

Later, Edward realised guilds could be useful to him. In the late 1200's, Edward was in a strong position, he and his council were united, whereas the aldermen constantly disagreed amongst themselves and didn't follow the wishes of ordinary Londoners. With this internal disputing, the King could bypass the mayor and his aldermen and appeal directly to the city's inhabitants. In 1285, Edward took control of London due to its increasingly destabilized government and increasing threat. Edward gave responsibility of city organisation to the guilds. During the 13 years of Edwards control of London, guilds increased in their power and broke traditional family rulings that had gold over the government.

London and the King's need for money

- In the second half of the 13th century, the monarchy played negatively on the wealth of traditional London ruling families.
- Since Henry III's reign, providing the royal household with supplies had become a great economy boost for London and areas around it.
- Many London merchants depended on the crown business as the household was a highly valued customer.
- Edward made trading arrangements that had serious effects on the city and its ruling families.
- An example is that 1/3 of Aldermen associated with wine trading had their business damaged when Edward began to favour traders from Gascony and Italy, an area of France controlled by England at the time. This harmed the wealth and importance of traditional London ruling families.
- The king's involvement in the wool trade also negatively impacted families involved. Edward was involved in this as the crown was struggling to find sources of revenue.
- Despite London's privileges, it was still part of the royal estate, giving the king a right to collect a tax called 'marage'. Between 1257 and 1268, Henry III collected this tax 14 times, greatly resented by the Londoners.
- A new source of revenue was needed, so the Crown began to tax all goods entering and leaving the English ports, beginning with wool. This was only applied occasionally at first, but from 1270, it became more regular with more custom duties being placed on wine and other goods.
- London handled 36% of English trade in the 1300's, the country's busiest port, clearly impacting greatly merchants with the custom duties.

Edward wanted to encourage and protect groups of foreign merchants as he didn't want to rely solely on London for revenue. He encouraged foreign merchants to trade and live in London, seen as a problem by native citizens, who enjoyed their political rights and freedoms for themselves, and resented the outsiders. In 1285, Edward allowed all foreign merchants of 'good character' to be able to trade, directly threatening powerful London families and guilds.

The foreigners were wanted to be gone by Londoners, but this wasn't likely to happen as the foreigners paid for their right to stay and trade. They gave Edward loans at a short notice and stopped Edward from being totally dependent on Londoners for finance. Merchants known as the Hanse from Northernly areas of Europe were very important for the economy as they brought with them fish, timber, furs, wax, wood and grain, while also exporting cloth. The Hanse were privileged as they didn't need to pay local taxes on goods brought to London for sale. Londoners hated that they didn't have similar privileges when they went to trade in Hanse towns.

Divergent Plate Boundaries:

- The plates are moving apart, creating ocean ridges
- Offsets in these ridges cause transform faults, deepest parts of an ocean
- The further these ridges split as the convection currents in the mantle cause; a rift valley is formed
- There is a high heat flow due to the upwelling of the mantle
- This high heat flow causes the peridotite mantle to partially melt due to decompression, producing basalt
- The seafloor spreading creates a new oceanic crust
- The large, flat surface between the rift valley is known as an abyssal plain
- Small and Infrequent earthquakes occur along divergent plate margins

Convergent Plate Boundaries:

- The plates are moving towards each other and one plate gets destroyed to compensate for the new oceanic lithosphere forming along spreading ridges
- The dense plate is forced beneath the less dense plate, a process called subduction
- These areas are called subduction zones
- These zones were discovered by the patterns of earthquake foci which occur at distinct angles going down the plate boundary
- These inclined zones of seismicity are called Benioff zones
- The location of most subduction zones can be pinpointed by the location of ocean trenches, deep depressions in the sea floor

Oceanic-Oceanic Convergent Plate Boundaries: (Island Arc/Trench Systems)

- O-O plate boundaries occur when an older and therefore denser oceanic plate is subducted beneath a younger and therefore less dense oceanic plate.
- The point at where the plate is subducted is marked at a deep ocean trench
- Deep ocean trench can be the site at where poorly sorted turbidites and shales are deposited
- During the subduction, friction is created, causing earthquakes, and so a Benioff zone is formed
- At a certain point, a depth will be reached where the temperature is high enough for the oceanic plate to partially melt, forming buoyant magma.
- This magma rises to the surface and result in volcanic eruptions
- Continuous eruptions create a chain of volcanic islands in an arc shape due to the curvature of the earth. These are called volcanic island arcs
- An excellent example would be in the Caribbean, the Islands of the lesser Antilles
- At a divergent plate boundary, the volcano is wide and shield shaped, wide base
- At a convergent plate boundary, the volcano is tall and steep, narrow base
- At a divergent plate boundary, the eruptive style is passive
- At a convergent plate boundary, the eruptive style is explosive.

Greenhouse gases

Carbon Dioxide and Methane are the main greenhouse gases on the earth. These gases can hold the heat of the sun. We can measure CO₂ levels directly from the atmosphere, and indirectly from Ice Cores.

As ice freezes, CO₂ is trapped, so we can drill out ice cores and look into the deeper, older ice and measure CO₂ levels at those times.

There is usually a clear pattern, that as CO₂ levels rise, so does the global temperature, but some say that as temperature increase, more evaporation is seen from water bodies and so more CO₂ is released. But if looking at the methane levels, though relatively much smaller amounts, changes in methane levels also show the same trend with temperature that CO₂ does, so it can be concluded that greenhouse gases influence the global temperature, not vice versa.

Albedo Effect

White surfaces of snow and ice at the poles and on high mountains reflect a lot of sunlight, cooling the earth. But if there is less snow and ice, less of the sun will be reflected and so the earth will warm- with this warmth, CO₂ levels will rise more too, increasing global temperature further.

Positive feedback controls the INCREASE of CO₂ levels in the atmosphere

Negative feedback controls the DECREASE of CO₂ levels in the atmosphere.

Positive Feedback Cycle:

CO₂ Levels Increase ---> Temperature Increases ---> Ice Cover (Albedo Effect) Decreases --->
Radiation reflected into space decreases ---> Radiation absorbed by the atmosphere increases --->
GLOBAL TEMPERATURE INCREASES

CO₂ Levels Decrease ---> Temperature Decreases ---> Ice Cover (Albedo Effect) Increases --->
Radiation reflected back into space increases ---> **GLOBAL TEMPERATURE DECREASES**

Negative Feedback Cycle:

CO₂ Levels Increase ---> Warmer Oceans ---> Tropic Size Increases ---> Biological Activity Increases
---> Organisms absorb CO₂ to form their CaCO₃ exoskeletons ---> **CO₂ LEVELS IN ATMOSPHERE DECREASE**

(Co₂ Storage is a negative feedback process) 1/3 of CO₂ released from fossil fuel burning is stored in the oceans. CO₂ Dissolves in Water. Marine Creatures use carbon to form their CaCO₃ exoskeletons. Rocks like limestone are formed and they store carbon.

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