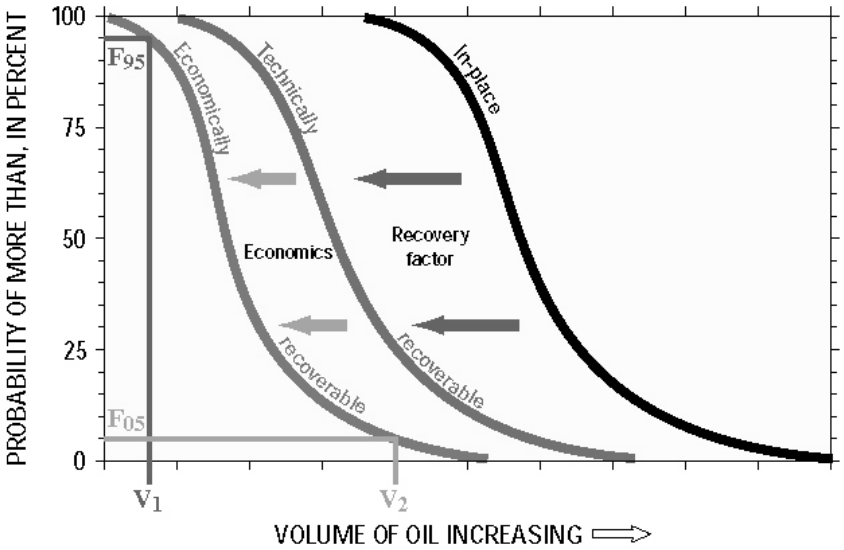
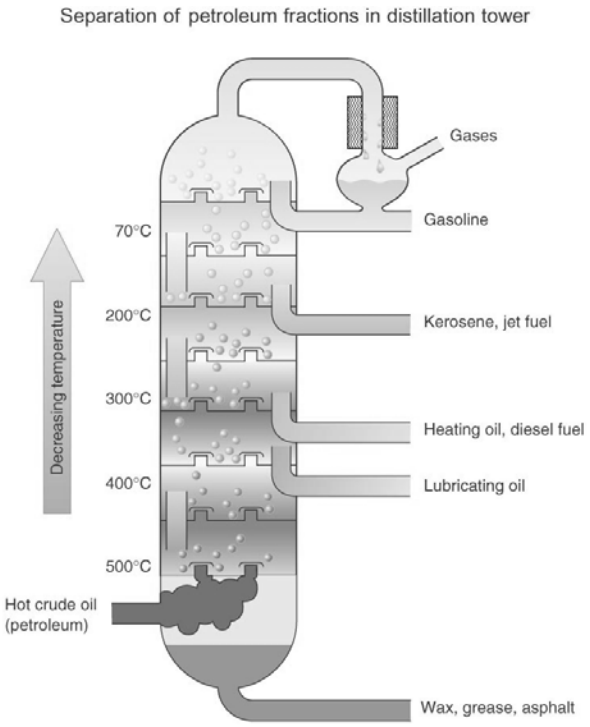
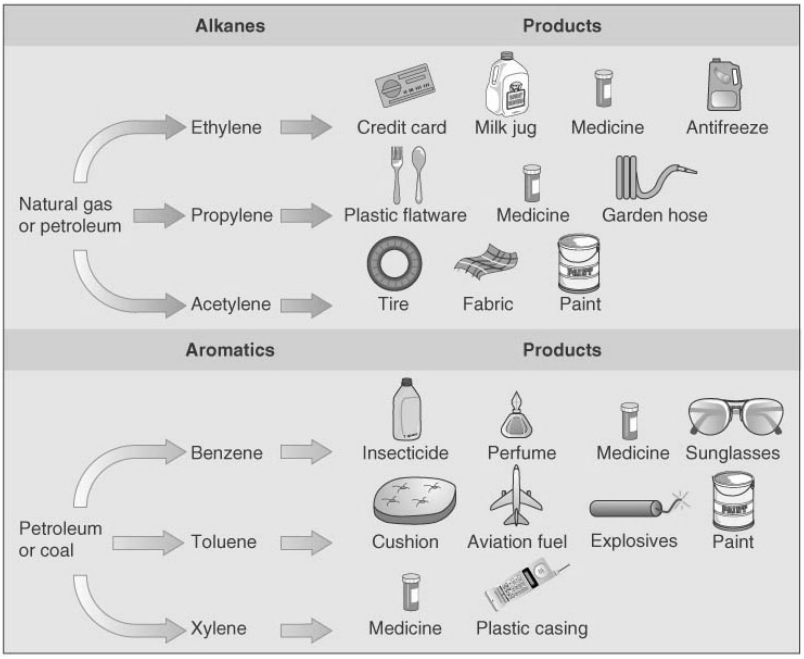


Figure 4. Schematic graph illustrating petroleum volumes and probabilities. Curves represent categories of oil in assessment. An example of how one reads this graph is illustrated by the blue and orange lines projected to the curve for economically recoverable oil. There is a 95-percent chance (i.e., probability, F_{95}) of at least volume V_1 of economically recoverable oil, and there is a 5-percent chance (F_{05}) of at least volume V_2 of economically recoverable oil.

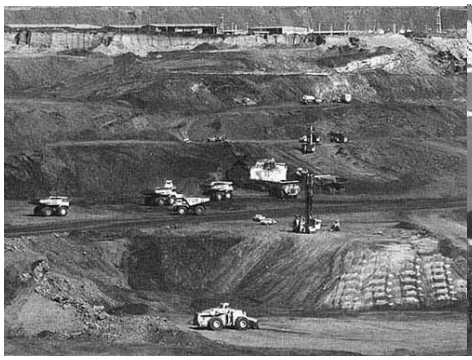
Fractional Distillation

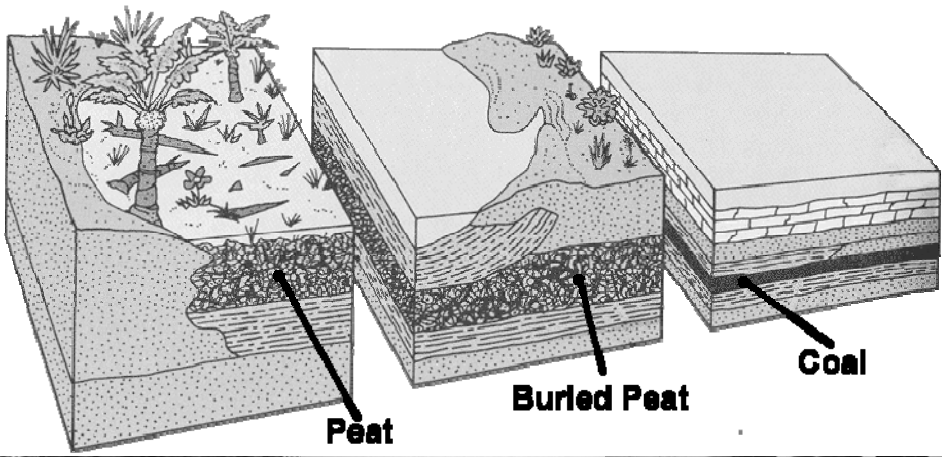


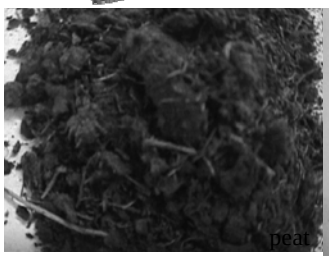
Non-Fuel Petrochemical Products

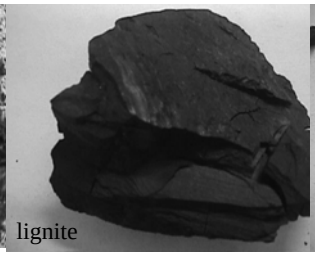


Coal






peat


lignite


anthracite

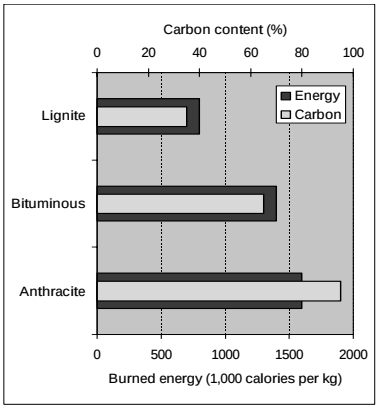
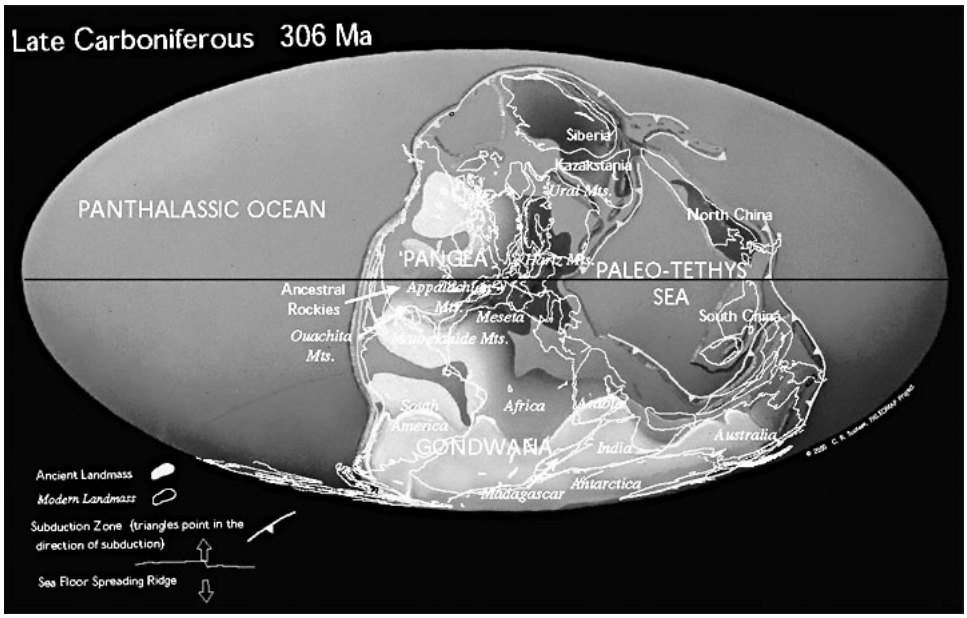


Table 12.7 Characteristics of Different Types of Coal

Type of Coal	Carbon (%)	Water (%)	Fuel Value
Peat	5	90	Very low
Lignite	30	40	Low
Subbituminous coal	40	9	Medium
Bituminous coal	65	3	High
Anthracite	90	3	High

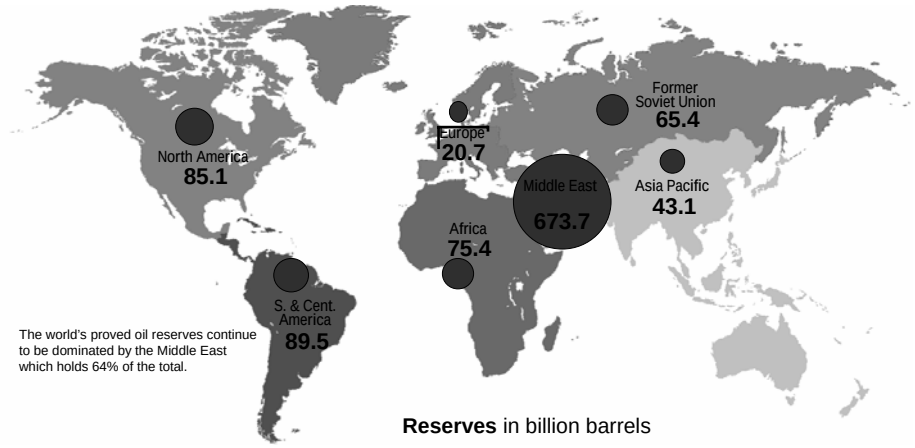


Oil Shales

Kimmeridge Clay

Tar Sands

Athabasca, AB



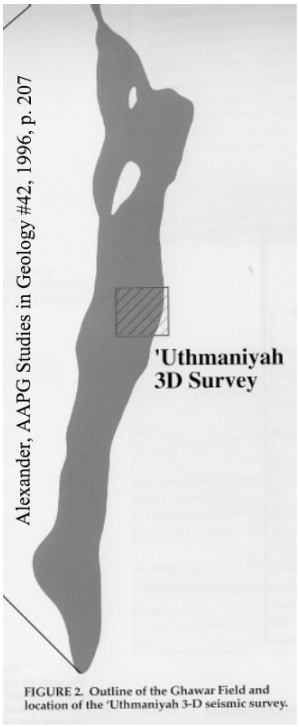
<u>1996 consumption:</u>

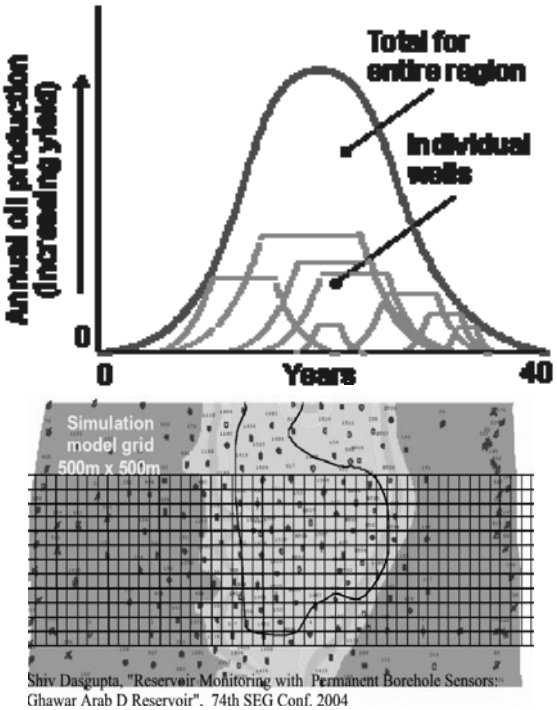
oil 65 mbd, gas 82 tcf

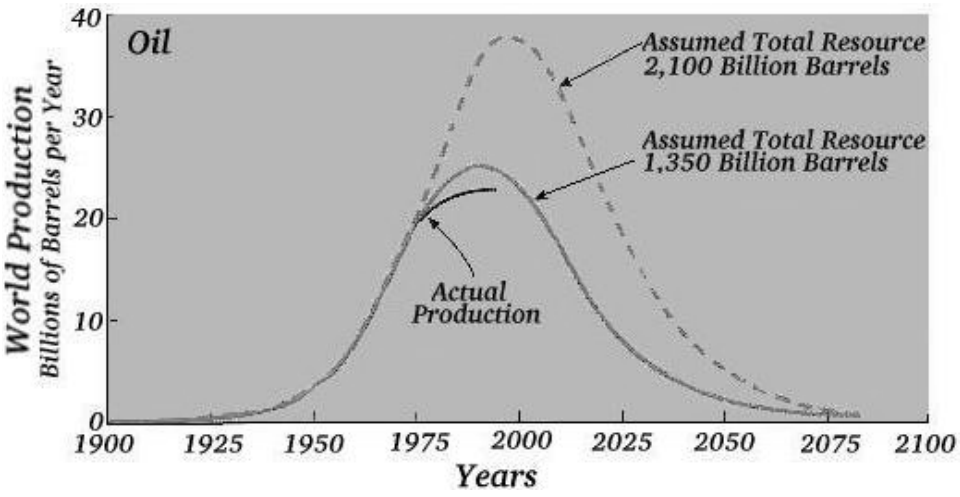
- 70% nat gas in ME, Sov. rep

<u>Proven reserves:</u>

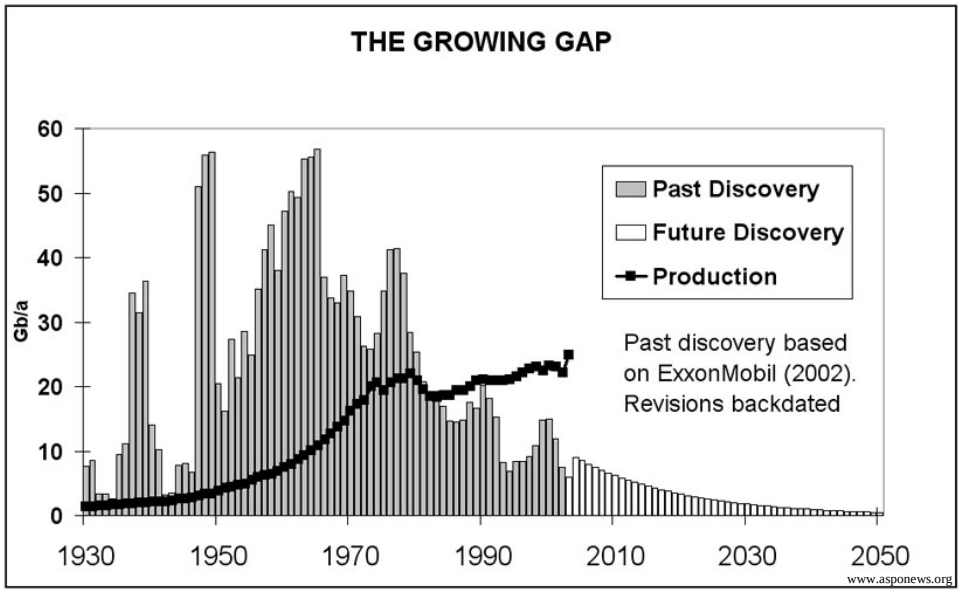
1 tril b (43 yrs), 5 quadrill cf (61 yrs)



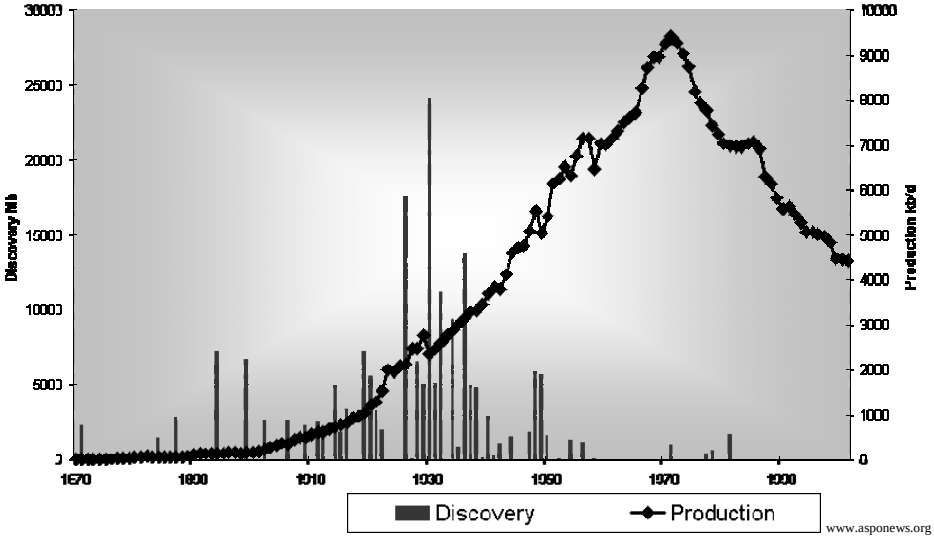



Oil
Assumed Total Resource
2,100 Billion Barrels
Assumed Total Resource
1,350 Billion Barrels
Actual
Production
World Production
Billions of Barrels per Year
Years
0
10
20
30
40
1900
1925
1950
1975
2000
2025
2050
2075
2100

ASPO

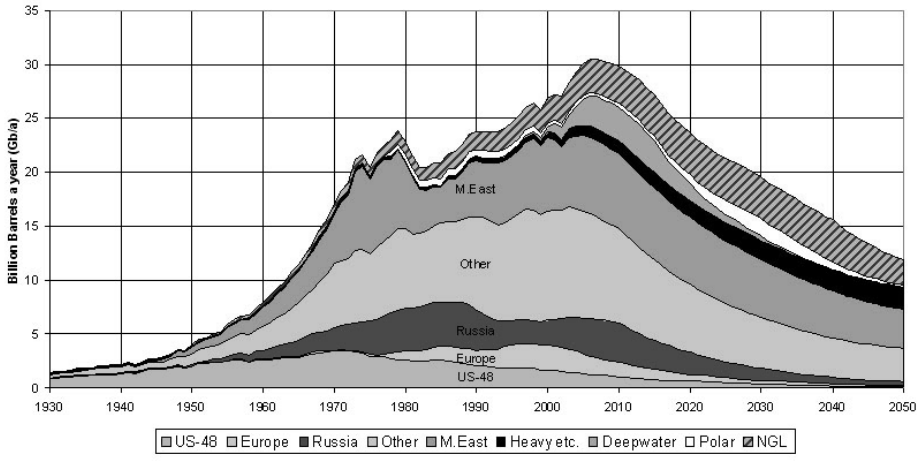

THE GROWING GAP
Past Discovery
Future Discovery
Production
Past discovery based
on ExxonMobil (2002).
Revisions backdated
Gb/a
0
10
20
30
40
50
60
1930
1950
1970
1990
2010
2030
2050
www.asponews.org

US-48



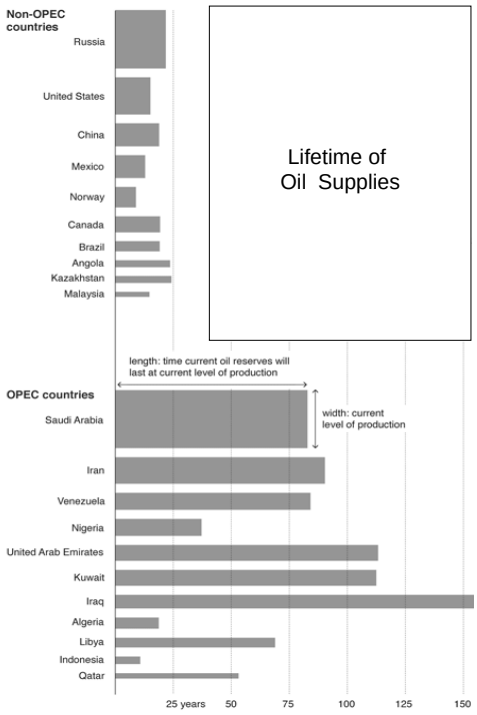
www.asponews.org

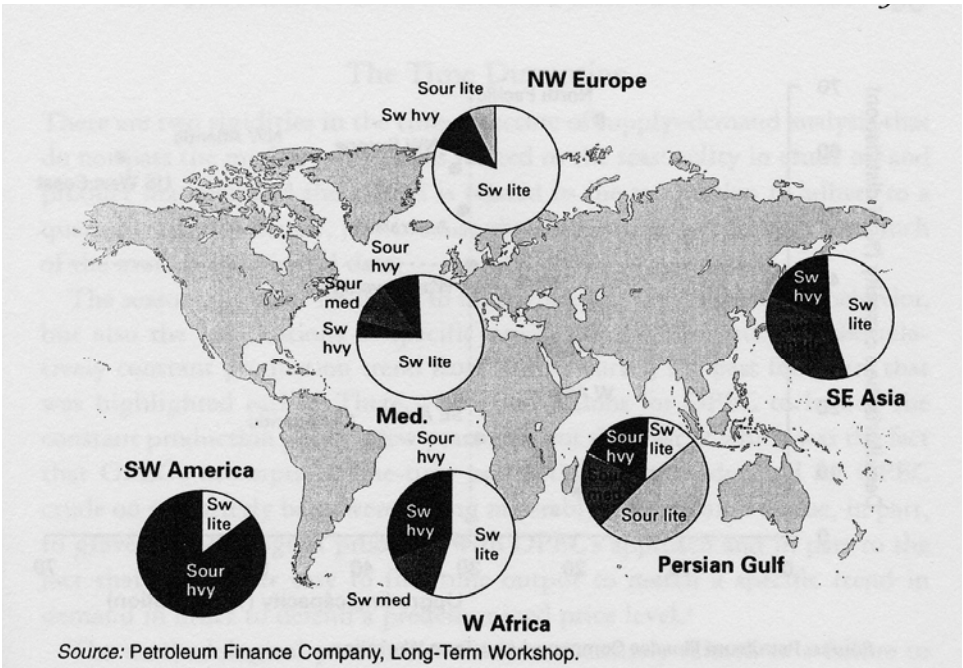
OIL AND GAS LIQUIDS
2004 Scenario



Natural gas liquids(NGLs): liquid hydrocarbons recovered from natural gases in gas processing plants, and from field processing facilities. Includes ethane, propane, butanes, pentanes and heavier components. They exist as gases in the reservoir.

ASPO





Source: Petroleum Finance Company, Long-Term Workshop.

Fig. 2.3 Quality of crude export streams, 1994