

Cap and Trade Systems

Cap and trade systems are used around the world, with the biggest example being the EU ETS and California. The system allows large businesses to buy credits or allowances which allow them to emit one metric ton of carbon dioxide. They have to bid to buy these credits for the year, however if they emit more than their credits or allowances allow then they either have to trade with other countries which have got too many credits or face a fine. This means that companies try to reduce the amount of emissions so that they do not have to spend as much buying these credits. The money that is made from buying the credits is invested in the research and development of greener renewable technologies.

The two biggest examples of cap and trade system are the European Union Emissions Trading System (EU ETS) and the state of California in the USA.

1. EU ETS:

- The EU ETS operates in 28 EU countries including Iceland, Lichtenstein and Norway.
- It covers more than 11,000 power station and manufacturing plants. Aviation flying within and between these countries is also covered meaning a total of around 45% of the EU is covered by the EU ETS.
- The EU ETS invests the money in sustainable development projects in developing countries. This means that there is an even greater incentive for large businesses to reduce as they can then use the examples of how their money is aiding sustainable development, which will increase the number of customers.
- From 2013 the cap on power stations and factories is reduced by 1.74% per year, meaning that by 2020 the amount of greenhouse gases emitted will be 21% lower than in 2005.
- Sectors and greenhouse gases covered: **i)** Carbon Dioxide (CO₂) - power and heat generation, energy intensive sectors e.g. oil refinery, steel works, production of iron aluminium, metal, cement. **ii)** Nitrous Oxide (N₂O) – from the production of nitric, adipic, glyoxal and glyoxalic acids **iii)** Perfluorocarbons (PFCs) – from aluminium production.
- The business must monitor and report their EU ETS emission for verification. They then have to surrender the correct amount of emissions by the 30th April the next year to cover the emissions.
- If the business does not have enough allowances to cover its emissions it will be named and shamed, forced to buy the allowances necessary and face a €100 fine (2013). The penalty rises with the annual rate of inflation within the EU.
- Bidding for allowances occurs once each year, with the price determined by the supply and demand for the credits. In 2012 7.9 billion allowances were traded with a total value of €56 billion.

2. California:

- Set up in 2012 so that California would have a realistic chance of meeting their goal to reduce emissions to 1990 levels by 2020 ultimately achieving an 80% reduction.
- During the first 3 hours of bidding 23.1 million allowances were sold slightly higher than the floor price (\$10) at \$10.09. In the year of 2015 39.5 million allowances were sold at the floor price of \$10. The auction in 2015 raised a total of \$289 million.
- California emits 447 million tonnes of carbon dioxide, the largest amount of transport with 38%, next is from electrical producing power plants at 21%, after that is natural events such as wildfires at 19% and finally 10% from residential and commercial premises.
- The program is limited to businesses that emit over 25,000 tonnes of carbon dioxide, however this isn't to say that smaller businesses can't reduce their emissions optionally like others.
- The money raised goes to two places 1. A climate dividend in which it invests in renewable and sustainable projects and 2. Funding transport and industrial sectors enabling them to research and implement new ways to cut carbon emissions. However in 2011 25% of the proceeds went to the other disadvantaged communities within the state.

