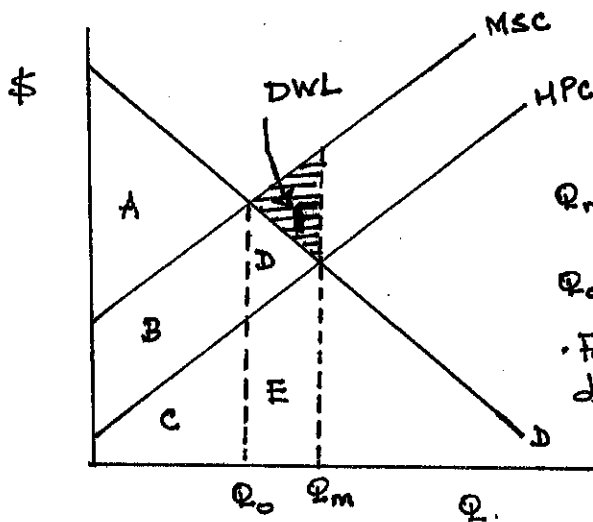


CARBON PRICING

- Method for reducing global-warming emissions
- Entails charging those who emit CO_2 for their emissions - the charge is called Carbon Price → Amount that must be paid for the right to emit one tonne of CO_2 into the atmosphere.
- Carbon pricing usually takes 2 forms:
 - [i] Carbon tax - a requirement to purchase permits to emit
 - [ii] ~~the~~ cap-and-trade - requirement to purchase permits to emit
- * Carbon pricing solves the economic problem that CO_2 is a negative externality - a harmful product that is not priced (charged for) by any market → there is no market mechanism responsive to the costs of CO_2 emitted
- standard economic solution to the problem of negative externalities - Pigouvian tax



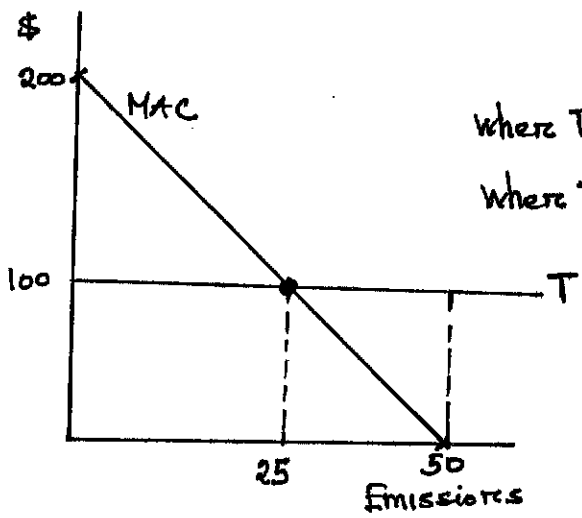
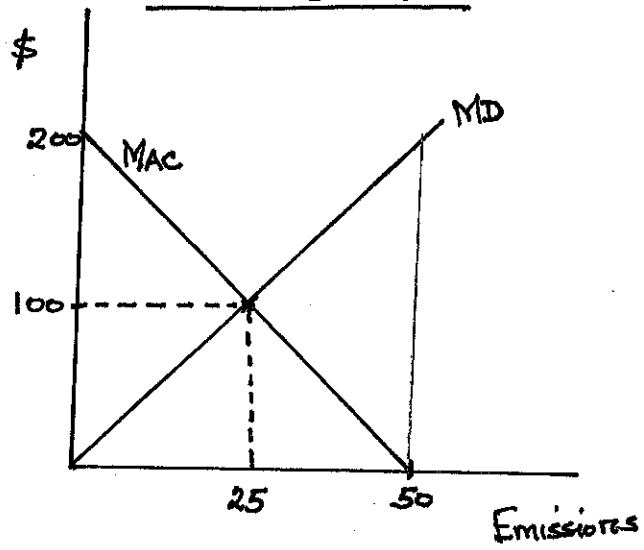
- Q_m : Quantity that will be produced if externality is not internalized
- Q_0 : Quantity produced if externality is internalized.
- Failure to internalize externality causes a deadweight loss

- Pigouvian tax is set equal to the monetary value of the damage caused by emissions
- Q_0 : Economically optimal output
- Carbon tax is generally favoured on economic grounds for its simplicity and stability
- * Getting energy prices right has large fiscal, environmental and health benefits
- According to the World Bank and the IMF, cutting emissions to stave off the worst effects of climate change will not be possible unless all fossil fuel polluters are forced to pay for the carbon dioxide they emit.
- Cap-and-trade system: sets a limit on overall carbon emissions, then allows companies to buy/sell emission allowances/permits sold by the government
- Carbon pricing can help countries to raise more revenue
- Carbon price aims to: make fossil fuels more expensive, charge for environmental damage guide markets towards cleaner energy sources e.g. wind and solar

*

Example:

Given: $MAC = 200 - 4E$ and $MD = 4E$. Find E^* , T^* , Compliance Cost, of T and Net benefit of tax



where $T = 0, E = 50$

where $T = 100$, to find E set $MAC = T$

* A Uniform tax on multiple sources of emissions ensures that the Equimarginal Principle is satisfied. The tax is therefore Cost effective - where each firm reduces its emissions until its $MAC = T$, then the MACs will automatically be equalised across all sources. This ensures that the pollution reduction is achieved at the lowest cost.

