

Peak Oil  
AND  
When will we run out?

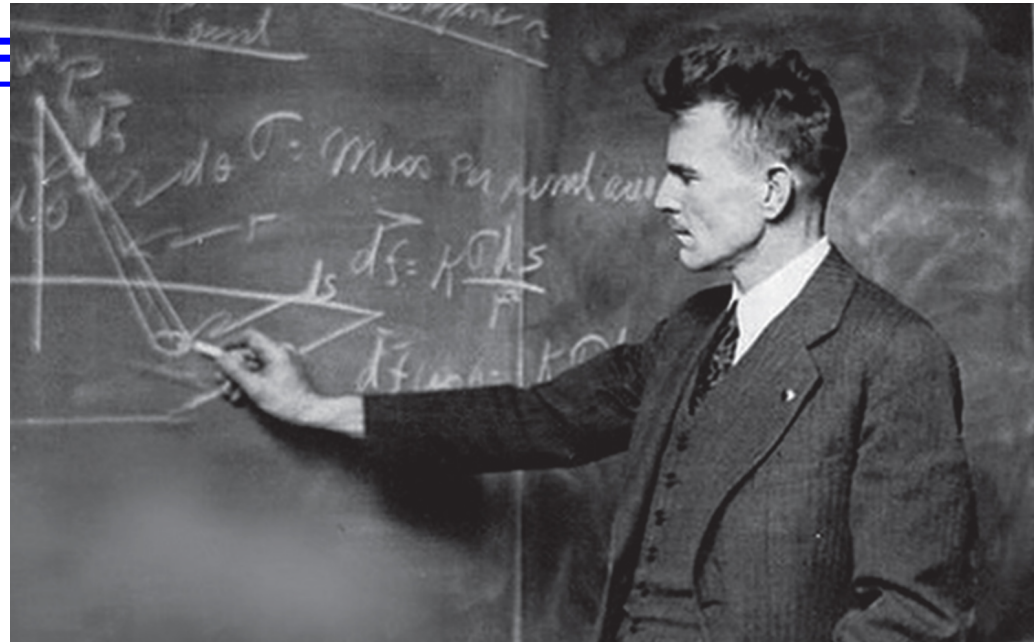
Caroline Williams

# What is peak oil?

- “the point in time when the maximum rate of extraction of petroleum is reached, after which it is expected to enter terminal decline”
- Uses a symmetric logistical distribution curve (Hubbert curve)
- Modeled by looking at past oil discoveries and oil production levels

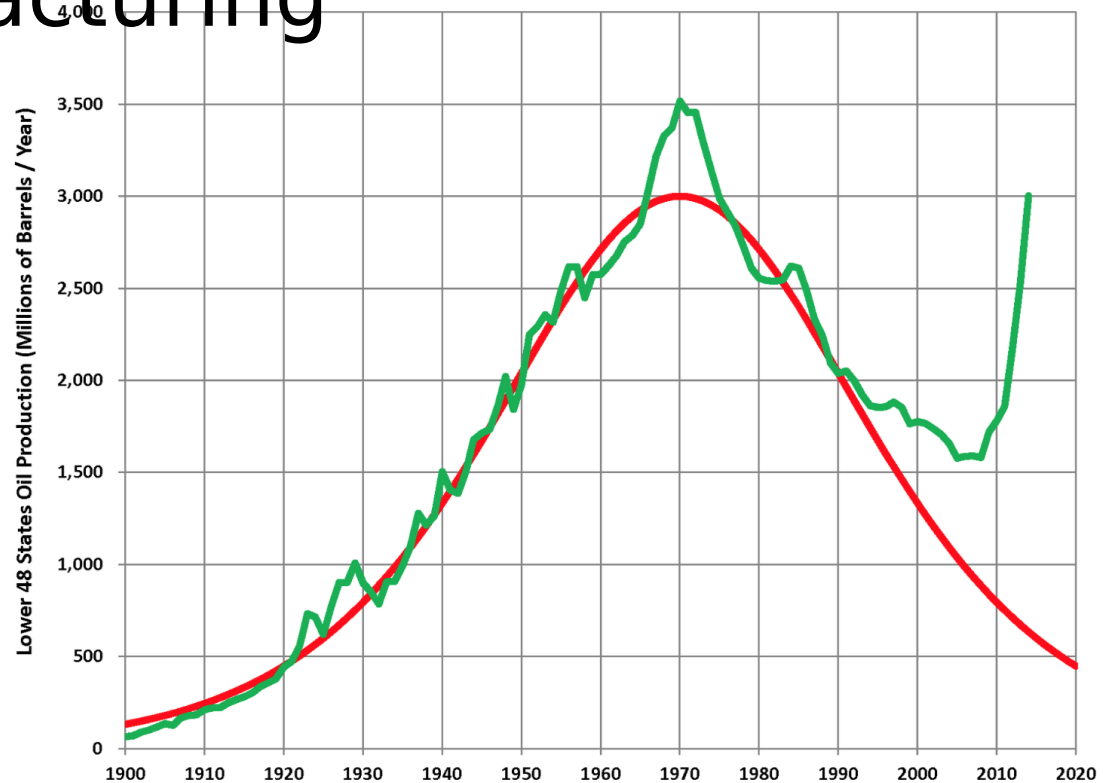
# History

- Presented by M. King Hubbert in 1956
- Hubbert was a researcher for Shell
- <https://www.youtube.com/watch?v=ImV1voi41YY&t=>



# Hubbert's first claim

- Peak in 1970 at 9.6 million barrels/day
- Hydraulic fracturing



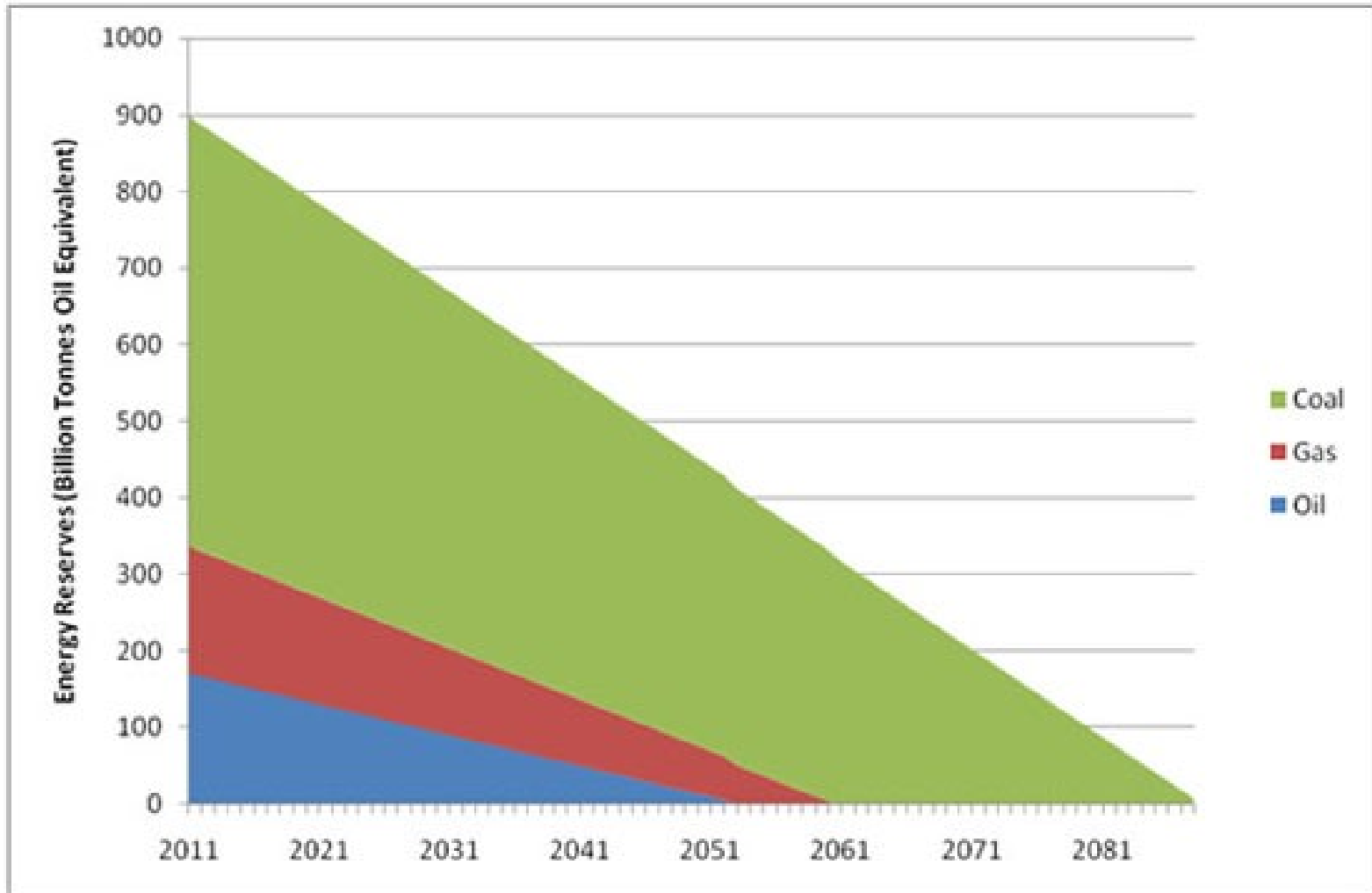
# Does it work?

- The Hubbert curve does not take into consideration:
  - Resource growth
  - New technology
  - Commercial factors
  - Geopolitics' effect on production
- 55 post-peak countries only saw a overall consumption of 25% (Hubbert curve predicted 80%)
- Plateau theory

Natural gas, oil, coal... Oh  
My!

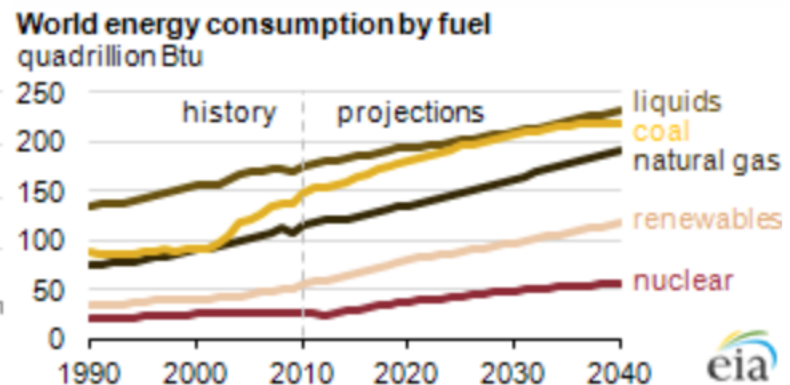
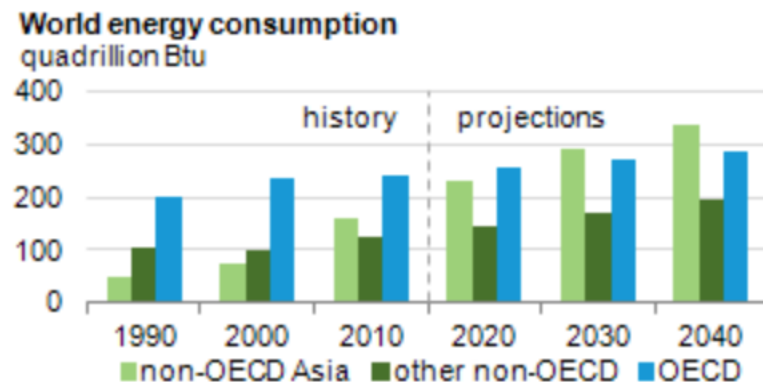
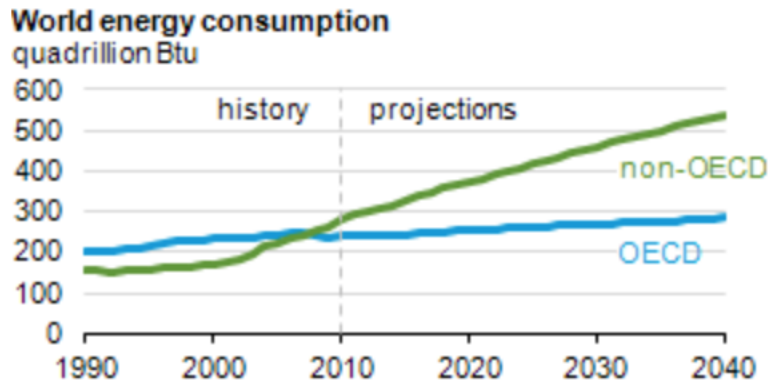
When are they going to run  
out?

# When will we run out?



# People will still keep using energy

EIA projects world energy consumption will increase 56% by 2040



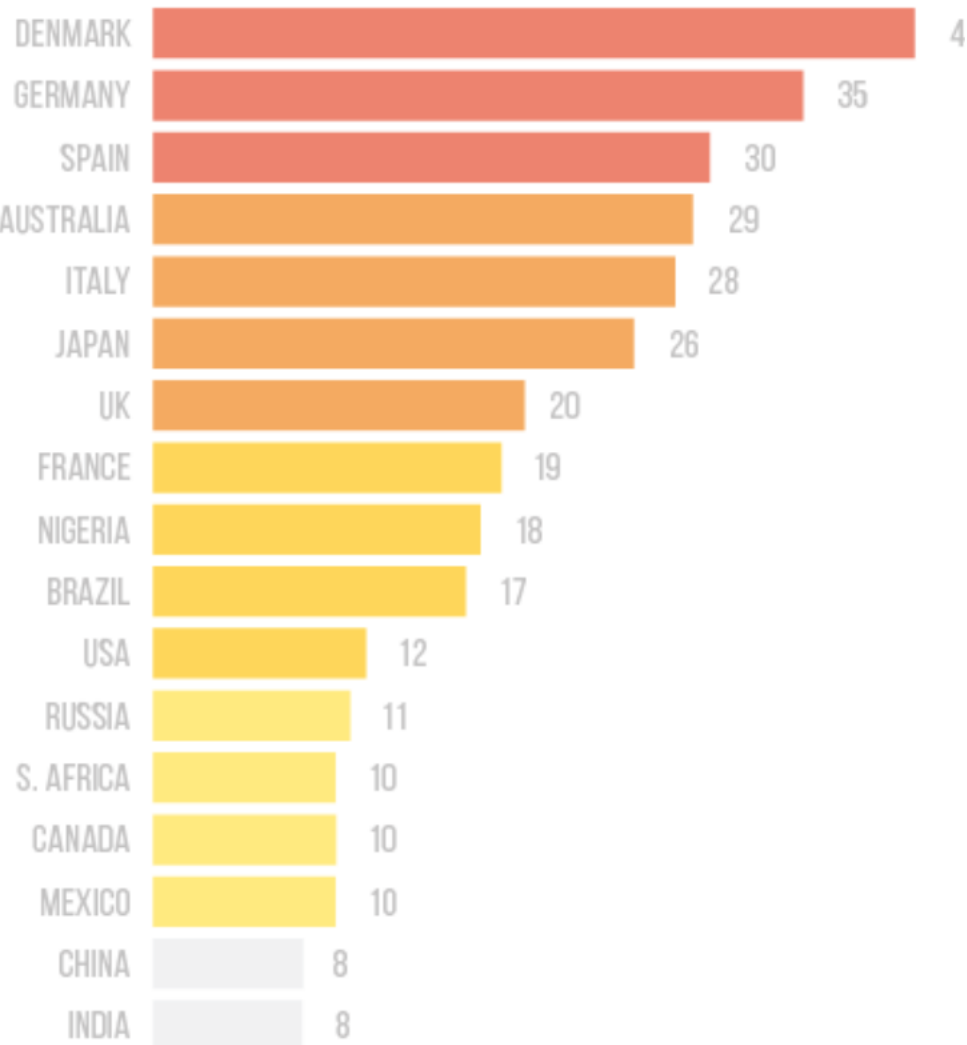
Source: U.S. Energy Information Administration, [International Energy Outlook 2013](#).





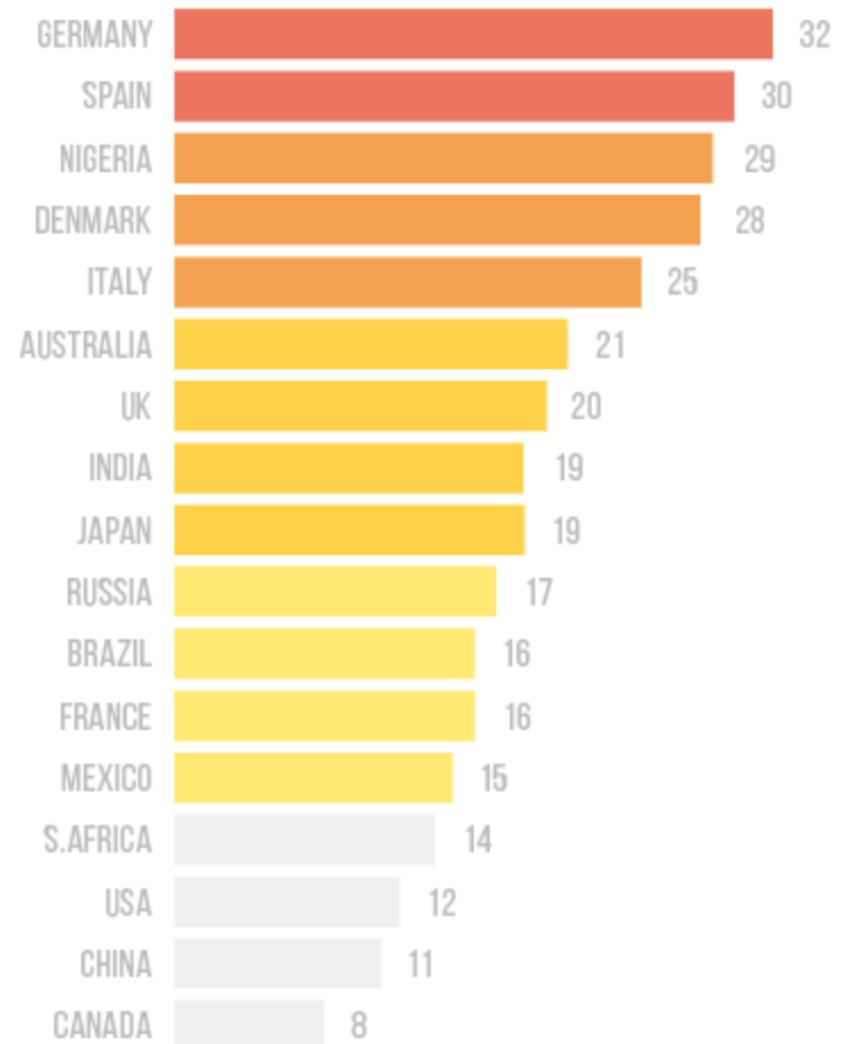
## How much does electricity cost?

Average national electricity prices in US cents/kWh (2011)



## Electricity prices relative to purchasing power

Average electricity prices in US cents/kWh (2011 ppps)



# Is this true?

- 16 of the world's largest oil fields are at maximum production
- Coal production has increased over the past 10 years
- Natural gas production is expected to peak in 2035