

Greenhouse Effect - Global Warming

Greenhouse Effect: trapping of heat energy produced by solar radiation. The greenhouse effect IS ESSENTIAL for our planet. Without trapping heat, our planet would become a permanent ice planet.

Infrared Radiation: form of electromagnetic radiation that is not visible to our eyes. Lower in energy than visible radiation, safe, good source of heat.

The steps for the greenhouse effect are:

1. Incoming solar radiation warms the surface of the earth and oceans.
2. The warmed surface then re-emits radiation as infrared radiation (cannot see it, but can feel it)
3. This infrared radiation can escape back into space (lost heat) or can be trapped by our atmosphere - the green house effect (keeps the heat)
4. The atmosphere is like a blanket that keeps us warm. PREVENTS PERMANENT ICE AGE!

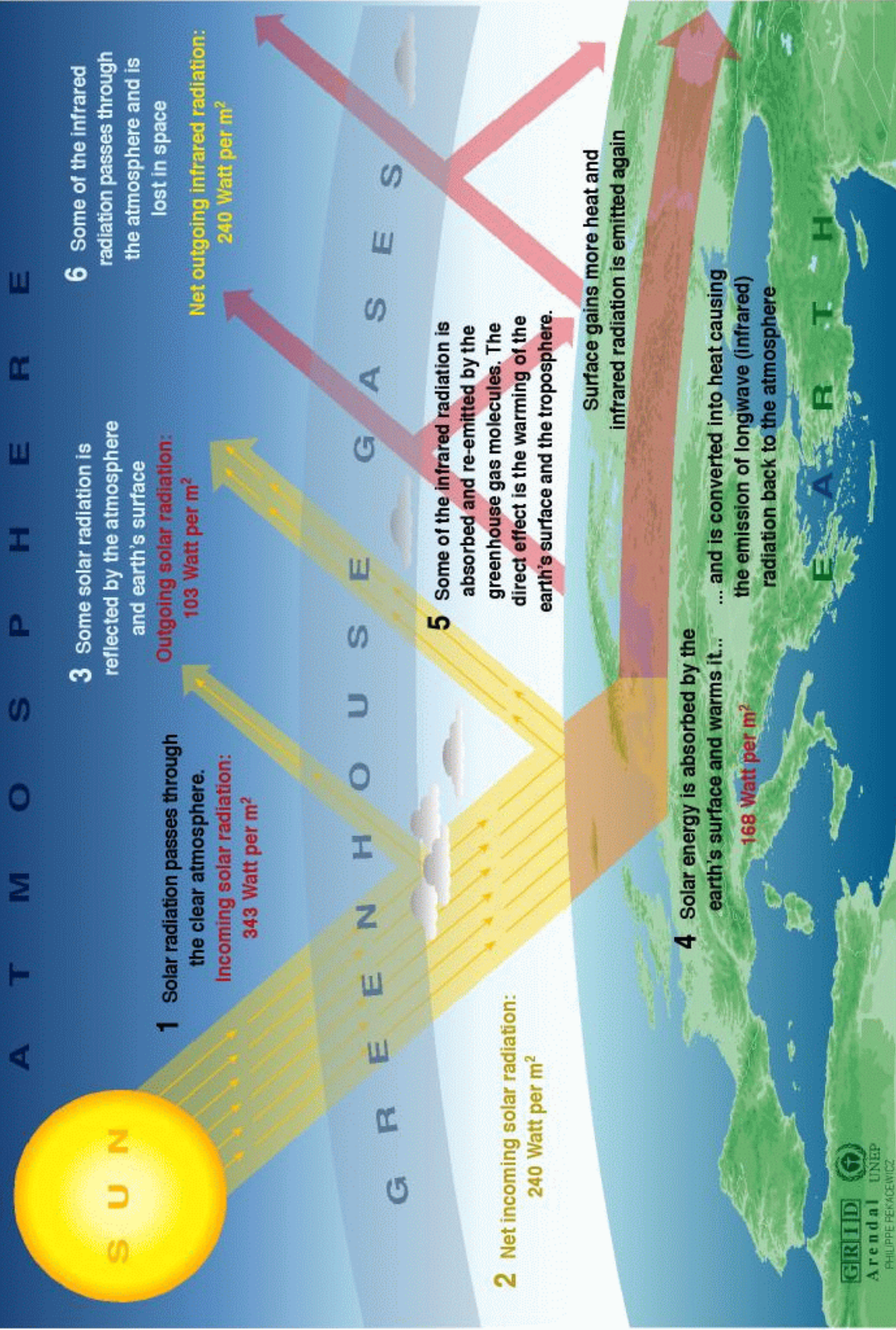
Greenhouse Gases: are gases responsible for trapping infrared radiation (like the glass on the greenhouse)

- water vapour (H_2O)
 - responsible for 70% of the green house effect
 - largest contribution to the natural greenhouse effect
- carbon dioxide (CO_2)
- methane (CH_4) called natural gas
- nitrous oxide (NO_2)

Global Warming: increase in average global temperature is a result of increases in CO_2 as well as CH_4 and NO_2 . This increase is due to human made pollution. This is an anthropogenic effect. (anthropogenic means human cause)

Picture of Greenhouse Goes HERE

The Greenhouse Effect



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Sources: Okanagan university college in Canada, Department of geography, University of Oxford, school of geography; United States Environmental Protection Agency (EPA), Washington; Climate change 1995, The science of climate change, contribution of working group 1 to the second assessment report of the intergovernmental panel on climate change, UNEP and WMO, Cambridge university press, 1996.