Energy Security

- ENERGY SECURITY means the extent to which reliable, affordable and stable sources of energy can be achieved
- Countries with surplus energy are said to be ENERGY SECURE, whereas those with an energy deficit are ENERGY INSECURE
- Energy security is seen as vital to the functioning of a country and the wellbeing of its people and economy
- There are a number of risks:
  1. Physical – e.g. exhaustion of reserves or disruption of supply lines by natural hazards such as earthquakes
  2. Environmental – e.g. protests about environmental damage caused by exploitation of energy resources
  3. Economic – e.g. sudden rises in cost of energy, or exhaustion of domestic supplies forcing increased imports of higher-priced energy
  4. Geopolitical – e.g. political instability in energy producing regions, disputes or conflicts over sovereignty (ownership) of energy resources or disputes over energy transmission by pipelines or cables across countries

Measuring energy security by the Energy Security Index (ESI)

It assesses to what extent the country may look forward to a reliable and affordable supply of energy. Calculation of the degree of risk is based on Availability and longevity of domestic oil and gas supplies and imports. Diversity in the range of energy sources and Intensity of how the economy is dependent on oil and gas.

- ESI values range from 0 to 10 and the higher the index, the lower the risk
  1. Extreme risk – less than 2.5: West Africa, South America and South Korea
  2. High risk – values between 2.5 to 5.0, such countries are scattered across the globe and include a number of developed countries e.g. Japan
  3. Medium risk – values between 5.0 to 7.5, a widespread category of Europe, south and southeast Asia and Australasia
  4. Low risk – ESI values greater than 7.5, countries such as Canada, Russia, Norway and more stable middle eastern countries

Characteristics of risk

- Heavy importers of oil and gas show high levels of risk
- Countries with substantial reserves show low levels of risk
- MICs show medium levels of risk, because they use a diversity of energy sources
- The level of risk of BRICs and NICs is similar to that of advanced economies
- Low risk of African countries: low consumption or the existence of untapped resources
- The USA has a higher risk even though they have oil and gas resources: huge consumption and imports and the fact it uses a diverse range of energy sources
- Other factors are energy demand, infrastructure and energy markets causing tension