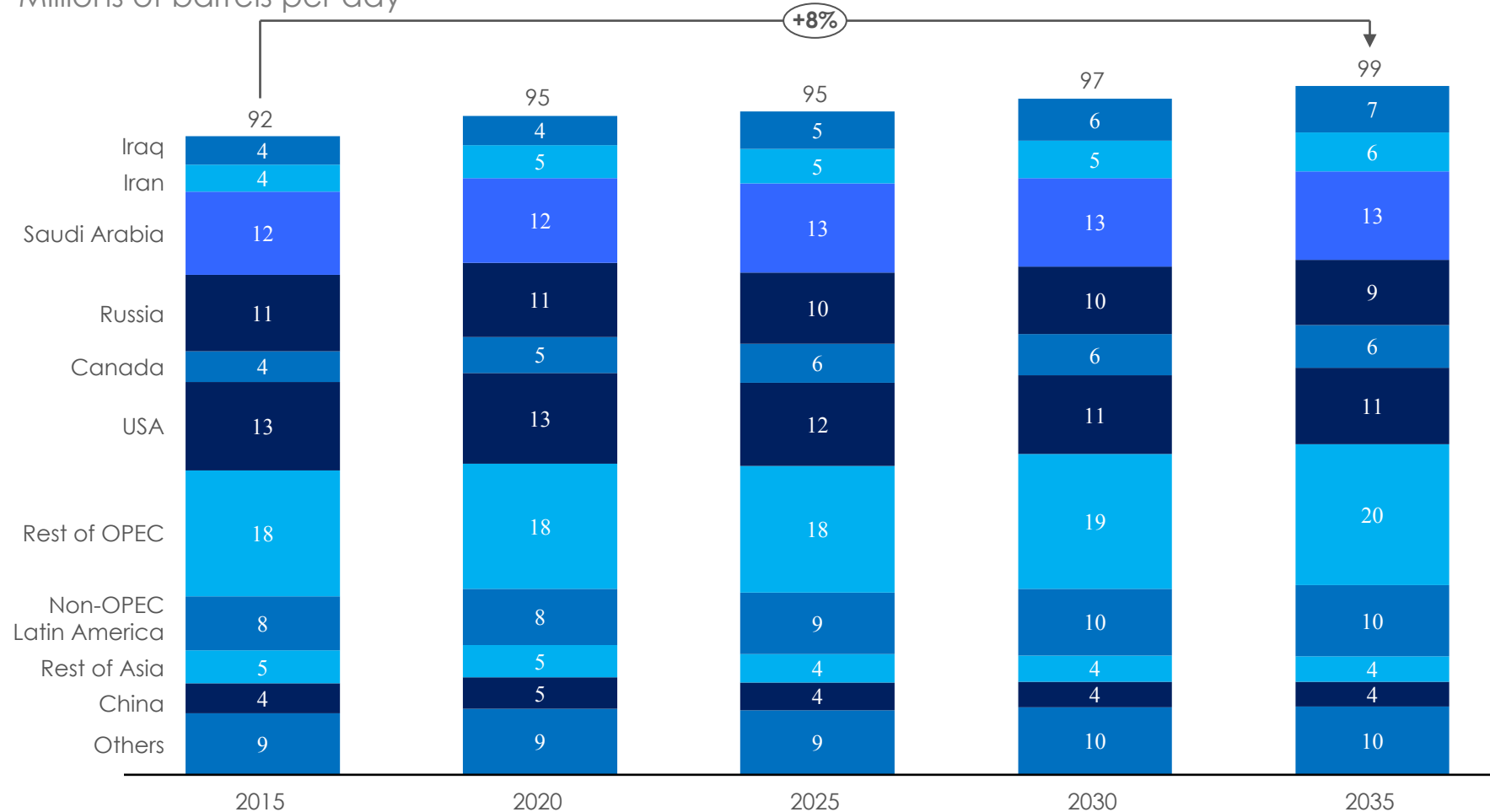
BOOM AND BUST AND THE SUPER-CYCLE



GLOBAL OIL SUPPLY COMES FROM A RANGE OF COUNTRIES AND REGIONS

Oil supply

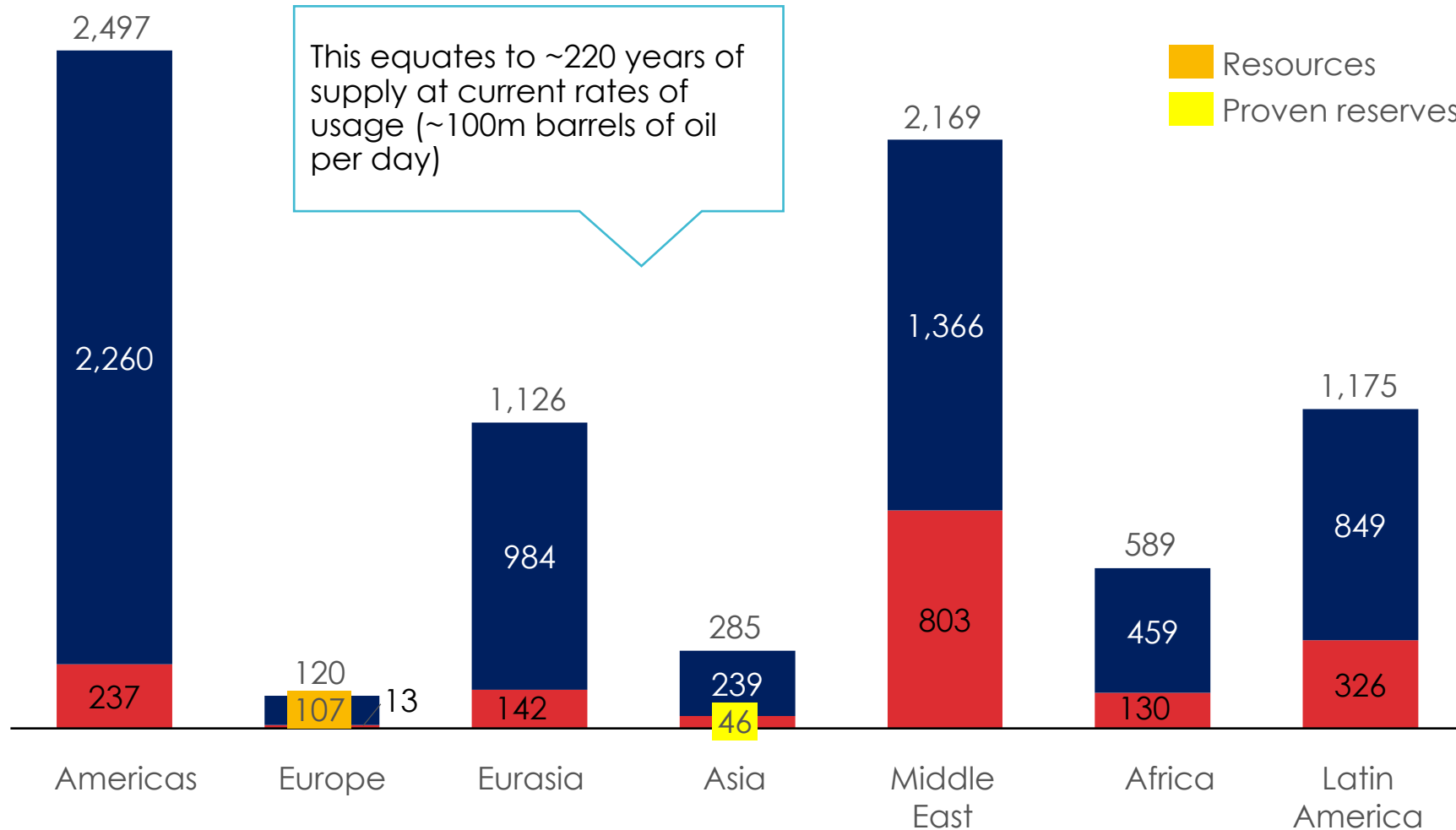
Millions of barrels per day



Sources: IEA, World Energy Outlook, 2016

THERE'S A LOT OF OIL STILL LEFT IN THE WORLD

Oil reserves
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SUMMARY

- 20th century of oil
- Transformation greater than all previous economic history
- Oil price constant in real terms for 100 years 1870-1970
- OPEC market power in 1970s and 2000-2014 due to “special circumstances” unlikely to be repeated again
- 2000-2014 explained by China & US consumption
- The return to “normal”



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