

Swiss Federal Office of Energy

Workshop on Oil & Gas Resources

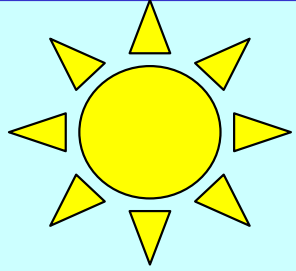
The Pressing Need for an
Oil Depletion Protocol

by

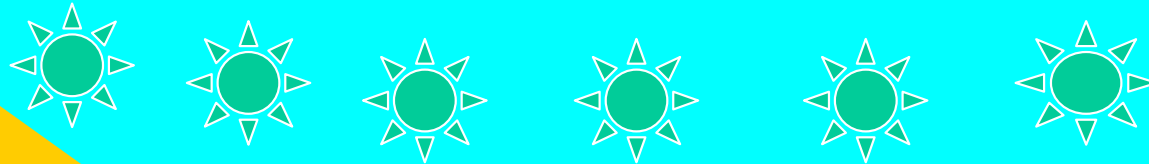
C.J.Campbell

ASPO

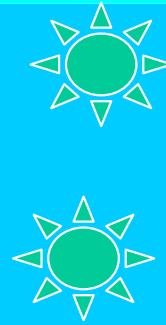
Association for the Study of Peak Oil & Gas



Extreme Global Warming gave excessive Algal Growths

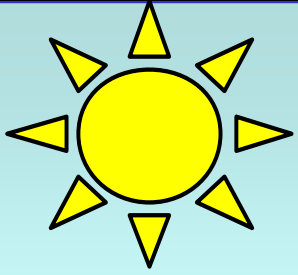


90 & 150 million
years ago



Organic debris

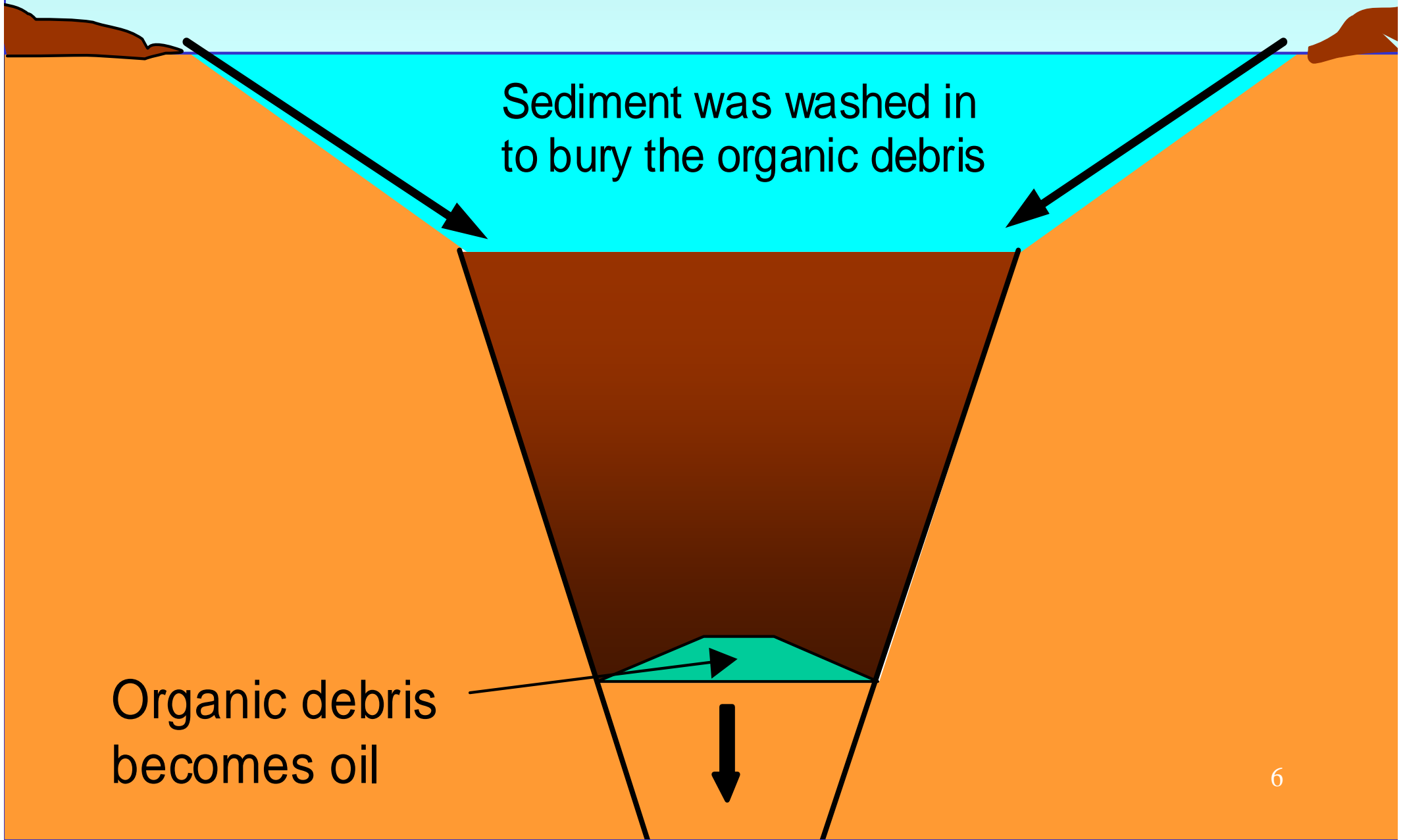




On burial to 2000m, it was converted to oil by chemical reactions

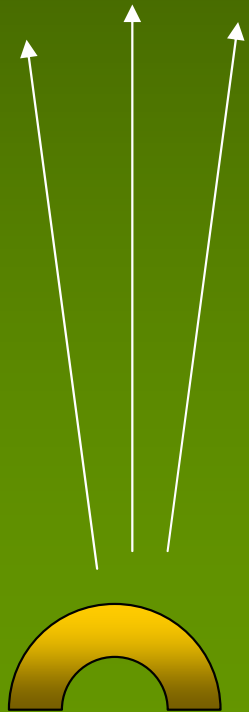
Sediment was washed in to bury the organic debris

Organic debris becomes oil

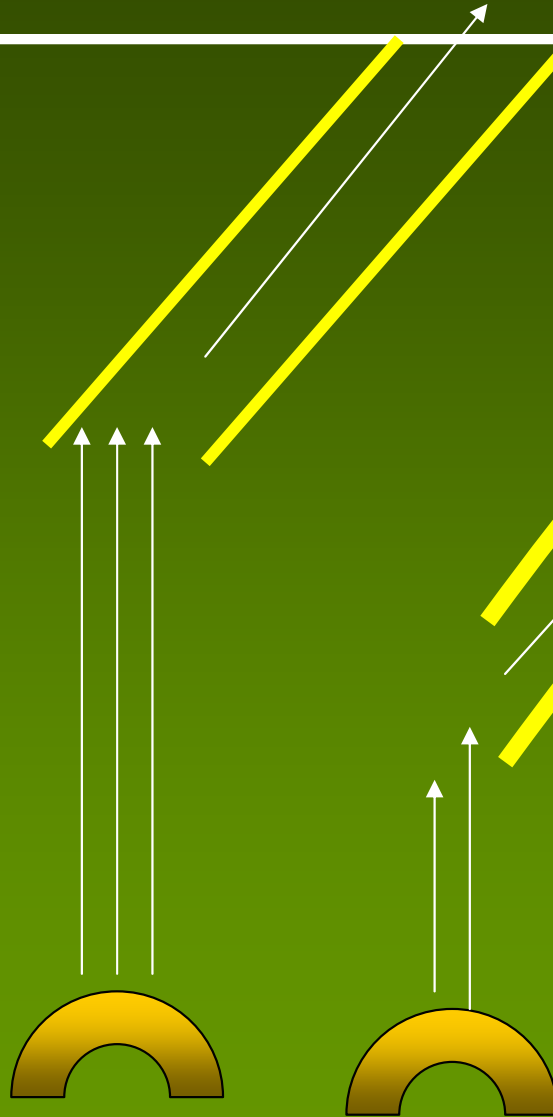


Migration of Oil

1. Dissipation

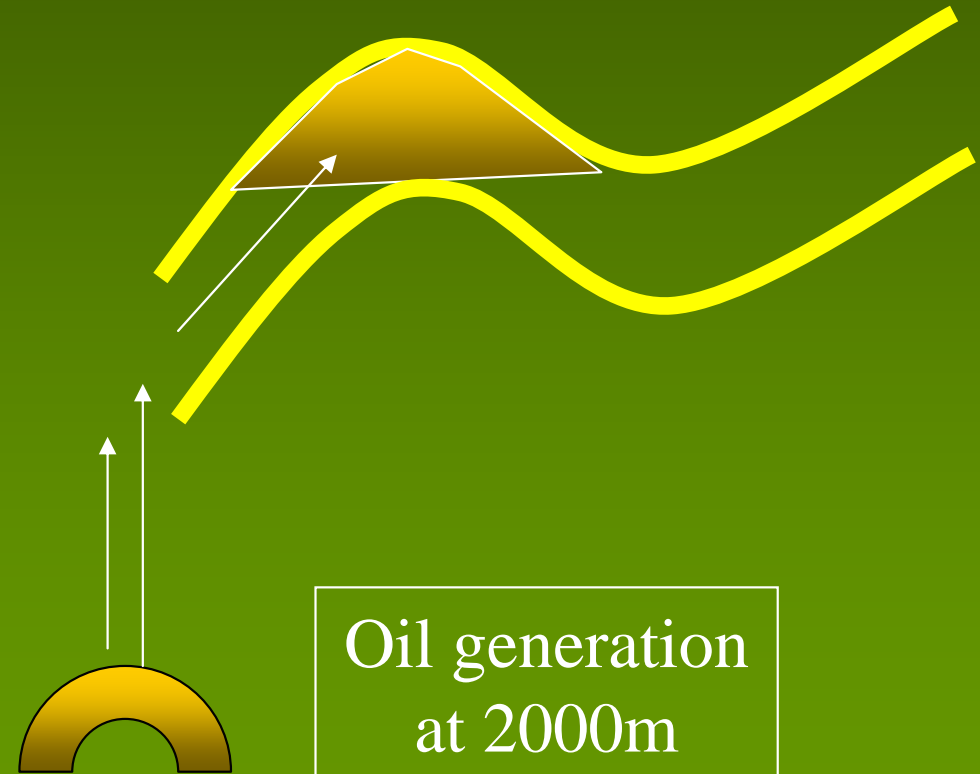


2. Escape



Surface of the Earth

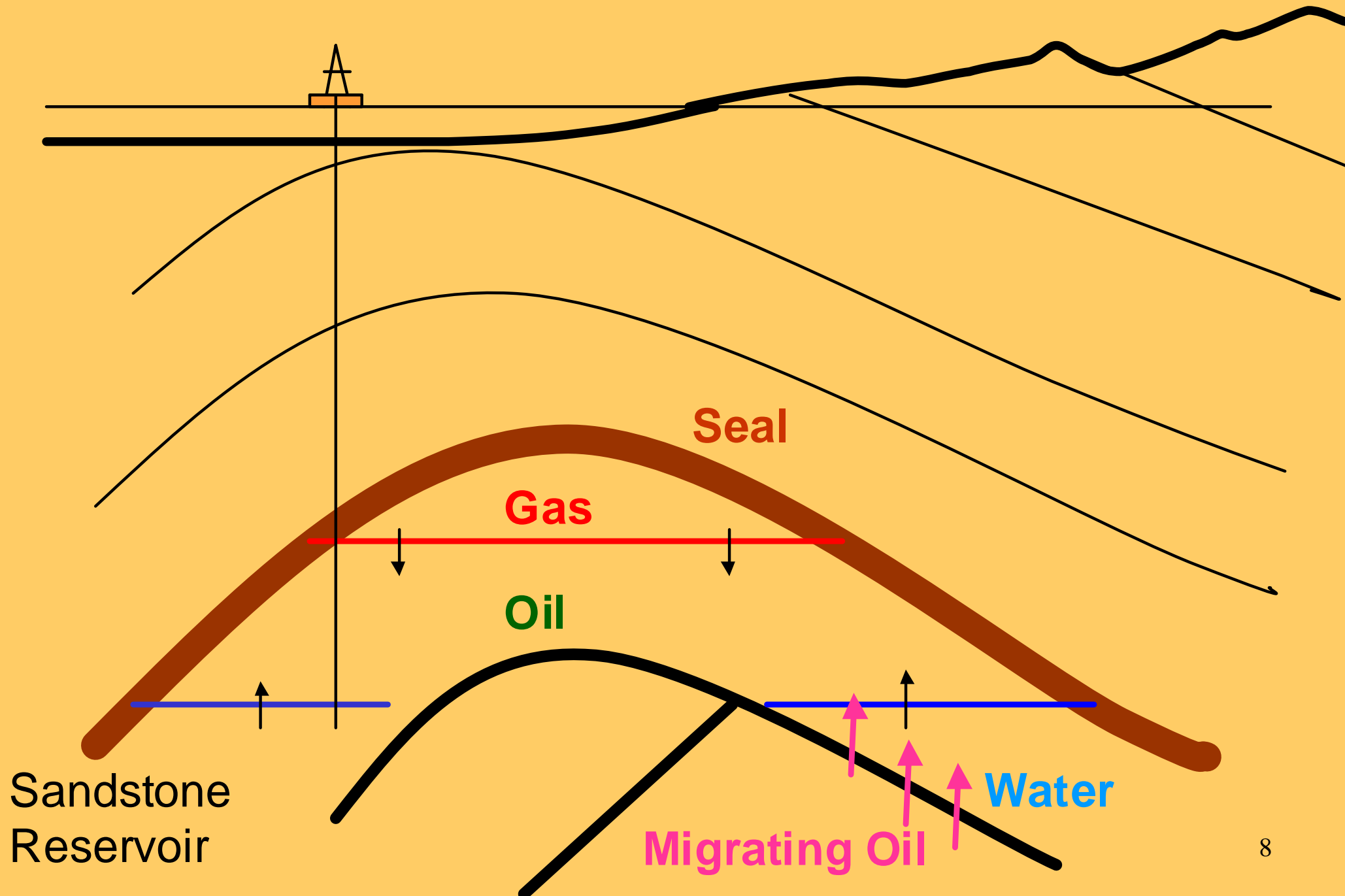
3. Oilfield



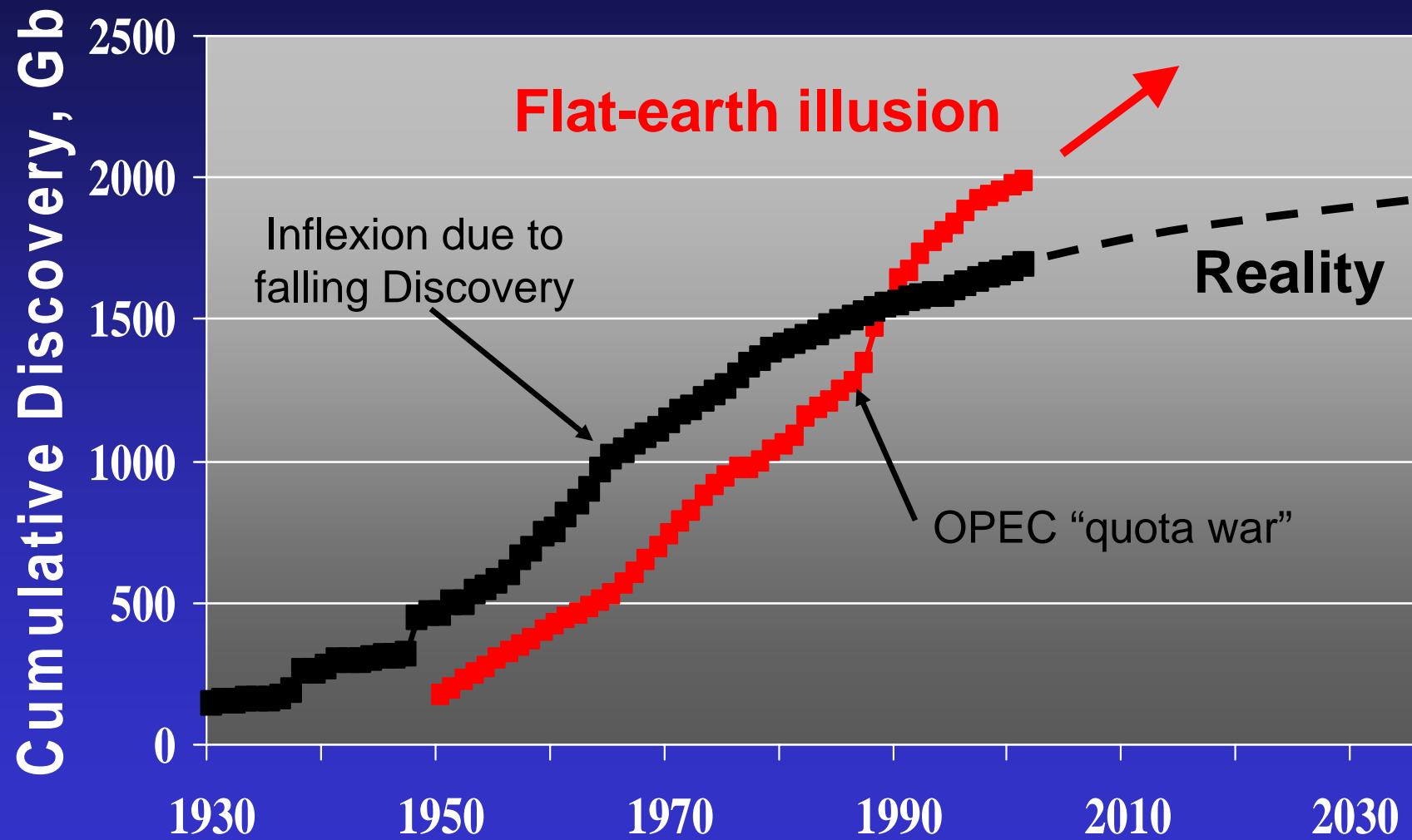
Oil generation
at 2000m
depth

Source

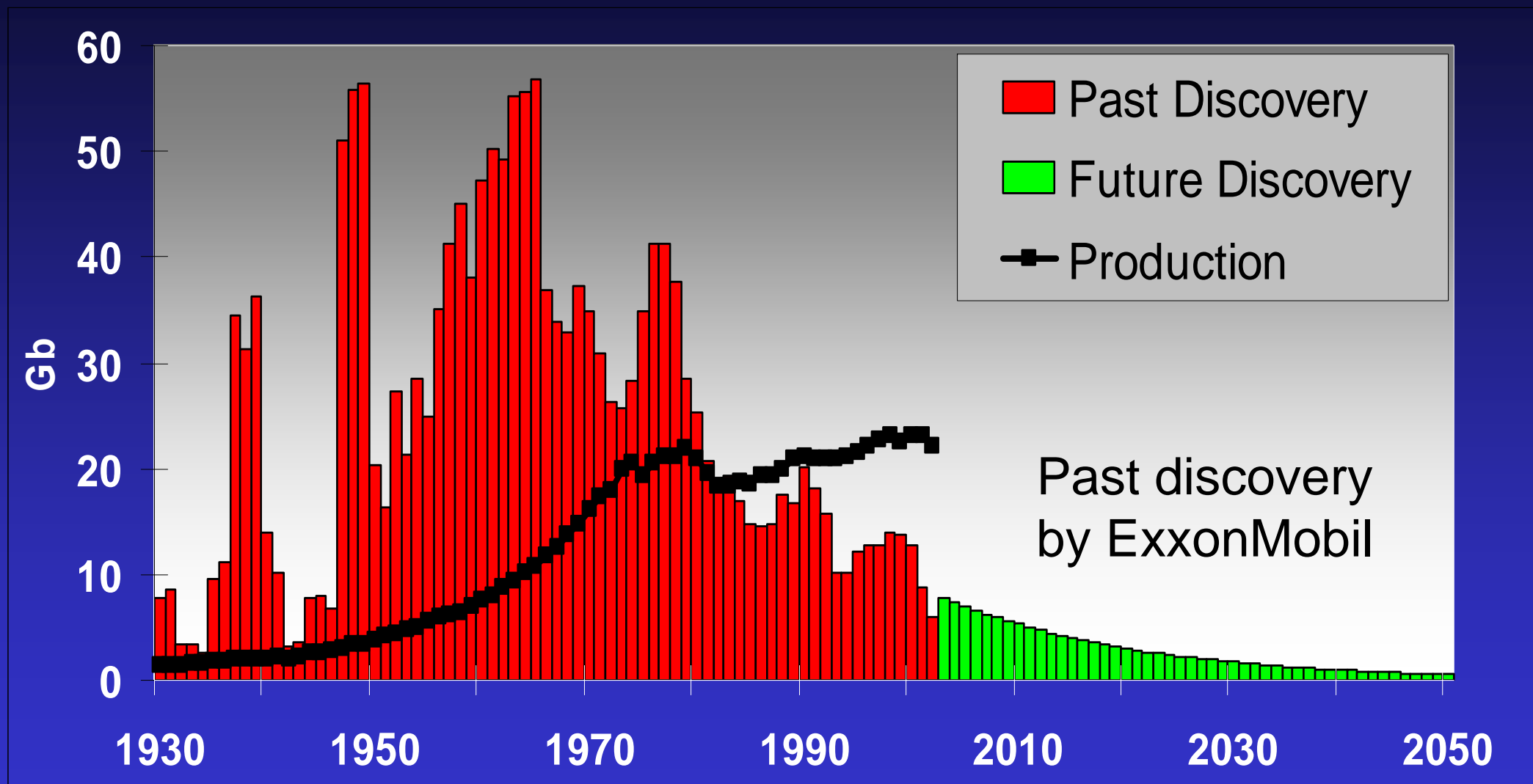
Geology of an Oilfield



Reality and Illusion



Real Discovery Trend



Year	Abu Dhabi	Dubai	Iran	Iraq	Kuwait	Neutral Zone	Saudi Arabia	Venezuela
1980	28.0	1.4	58.0	31.0	65	6.1	163	18
1981	29.0	1.4	57.5	30.0	66	6.0	165	18
1982	30.6	1.3	57.0	29.7	65	5.9	165	20
1983	30.5	1.4	55.3	41.0	64	5.7	162	22
1984	30.4	1.4	51.0	43.0	64	5.6	166	25
1985	30.5	1.4	48.5	44.5	90	5.4	169	26
1986	30.0	1.4	47.9	44.1	90	5.4	169	26
1987	31.0	1.4	48.8	47.1	92	5.3	167	25
1988	92.2	4.0	92.9	100	92	5.2	167	56
1989	92.2	4.0	92.9	100	92	5.2	170	58
1990	92.2	4.0	92.9	100	92	5.0	258	59
1991	92.2	4.0	92.9	100	95	5.0	258	59
1992	92.2	4.0	92.9	100	94	5.0	258	63
1993	92.2	4.0	92.9	100	94	5.0	259	63
1994	92.2	4.3	89.3	100	94	5.0	259	65
1995	92.2	4.3	88.2	100	94	5.0	259	65
1996	92.2	4.0	93.0	112.0	94	5.0	259	65
1997	92.2	4.0	93.0	112.5	94	5.0	259	72
1998	92.2	4.0	89.7	112.5	94	5.0	259	73
1999	92.2	4.0	89.7	112.5	94	5.0	261	73
2000	92.2	4.0	89.7	112.5	94	5.0	261	77
2001	92.2	4.0	89.7	112.5	94	5.0	261	78
2002	92.2	4.0	89.7	112.5	94	5.0	261	78

**Spurious
OPEC
Reserve
Revisions**

Draining the tanks

Regular Oil

Surprise



Filling at 3.75 p.a

170 Yet-to-Find

920 Produced
1730 DISCOVERED
810 Remaining

Emptying at 22 p.a.

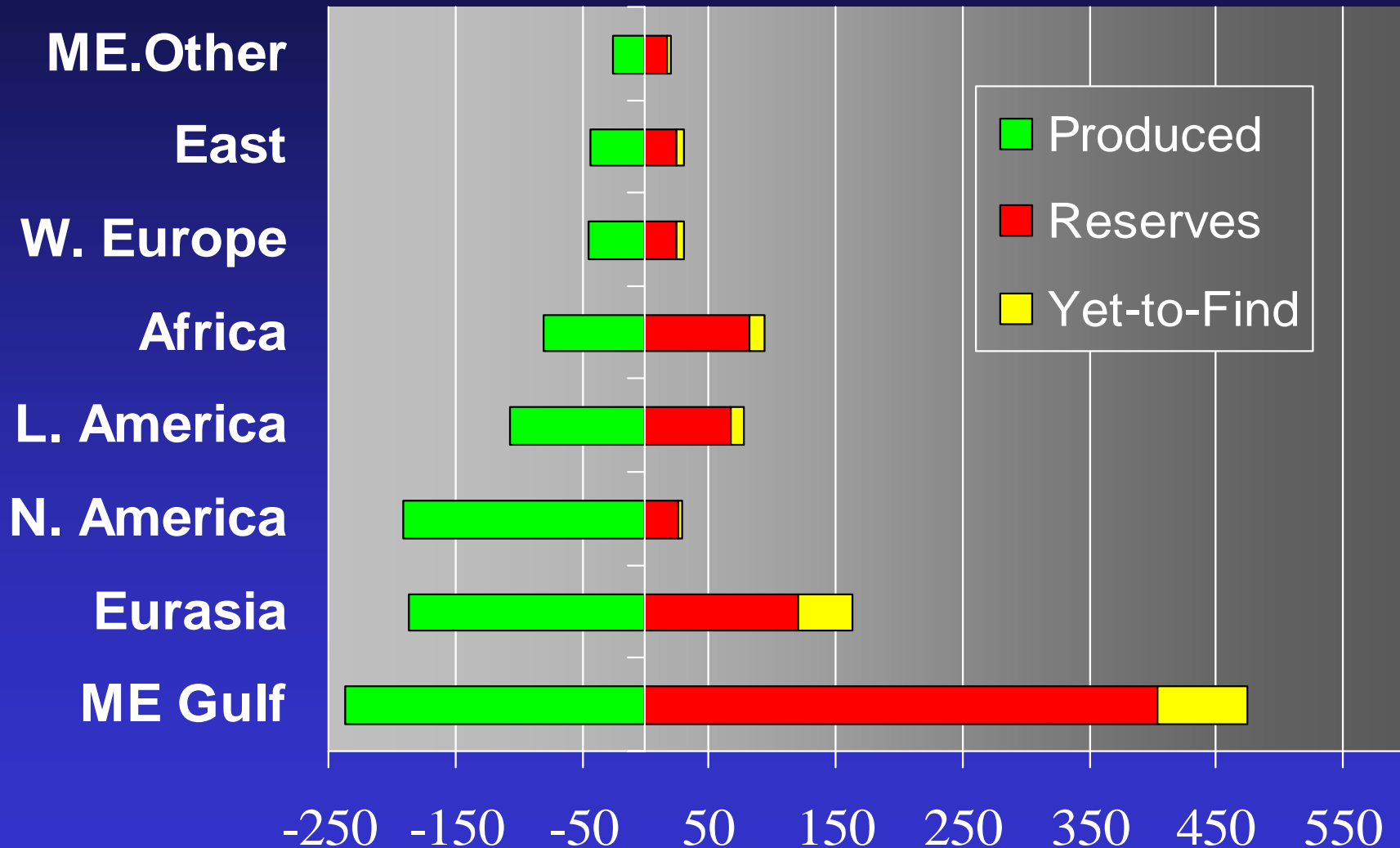
One in - Six out

Billion
barrels

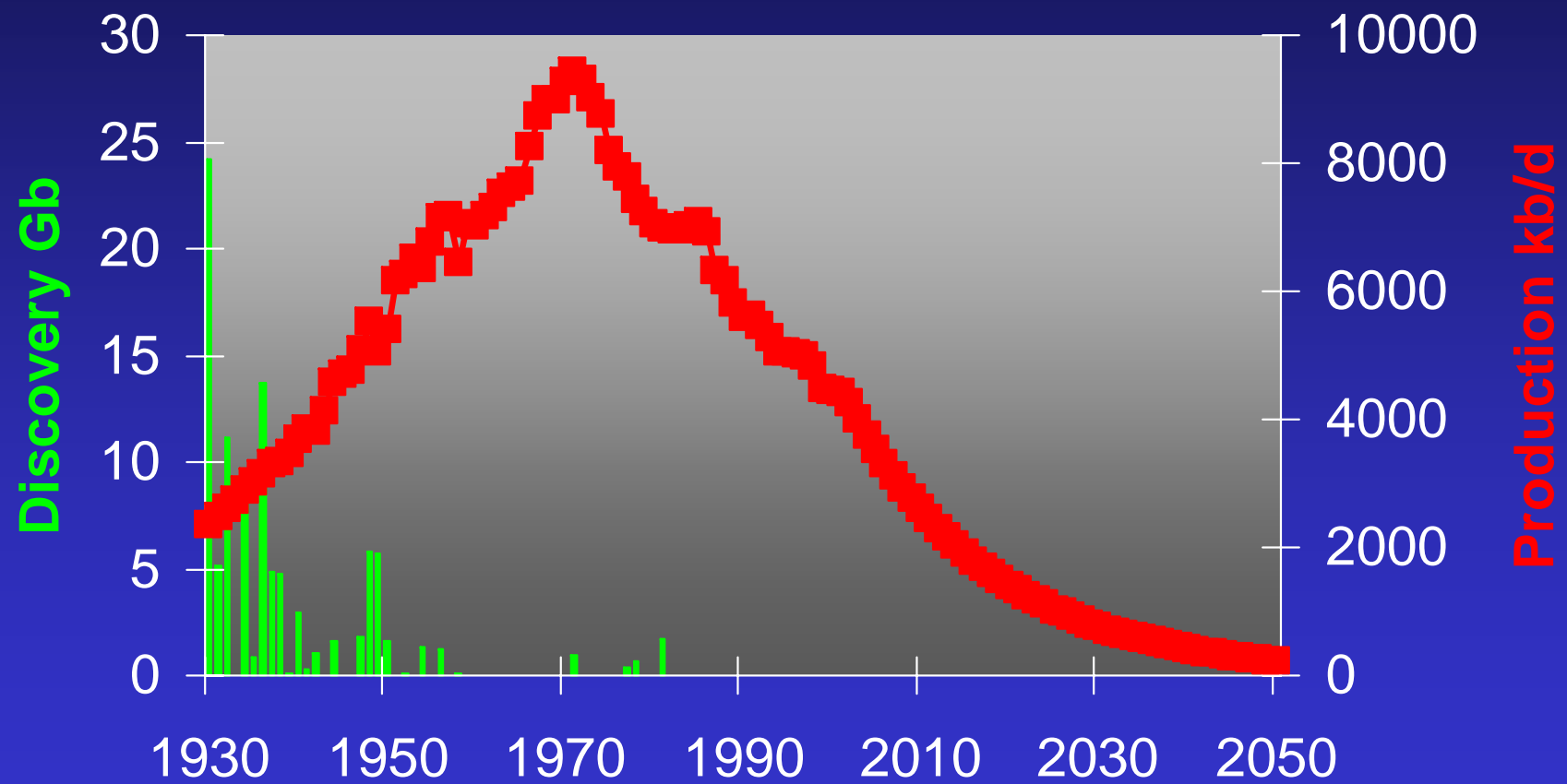


Where is it?

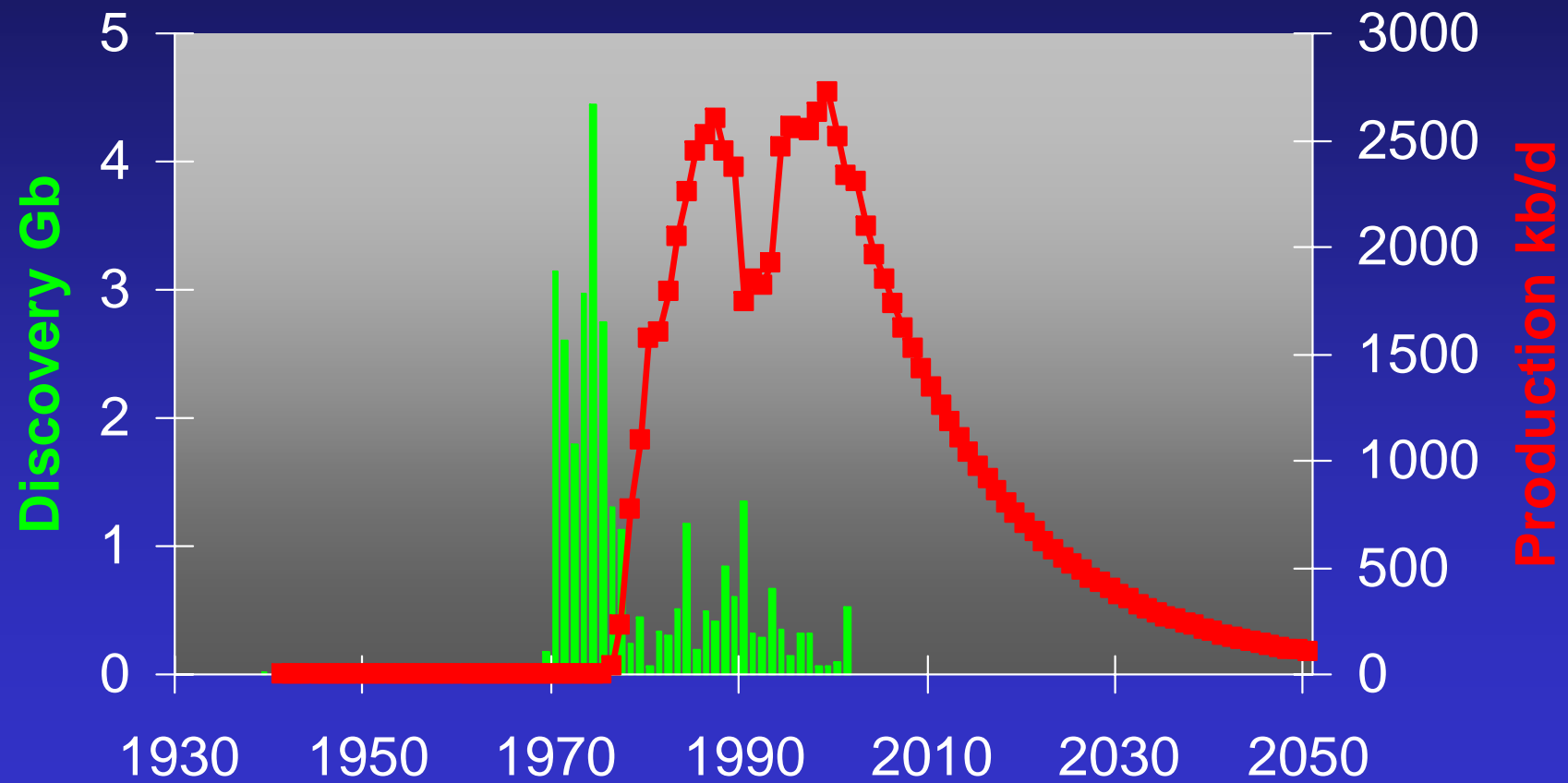
Regular Oil



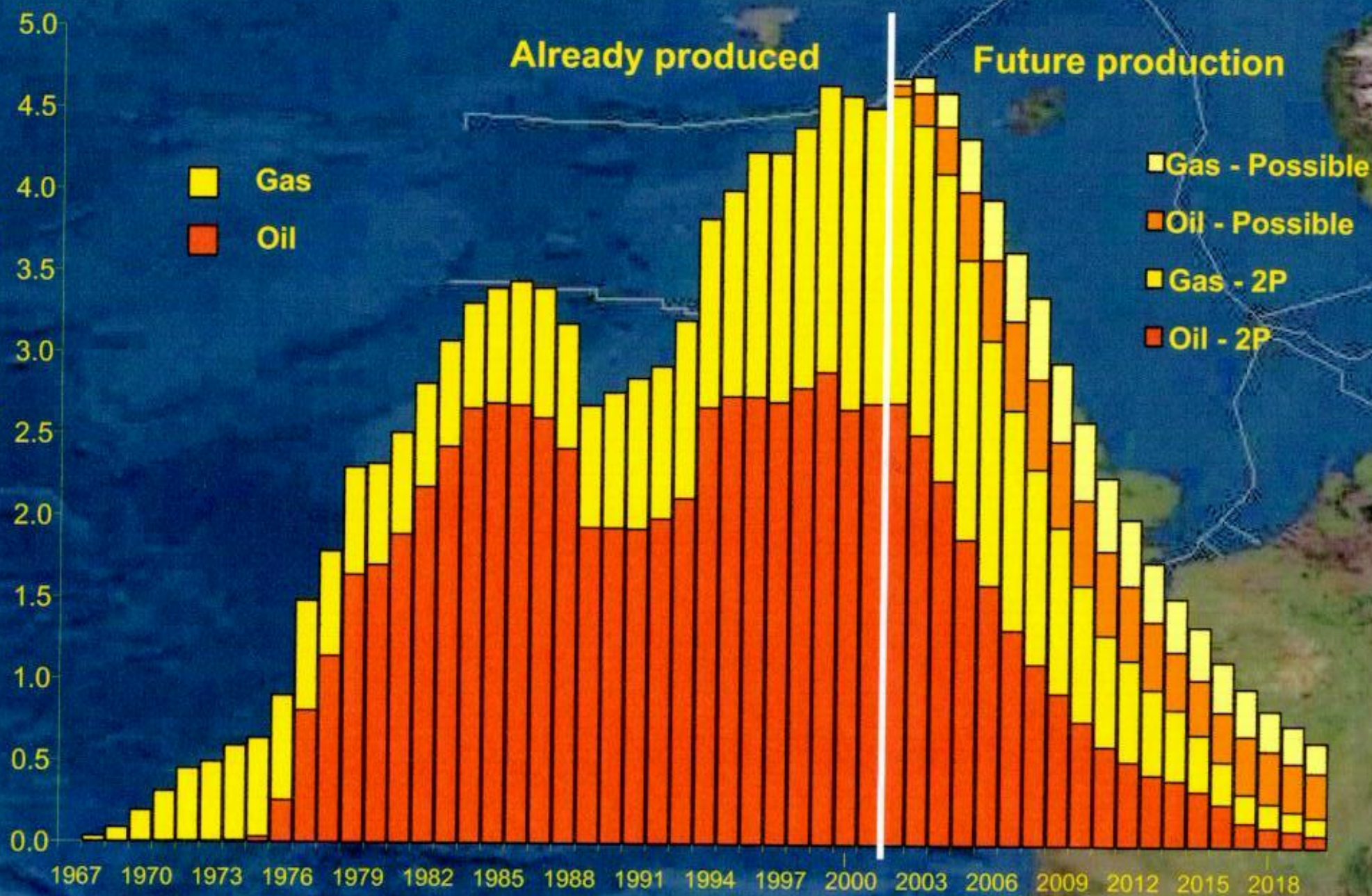
US-48



United Kingdom



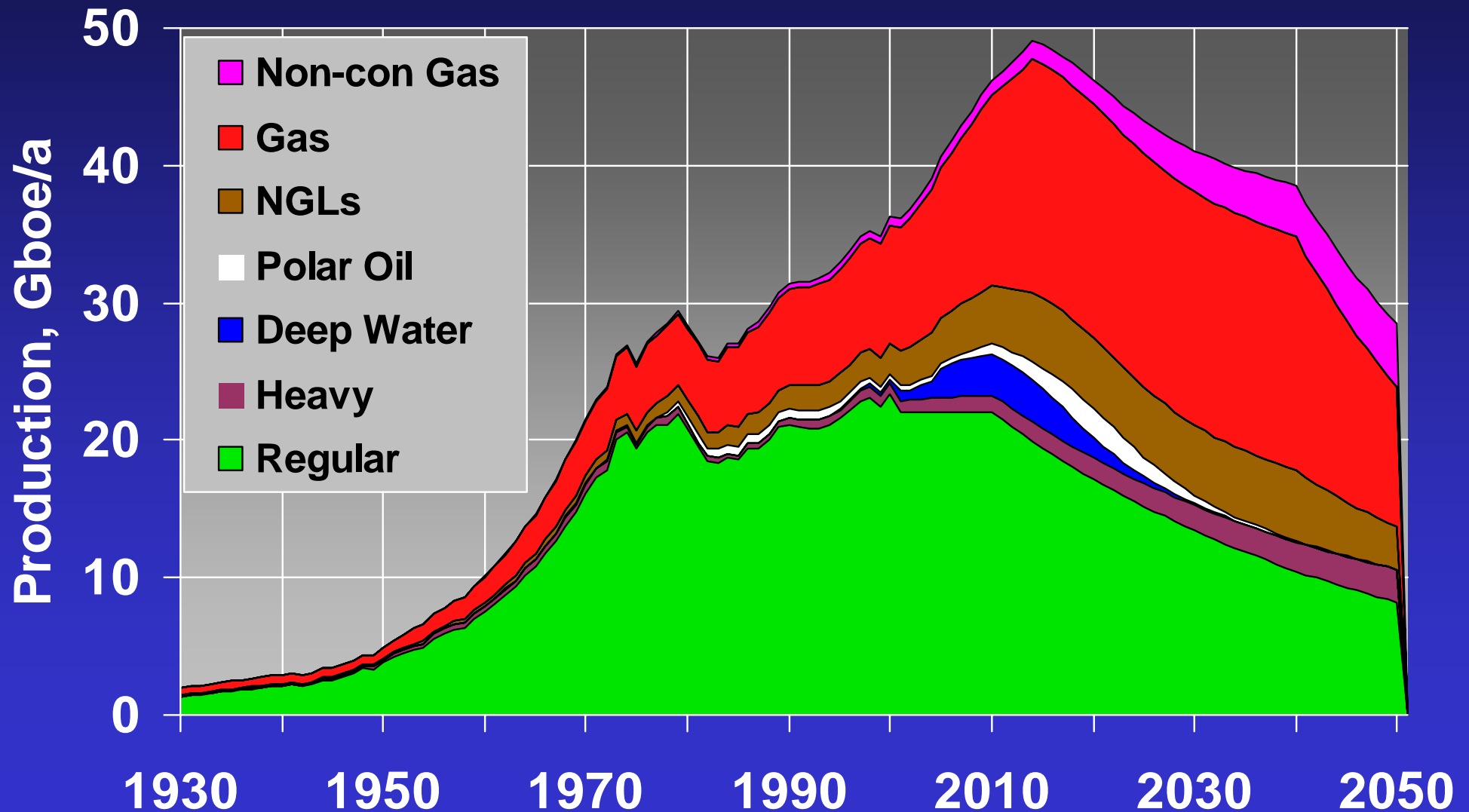
Production from already discovered fields



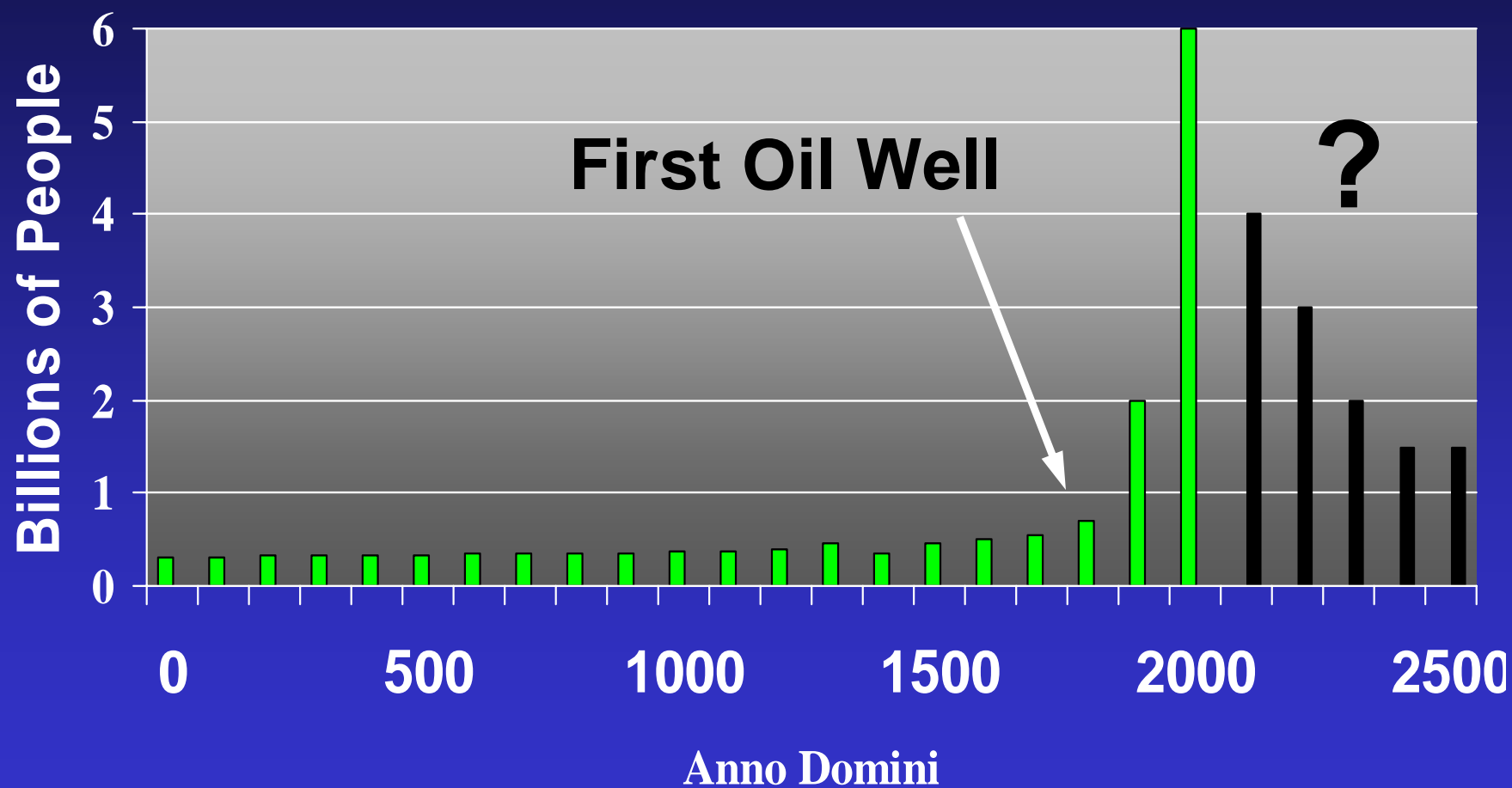
All Oil & Gas

2003 Base Case Scenario

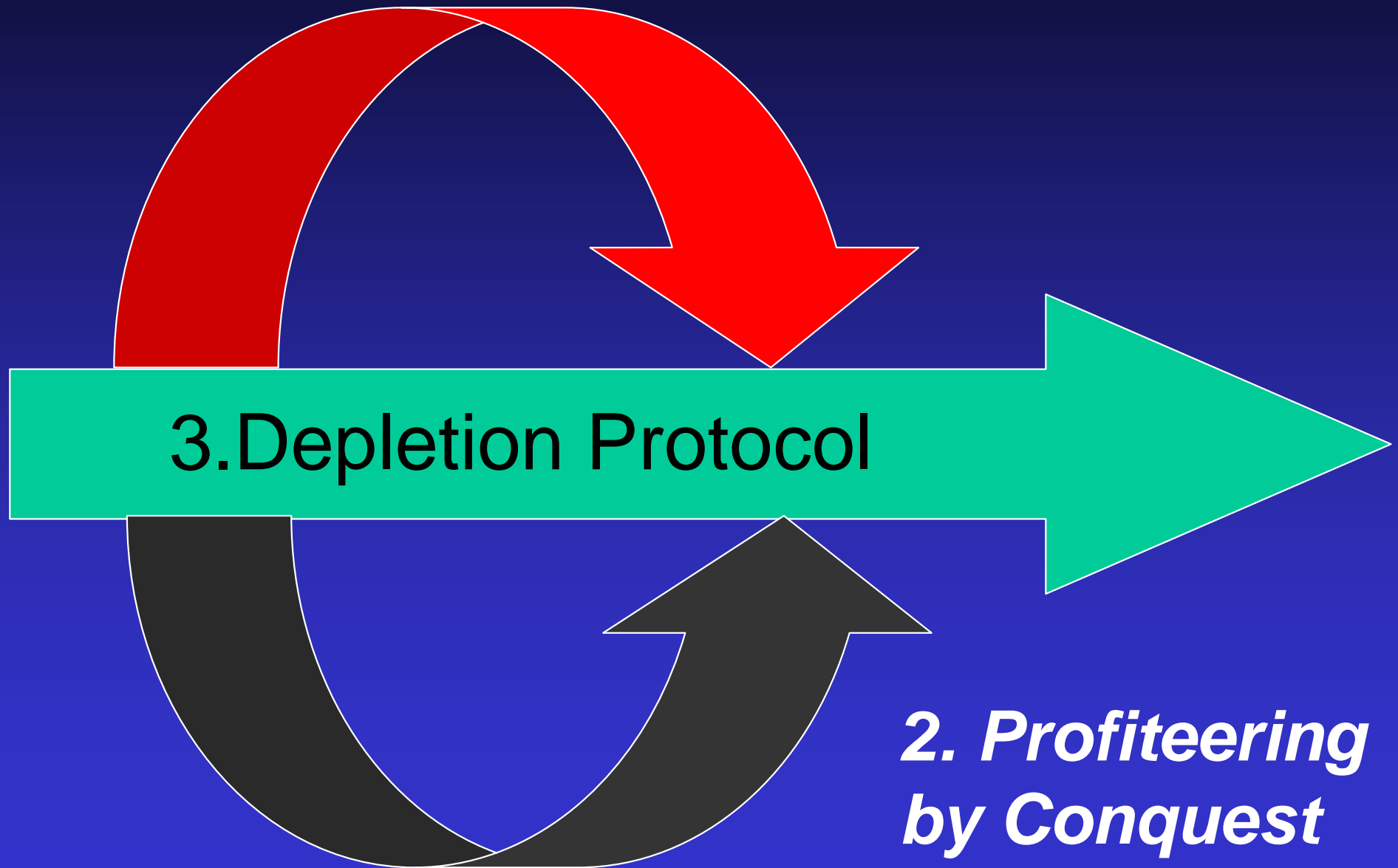
All boundaries fuzzy



Population



1. Middle East profiteering



Depletion Protocol

Importers cut imports to match Depletion Rate

- **Profiteering avoided**
- **Destabilising financial transfers avoided**
- **World price moderate: related to actual cost**
- **Middle East prepares for its own destiny**
- **Poor countries aided**

Consumers concentrate on

- **Energy Saving-Renewable Energy**

*****REALITY*****

It is time to wake up

**Let
beautiful Switzerland
take the lead.**