




Resource Challenges

Resources are things that humans require for life or to make our lives easier. Humans are becoming increasingly dependent on exploiting these resources, and as a result they are in high demand.

Significance of Water

Resources such as food, energy and water are what is needed for basic human development.

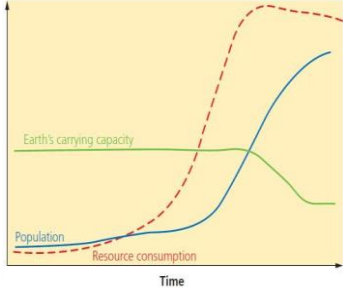
FOOD 	WATER 	ENERGY 
Without enough nutritious food, people can become malnourished . This can make them ill. This can prevent people working or receiving education.	People need a supply of clean and safe water for drinking, cooking and washing. Water is also needed for food, clothes and other products.	A good supply of energy is needed for a basic standard of living. People need light and heat for cooking or to stay warm. It is also needed for industry.

Demand outstripping supply

The demand for resources like food, water and energy is rising so quickly that supply cannot always keep up. Importantly, access to these resources vary dramatically in different locations

1. Population Growth

- Currently the global population is **7.3 billion**.
- Global population has risen **exponentially** this century.
- Global population is expected to reach **9 billion by 2050**.
- With more people, the **demand** for food, water, energy, jobs and space **will increase**.



3. Changing Technology and Employment

- The demand for resources has driven **the need for new technology** to reach or gain more resources.
- More people in the **secondary and tertiary industry** has increased the **demand for resources** required for electronics and robotics.

2. Economic Development

- As **LICs** and **NEEs** develop further, they require **more energy** for industry.
- LICs** and **NEEs** want similar lifestyles to **HICs**, therefore they will need to **consume more resources**.
- Development means **more water is required** for food production as diets improve.

Resource Reliance Graph

Consumption – The act of using up resources or purchasing goods and produce.
Carry Capacity – A maximum number of species that can be supported.

Resource consumption exceeds Earth's ability to provide!

Food in the UK

Growing Demand

- The UK imports about 40% of its food. This increases people's **carbon footprint**.
- There is growing demand for greater choice of **exotic foods** needed all year round.
- Foods from abroad are more affordable.
- Many food types are unsuitable to be grown in the UK.

Impact of Demand

Foods can travel long distances (food miles). Importing food adds to our carbon footprint.
 + Supports workers with an income
 + Supports families in LICs.
 + Taxes from farmers' incomes contribute to local services.
 - Less land for locals to grow their own food.
 - Farmers exposed to chemicals.

Agribusiness

Farming is being treated like a large industrial business. This is increasing food production.
 + Intensive farming maximises the amount of food produced.
 + Using machinery which increases the farms efficiency.
 - Only employs a small number of workers.
 - Chemicals used on farms damages the habitats and wildlife.

Sustainable Foods

Organic foods that have little impact on the environment and are healthier have been rising. Local food sourcing is also rising in popularity.

- Reduces emissions by only eating food from the UK.
- Buying locally sourced food supports local shops and farms.
- A third of people **grow their own food**.

Water in the UK

Growing Demand

The average water used per household has risen by 70%. This growing demand is predicted to increase by 5% by 2020. This is due to:

- A growing UK population.
- Water-intensive appliances.
- Showers and baths taken.
- Industrial and leisure use.
- Watering greenhouses.

Deficit and Surplus

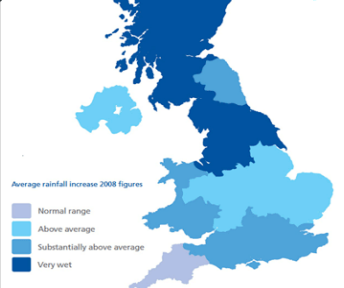
The north and west have a **water surplus** (more water than is required).
 The south and east have a **water deficit** (more water needed than is actually available).
 More than half of England is experiencing **water stress** (where demand exceeds supply).

Pollution and Quality

Cause and effects include:

- Chemical run-off from farmland can destroy habitats and kills animals.
- Oil from boats and ships poisons wildlife.
- Untreated waste from industries creates unsafe drinking water.
- Sewage containing bacteria spreads infectious diseases.

Water stress in the UK



Unit 2c

The Challenge of Resource Management

Energy in the UK

Growing Demand

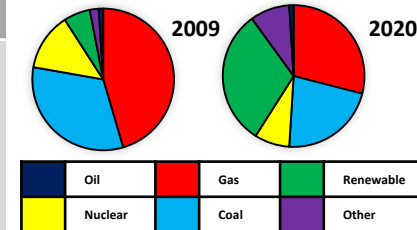
The UK **consumes less energy** than compared to the 1970s despite a smaller population. This is due to the **decline of industry**.

Changes in Energy Mix

- 75% of the UK's oil and gas has been used up.
- Coal consumption has declined.
- UK has become too dependent on imported energy.

Energy Mix

The majority of UK's energy mix comes from **fossil fuels**. By 2020, the UK aims for 15% of its energy to come from **renewable sources**. These renewable sources do not contribute to **climate change**.



Management

UK has **strict laws** that limits the amount of discharge from factories and farms.
Education campaigns to inform what can be disposed of safely.
Waste water treatment plants remove dangerous elements to then be used for safe drinking.
 Pollution traps catch and filter pollutants.

Water Transfer

Water transfer involves moving water through pipes from areas of surplus (Wales) to areas of deficit (London).
Opposition includes:

- Effects on **land and wildlife**.
- High maintenance **costs**.
- The **amount of energy** required to move water over long distances.

Energy in the UK (continued)

Significance of Renewables

+ The UK government is investing more into low carbon alternatives.
+ UK government aims to meet targets for reducing emissions.
+ Renewable sources include wind, solar and tidal energy.
 - Although infinite, renewables are still expensive to install.
 - Shale gas deposits may be exploited in the near future

Exploitation

Nuclear
 New plants provide job opportunities.
 Problems with safety and possible harm to wildlife.
 Nuclear plants are expensive.

Wind Farm
 Locals have low energy bills.
 Reduces carbon footprint.
 Construction cost is high.
 Visual impacts on landscape.
 Noise from wind turbines.