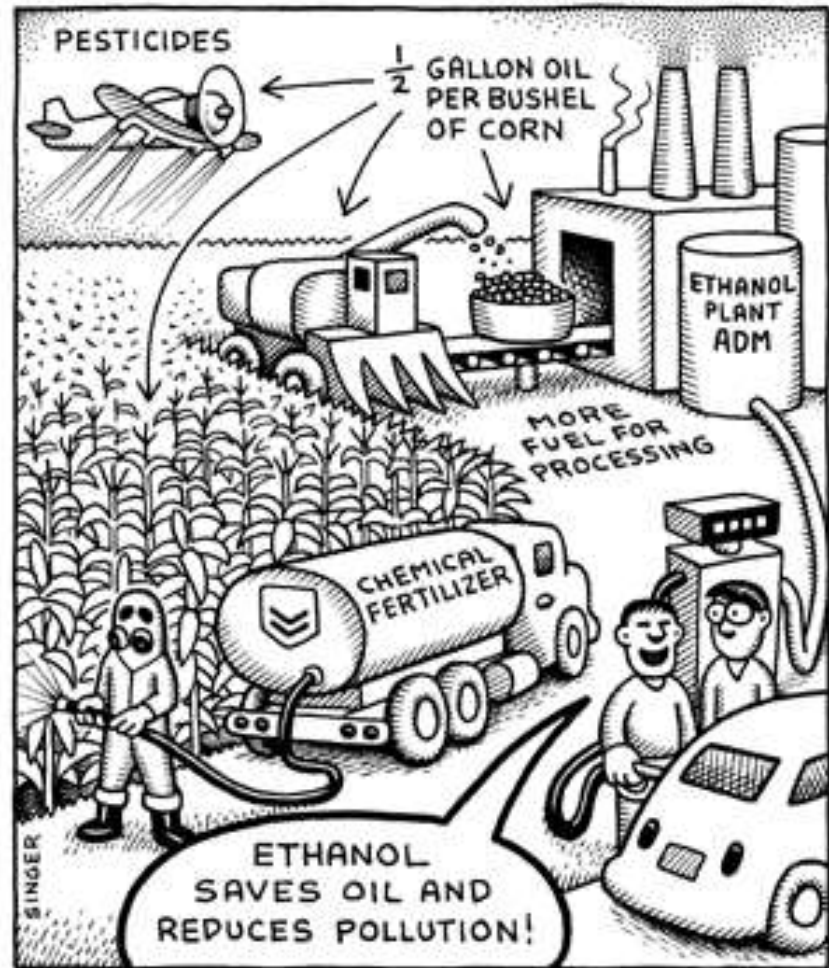


~~IRON~~ OIL CURTAIN?



NO EXIT

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Energy Security

ESS 2018

Learning objectives

Level 4	Level 5	Level 6
Describe the meaning of energy security	Describe the factors that influence energy choices with examples	Explain energy security issues in different contexts

What is energy security?

Write definition in notebook

What does it mean?

Affordable

Reliable

Sufficient

What is the issue with energy?

Everything we do needs to use energy

Key Concerns

Production of waste/pollution

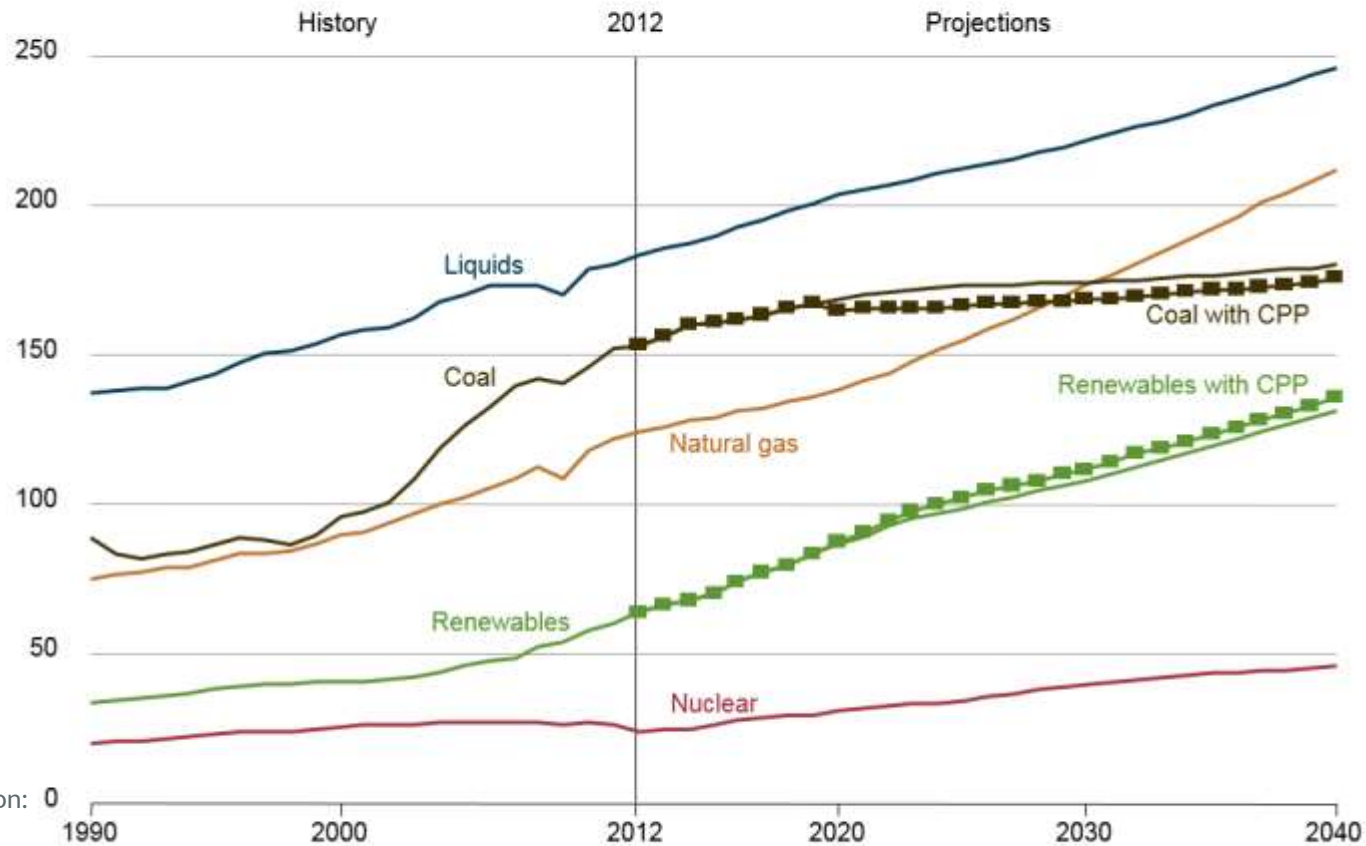
Production of greenhouse gases (GHGs)

Equality of distribution

Usually **availability/amount** vs **yield**

What is happening with our demand?

Figure 1-5. World energy consumption by energy source, 1990-2040
quadrillion Btu



Source: US Energy Information Administration: [International Energy Outlook 2016-World energy demand](#)

Is the use of energy balanced around the world?

Which 7 factors influence 'energy choice' decisions?

1. Availability of the supply
2. Technology developments
3. Politics
4. Economics
5. Cultural attitudes
6. Sustainability
7. Environmental considerations

Which 7 factors influence 'energy choice' decisions?

As human populations increase so too do...

- Resource demand and consumption
- Economic growth
- esp. Energy for heating/cooling, manufacturing and transport

More and more private vehicles

- Petrol and diesel engines release toxic pollutants
- Diesel esp. large amounts of nitrogen oxides
- Tesla electric engines...

Which 7 factors influence 'energy choice' decisions?

Tesla company

- Automaker, energy storage, solar panels → 2003
- Electric vehicles more expensive e.g. £22,000 for a new electric vs £3,000 for second-hand petrol
- Tesla's market value has overtaken Ford's - \$49bn vs \$46bn
- Hope that economics will drive cleaner energy i.e. value

(<http://www.bbc.co.uk/news/business-39485200>)

Which 7 factors influence 'energy choice' decisions?

1. Availability of the supply e.g. ease of extraction, amount
2. Technology developments e.g. to store, utilise, process waste
3. Politics e.g. agreements, partnerships, cooperation, conflicts
4. Economics e.g. manufacturing vs services, prices/costs
5. Cultural attitudes e.g. lifestyles, beliefs, habits, education
6. Sustainability e.g. stocks, usage rates, efficiency
7. Environmental considerations e.g. habitat loss, toxicity, waste