

**Second World Renewable Energy Forum  
Bonn May 29 -31, 2004.**

# **The Decline of the Oil Age**

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The University of Reading, UK*

**Presentation:**

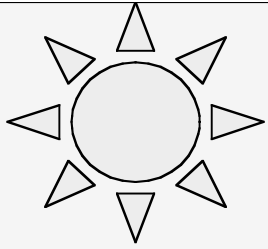
**The Urgent Need  
for an  
Oil Depletion Protocol**

by

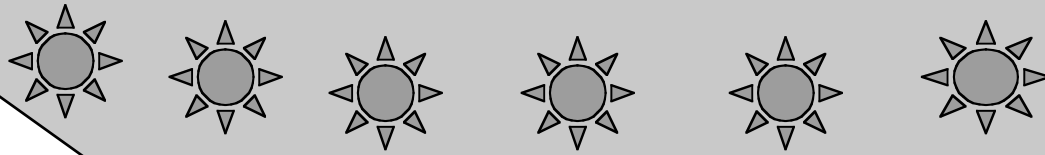
C.J. Campbell

ASPO

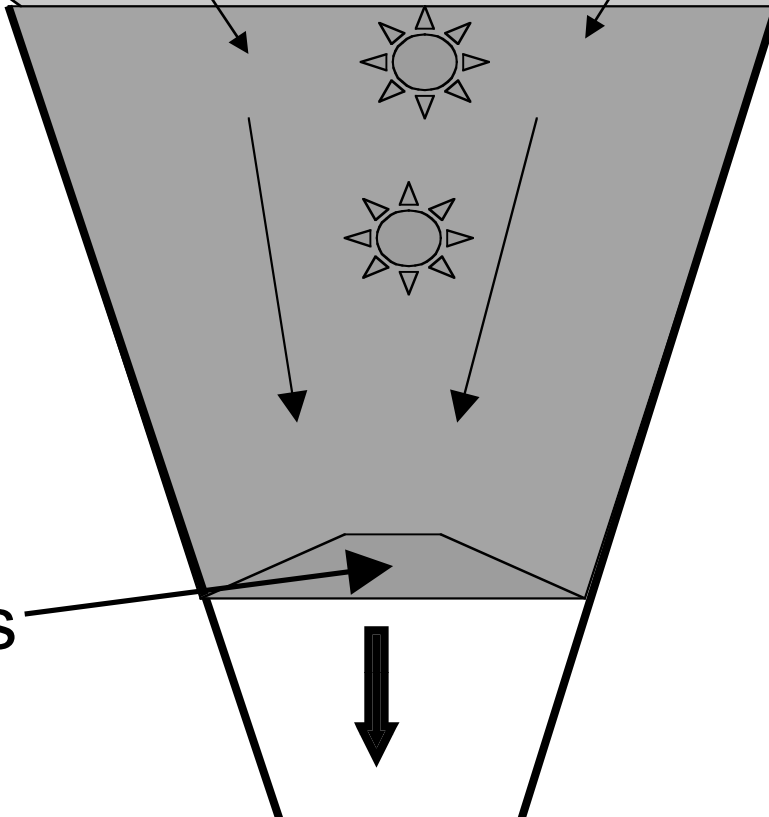
Association for the Study of Peak Oil & Gas



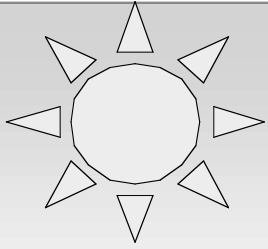
Extreme Global Warming  
gave excessive Algal Growths



90 & 150 million  
years ago



Organic debris



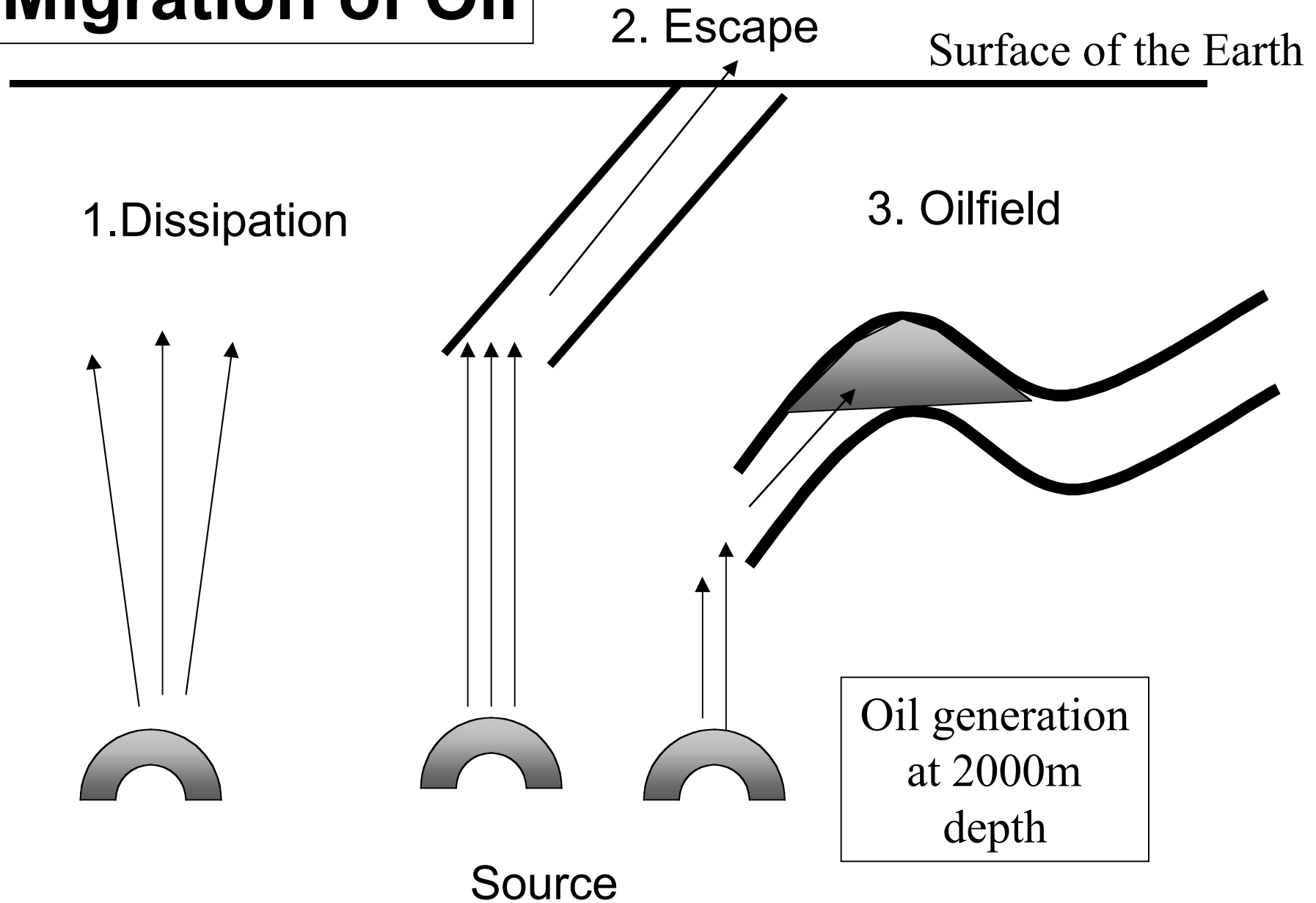
**On burial to 2000m, it was converted to oil by chemical reactions**

Sediment was washed in to bury the organic debris

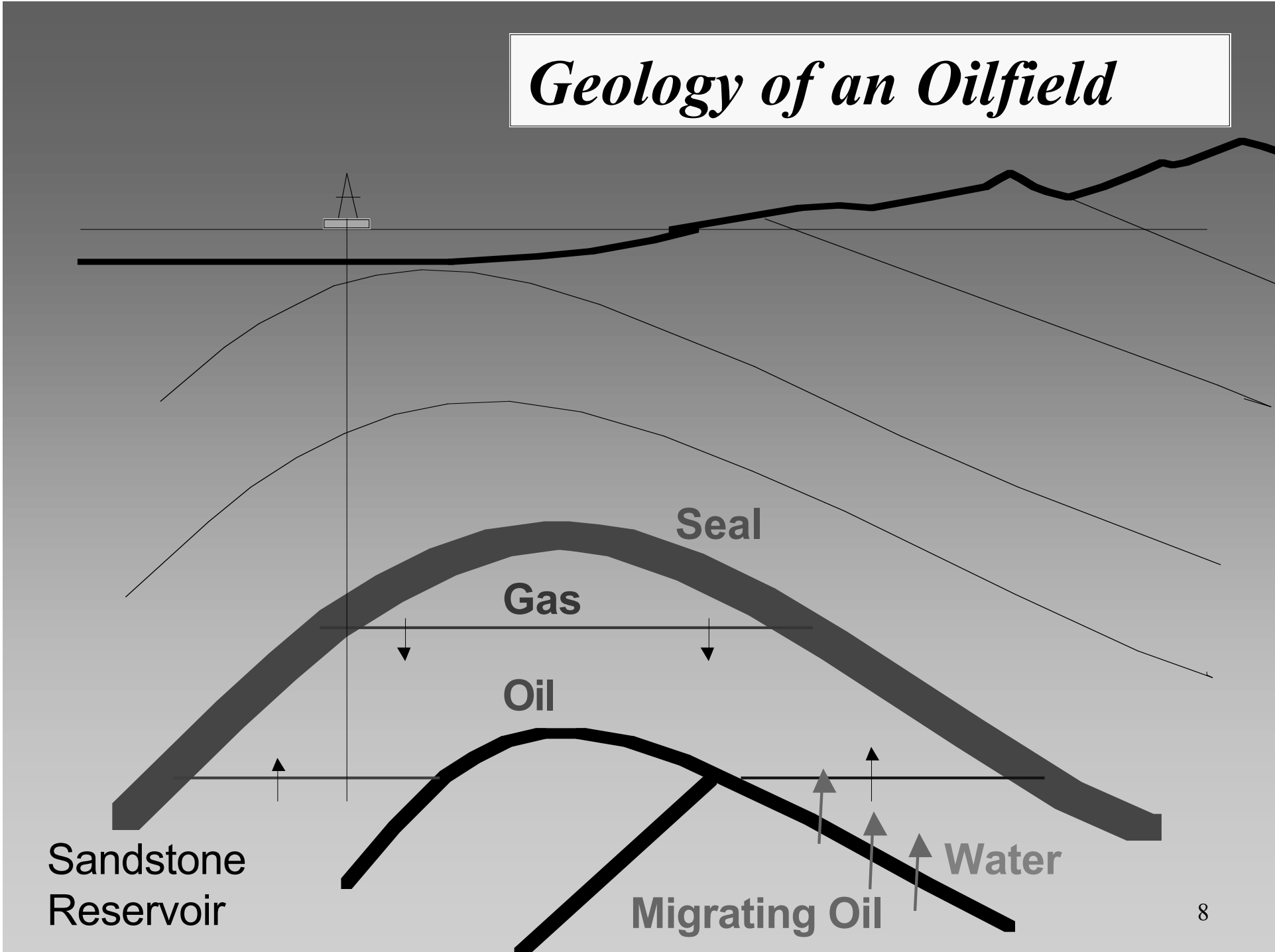
Organic debris becomes oil



# Migration of Oil



# *Geology of an Oilfield*



# *Reserve Reporting*

Estimating the size of an oilfield poses no particular scientific challenge.

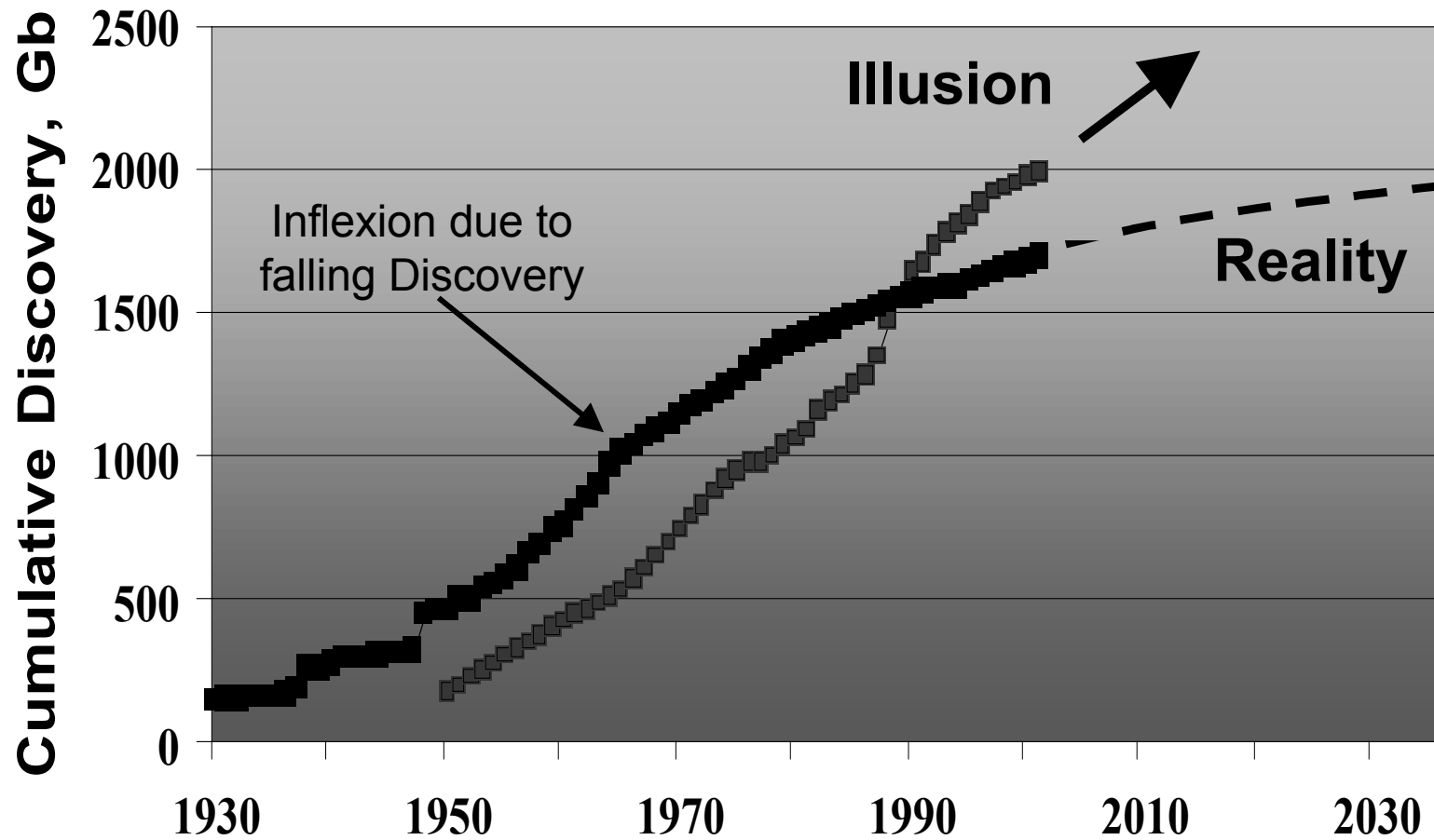
- Accurate estimates are made but not reported

The problem is in the Reporting

Need to distinguish:

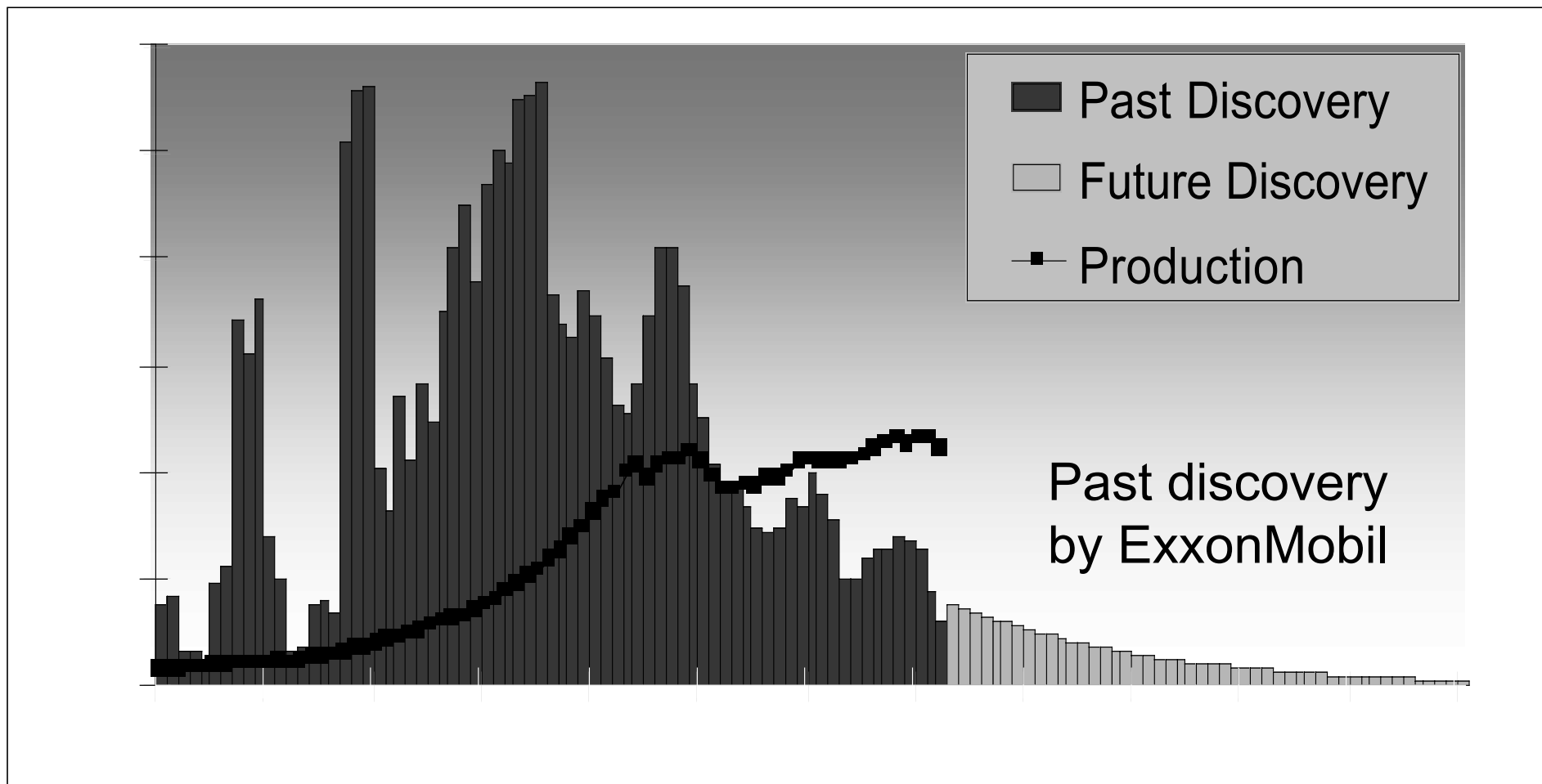
- Financial from Scientific reports

# *Oil Discovery: Reality and Illusion*

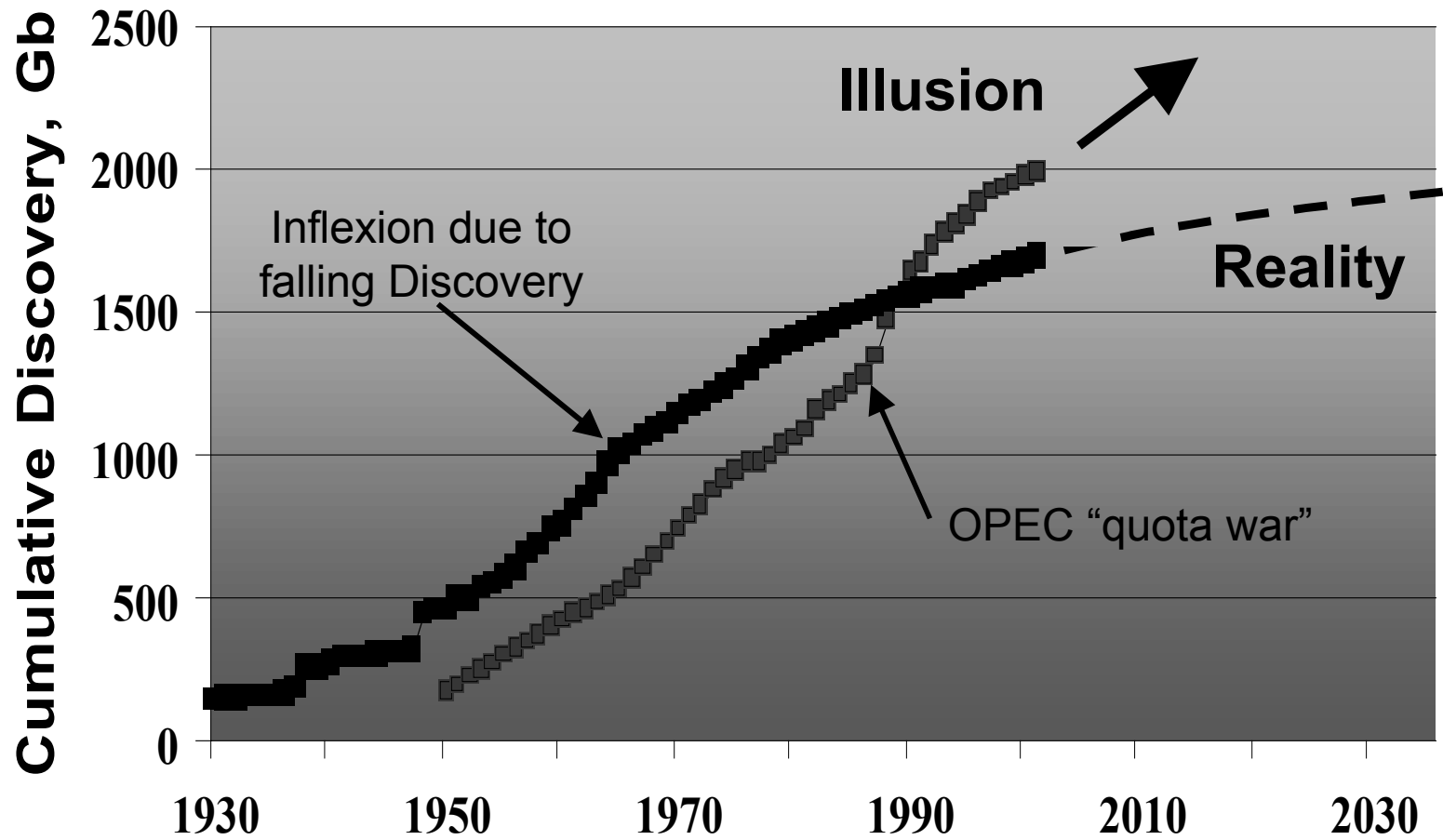




# *Real Discovery Trend*



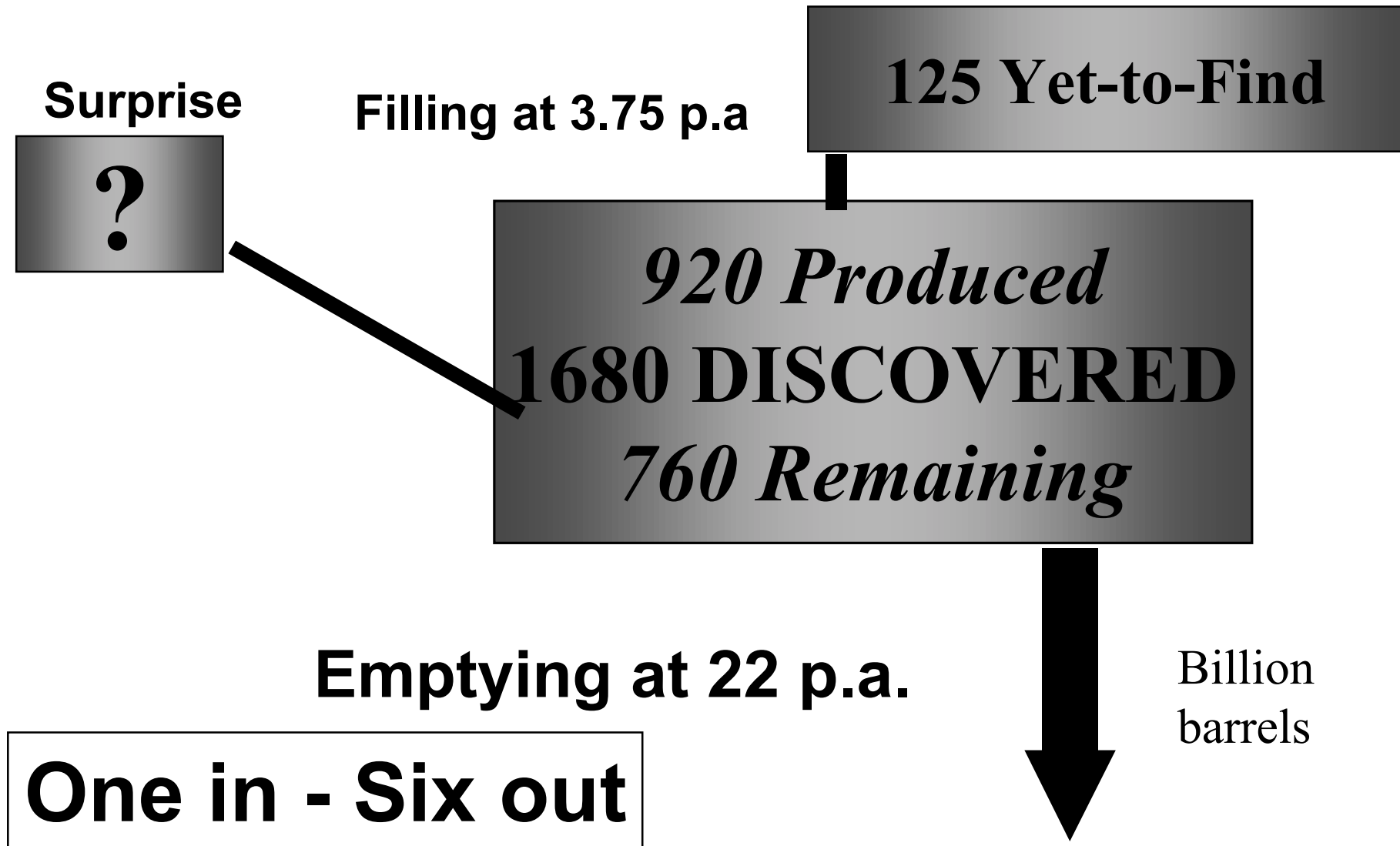
# *Reality and Illusion*



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

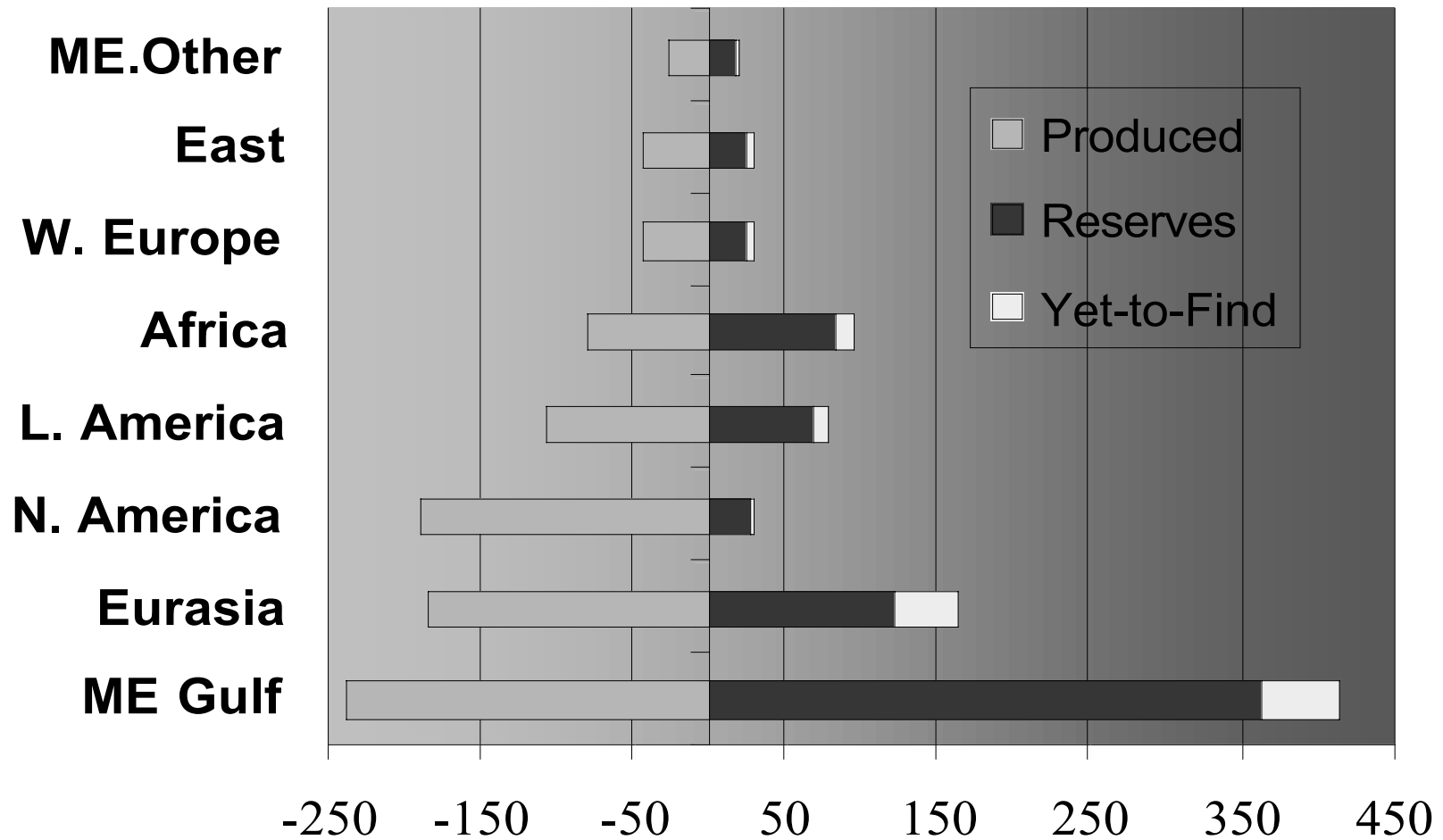
**Spurious  
OPEC  
Reserve  
Revisions**

# *Draining the tanks - Regular Oil*

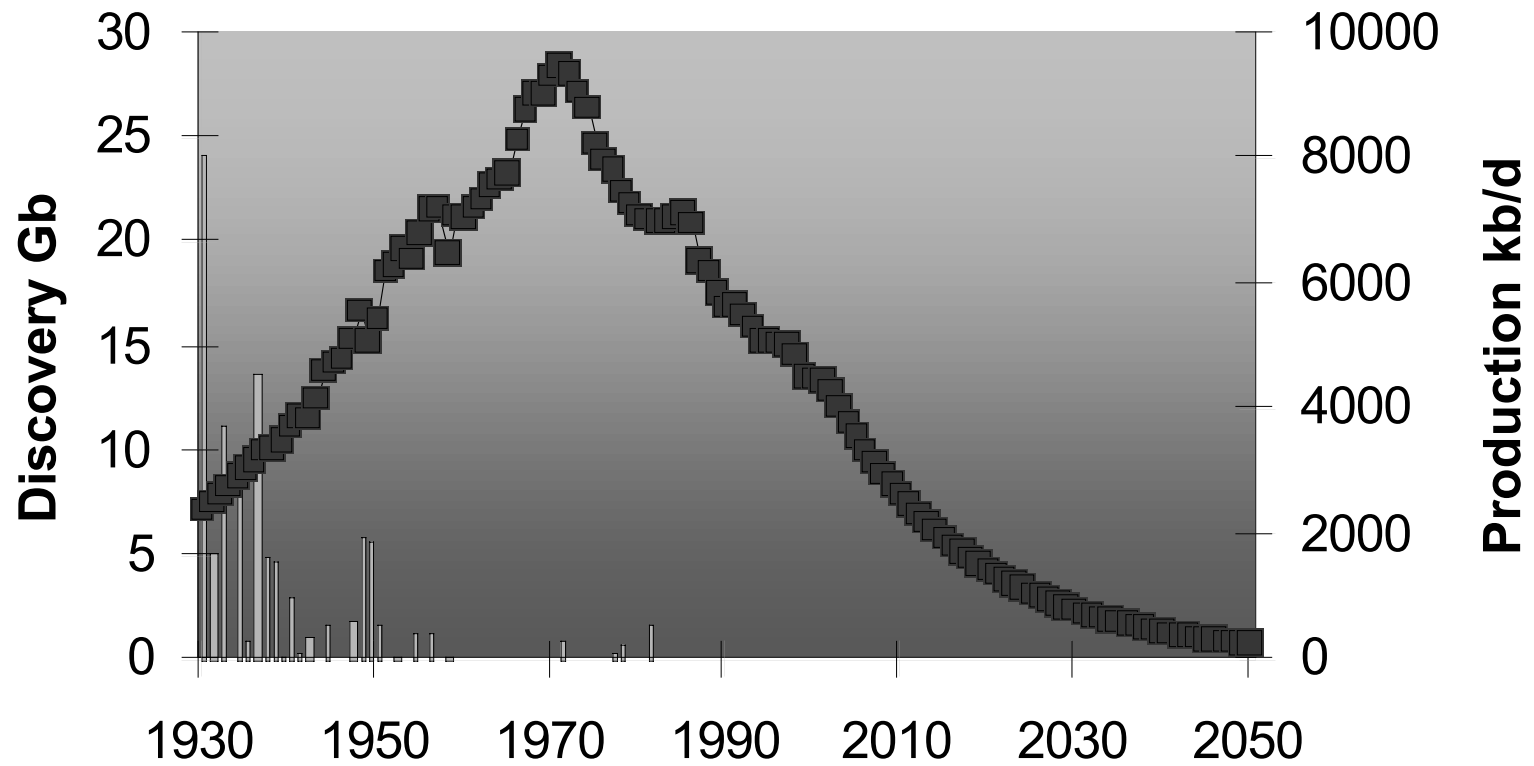


# *Where is it?*

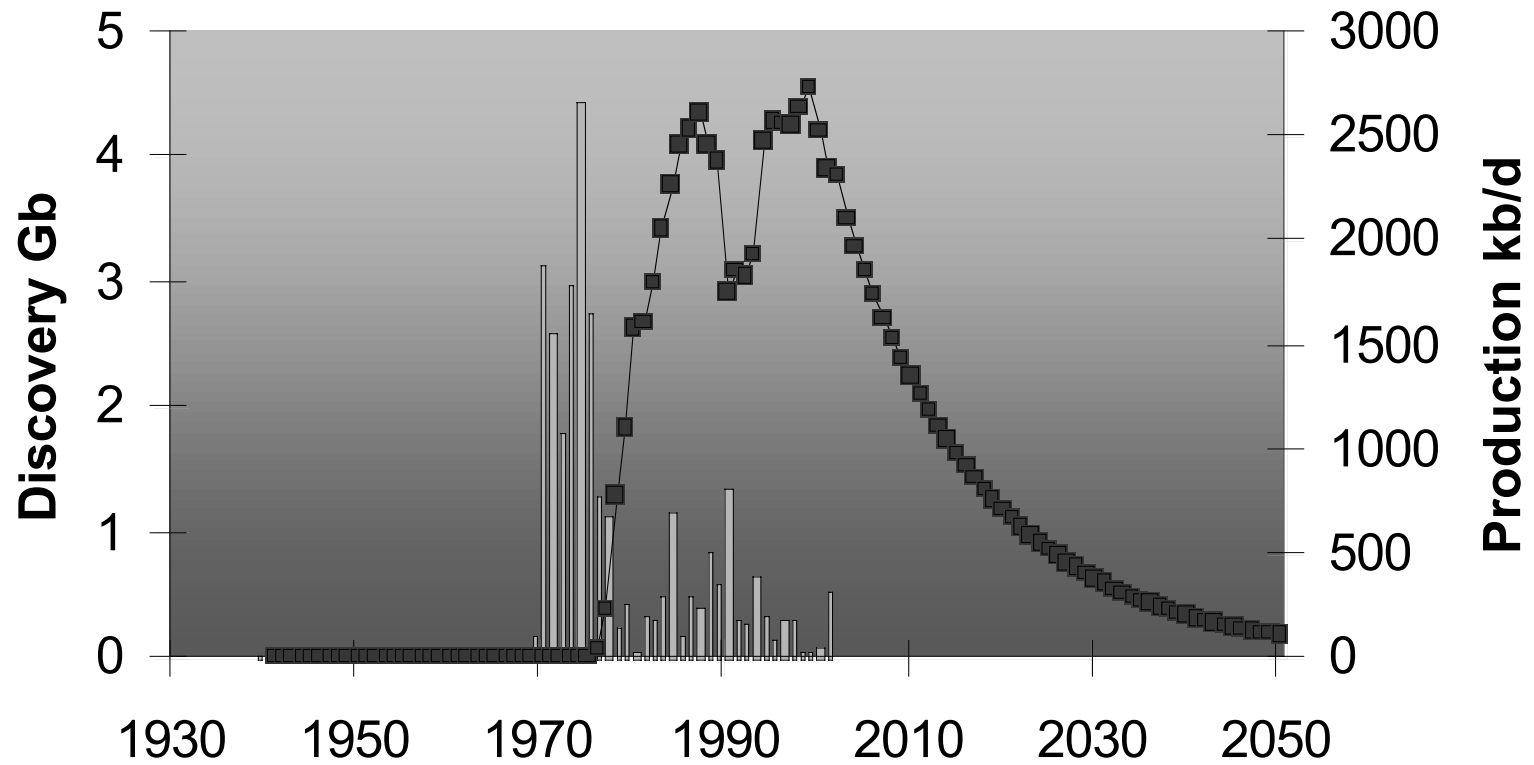
## *Regular Oil*



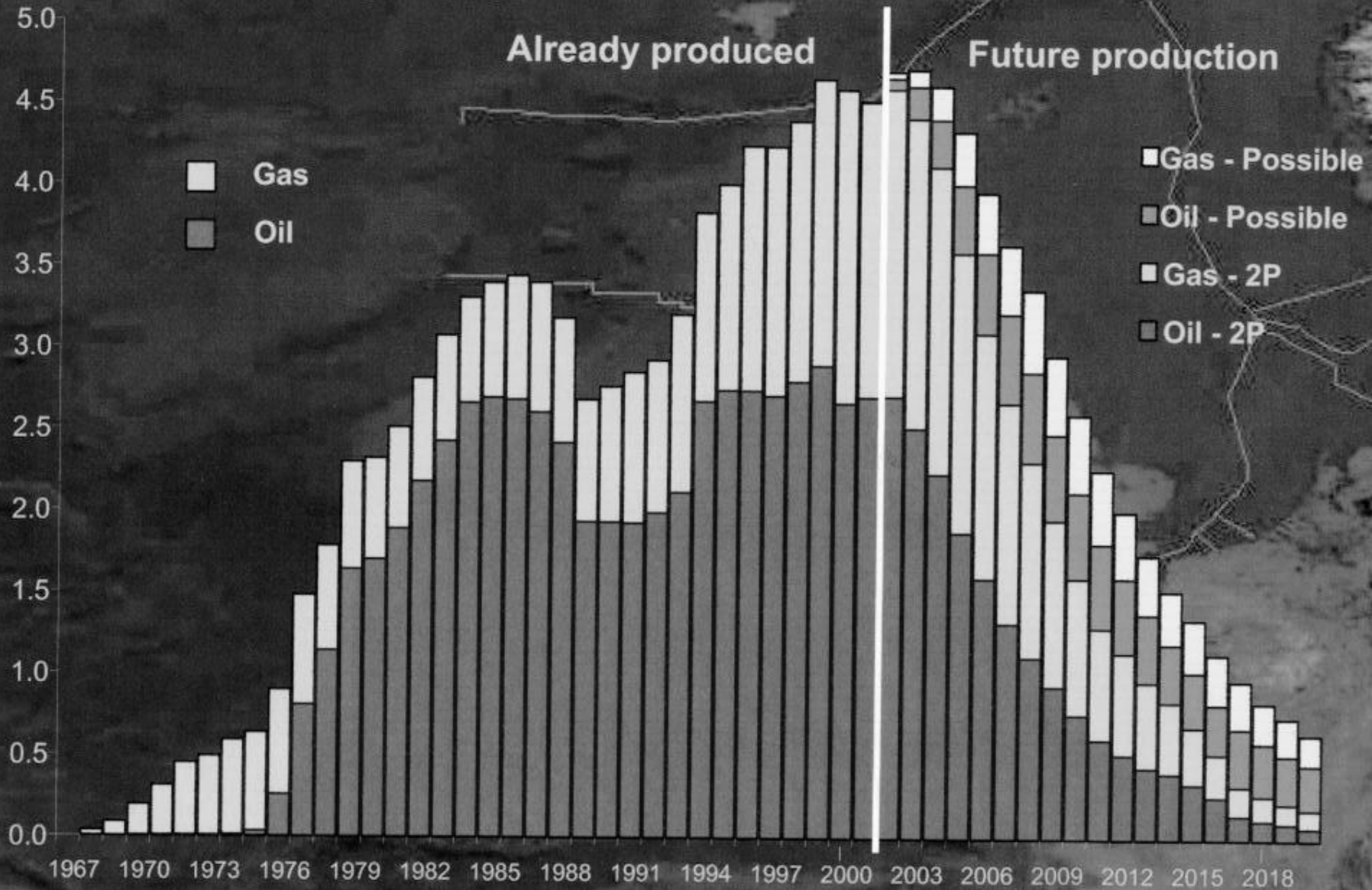
# *US-48*



# *United Kingdom*



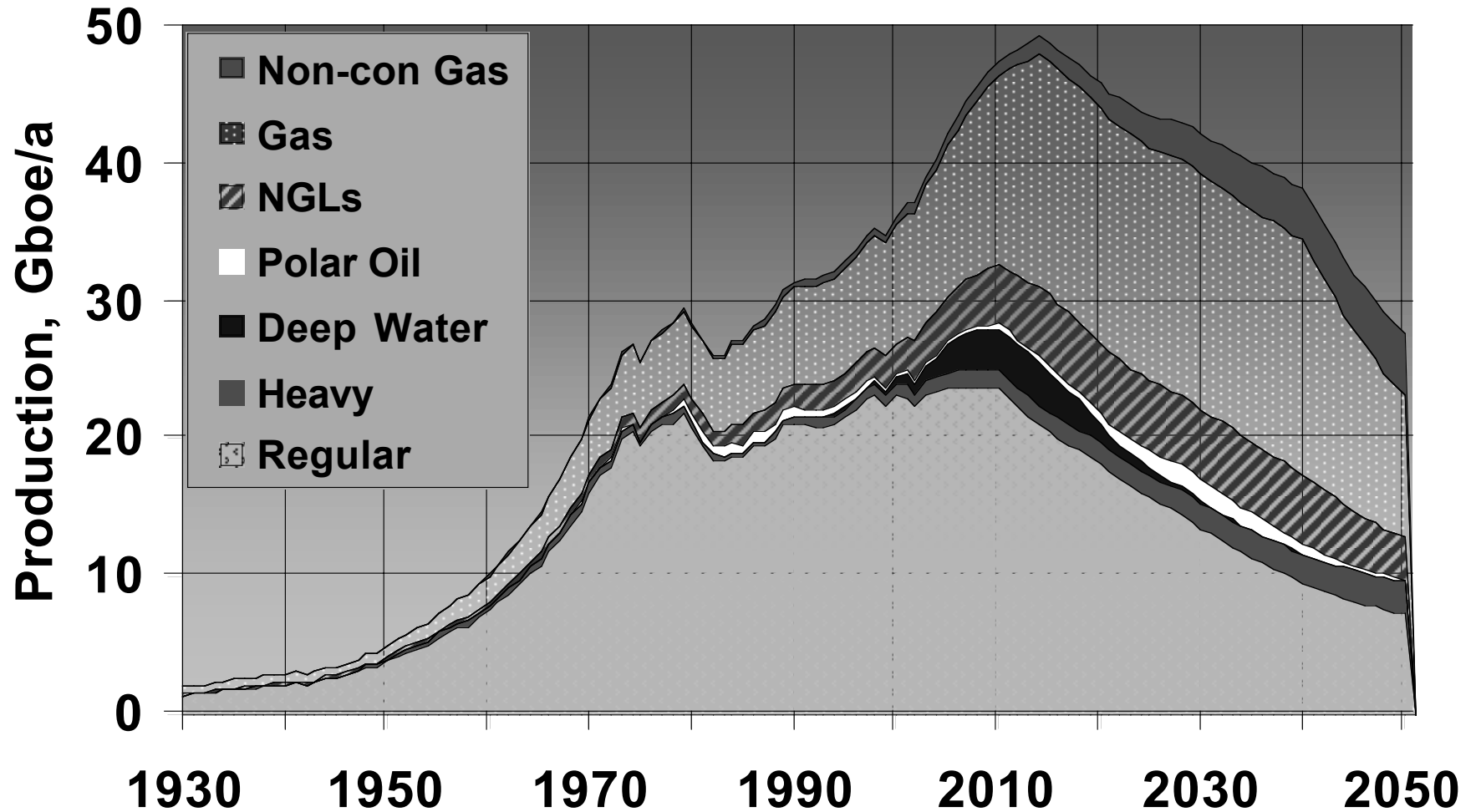
# Production from already discovered fields





# *All Oil & Gas*

All boundaries fuzzy

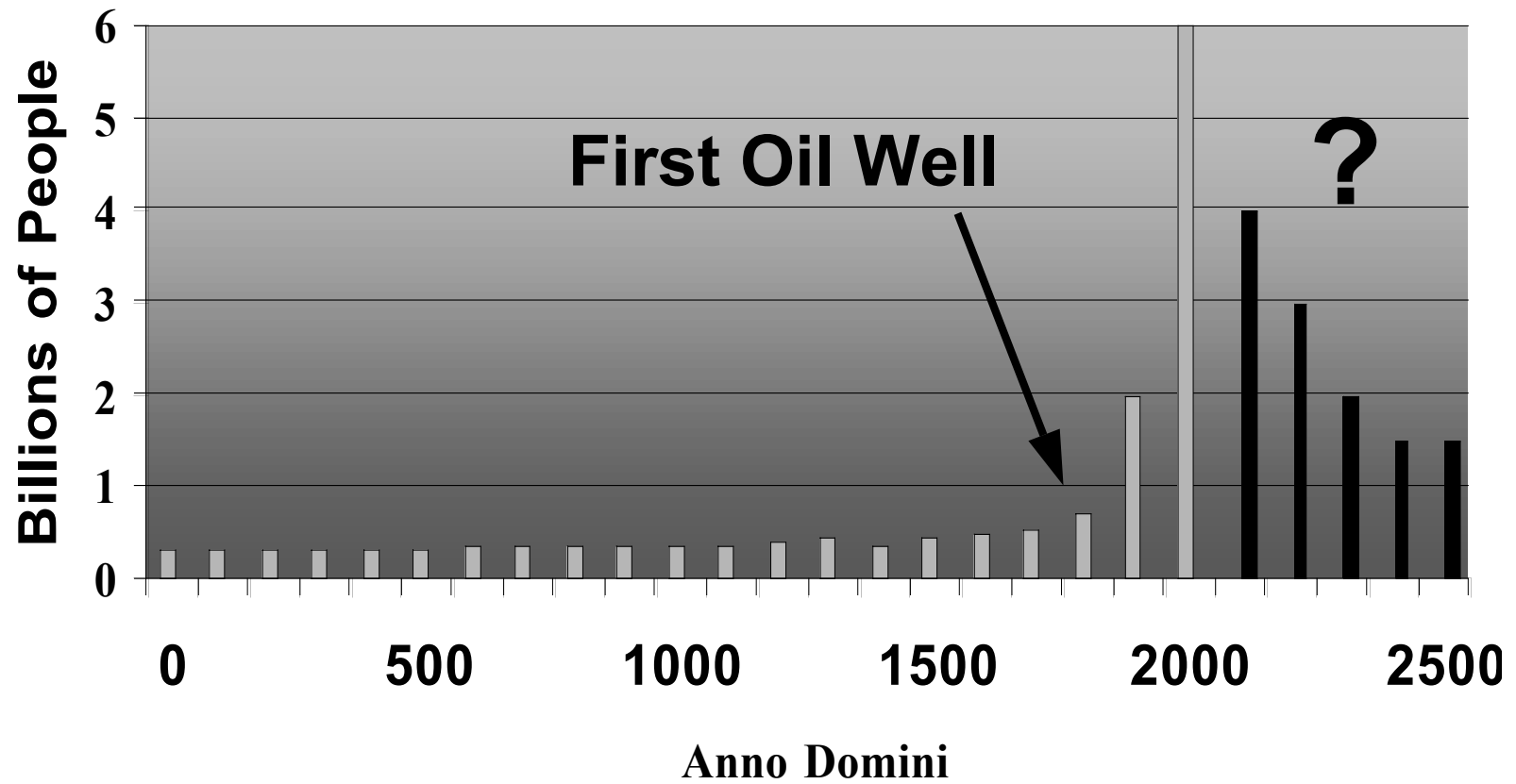


## *Peak as we speak ?*

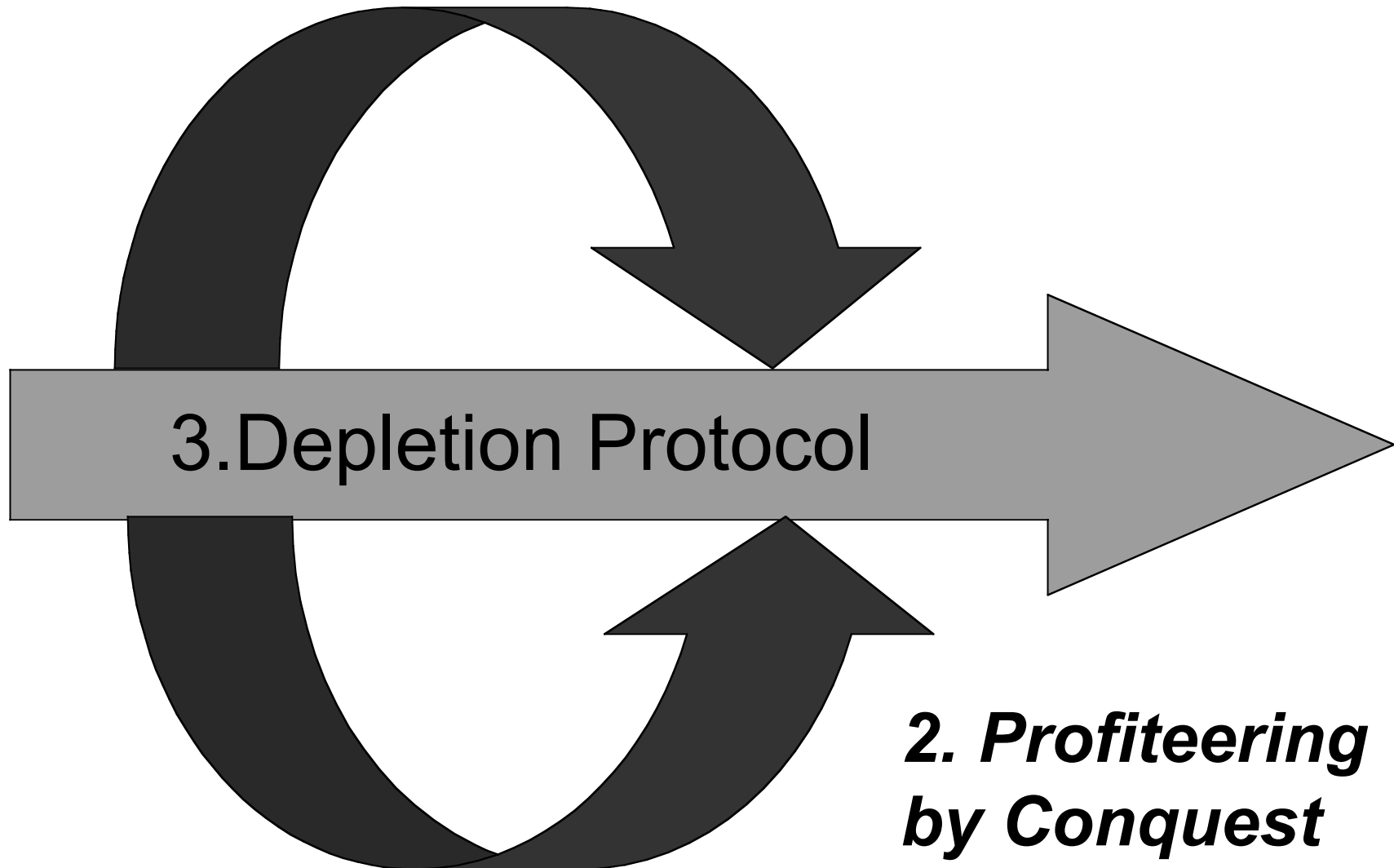
We can't see the summit clearly because of the clouds, but in the last few weeks

- Shell cuts its reserves by 20%
- Exxon speaks of huge investment and challenge to deliver future demand
- Several companies report falling production

# *Population*



***1. Middle East profiteering***



**3. Depletion Protocol**

***2. Profiteering  
by Conquest***

# *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**