

Carbon Footprint

①

The term "Carbon Footprint" is often used as a shorthand for the amount (in tonnes) being emitted by an activity or organisation. The carbon footprint is also an important component of the ecological footprint, since it is one competing demand for biologically productive space. Carbon emissions from burning fossil fuel accumulate in the atmosphere. If there is not enough biocapacity dedicated to absorb these emissions. Therefore, when the carbon footprint is reported in context for total Ecological footprint, the tonnes of carbon dioxide emissions are expressed as the amount of productive land area required to contain those carbon dioxide emissions. This tells us how much biocapacity is essential to neutralise the emission from burning fossil fuels.

Measurement of Carbon Footprint - It is the measurement of biocapacity of atmosphere which is needed to take care of our untreated carbon waste and avoid a carbon built up in the atmosphere. Measuring it in this way enables us to address the climate change challenge in a holistic way that does not simply shift the burden from one natural system to another. In fact, the climate problem emerges because the planet does not have enough biocapacity to neutralize all the carbon dioxide from fossil fuel and provide for all other demands.

A lot of ecological threats we are facing today. Climate change, deforestation, overgrazing, fisheries collapse, food insecurity and the rapid extinction of species of all part

Part of the problem. Humanity is demanding more from the earth than it can provide.

The carbon foot-print is currently 60% of humanity's overall Ecological foot-print and its most rapidly growing component. Humanity's Carbon foot print has increased 11 fold since 1961. Reducing humanity's Carbon foot print is the most essential step we can take to end overshoot and live within the means of our planet.

### Causes of Carbon Foot Print -

- 1) Power Plants → Carbon dioxide emissions from electricity production amounts about 40% of carbon dioxide emission by burning coal, municipal and medical waste incineration accounts for increase in carbon foot print.
- 2) Transportation - 30% of CO<sub>2</sub> emission by the transportation of people and goods.
- 3) Farming - Industrial farming and ranching releases huge levels of methane and CO<sub>2</sub> into the atmosphere. Farming contributes a large %age in worldwide emission of CO<sub>2</sub>.
- 4) Deforestation - Deforestation to use wood for building materials, Paper and fuel increases global warming in two ways - the release of CO<sub>2</sub> during the deforestation process and the reduction in the amount of CO<sub>2</sub> that forests can capture.
- 5) Fertilizers - The use of nitrogen ~~side~~ for rich fertilizers increases the amount of heat cropland can store. Nitrogen oxide can trap upto 3 or time more heat than CO<sub>2</sub>. Sixty two% of N<sub>2</sub> is released from agriculture by products.

- 6) oil and gas drilling - Burn off from the oil drilling industry impacts the CO<sub>2</sub> released into the atmosphere. Fossil fuel retrieval, processing and distribution accounts for 8% of CO<sub>2</sub> emissions.
- 7) Garbage - It releases a lot of CO<sub>2</sub> during its decomposition.
- 8) Volcanic eruption - Volcanic eruptions also leads to rise in emission of green house gases

Effects of Carbon Foot-Print -

- ① Greenhouse Gas emission - A rapid rise in the global temperature and release of green house gases results due to carbon foot-print.
- ② Climate change - climate change is the ultimate effect of large carbon footprints. Greenhouse gases, whether natural or human produced, contribute to the warming of the planet. From 1990 to 2005, carbon dioxide emissions increased by 31%. by 2008, the emissions had contributed to a 35% increase in radiative warming, or a shift in Earth's energy balance towards warming, over 1990 levels. The decade from 2000 to 2009 was the warmest decade on record worldwide.
- ③ Depletion of Resources - Large carbon footprints deplete resources on large and small scales, from a country's deforestation activities to one home's increased use of air conditioning. The more those with large carbon footprints use resources the more greenhouse gases increase and speed up further climate change. The environmental Protection Agency suggests that consideration of different energy supplies and conservation of current ones will be needed to balance energy demand.

Reducing CO<sub>2</sub> emission as much as possible and offsetting the remaining emissions by planting trees, for example, or supporting alternative energy efforts, will help to reduce the negative effects of carbon foot prints.

Ways to reduce carbon foot print -

① It should essential to practice five R's  
refuse, reduce, reuse, rot, recycle and going zero waste towards combating climate change  
~~Use of less automobiles~~

- a) Refuse - use of single use plastics and paper products by saying no to them.
  - b) Reduce - Purchase only those things which you really need.
  - c) Reuse - Use the things more optimally by keeping it in great condition, repairing and recycling.
  - d) Rot -> Set up a compost system for your food scraps near your house.
  - e) Recycle -> Plastic, Paper, glass, metal etc. can be recycled for its use.
- 2) Reduction in Automobile -> The toxins emitted by vehicles are very dangerous for human health. The gases emitted by their tailpipes are at street level and can be breathed by human which can go directly into their lungs.
- 3) Reduce wastage of water, and switch to all natural eco friendly soaps.
  - 4) Eat local and organic food.
  - 5) Switch to sustainable clean energy. Solar and wind power energy can be used to reduce the carbon foot print.

Jr. Bibh, Vemp  
Dept of Zoology