

Agriculture and Climate Change

Draft Report

Greenhouse Gas Emissions

global warming is a consequence of
greenhouse gas emissions
heat from the sun is trapped as gases
build up in the atmosphere
emissions have increased by 40% since
1990

over 50 billion tonnes of greenhouse gas
are emitted each year
emissions come from a range of industry
sectors and processes
agriculture is a major contributor of
greenhouse gases

Organic farming

practices

organic farming has a significantly lower carbon footprint

greenhouse gas emissions are lower

45% less energy used compared to conventional farms

healthy soils are the foundation of organic production

healthy soil acts as a carbon sink

absorbing carbon dioxide from the atmosphere

organic soil and crops are more resilient to the impacts of climate change

organic yields can be up to 40% higher in drought years

Carbon sinks

carbon sinks absorb carbon dioxide from the atmosphere

the importance of carbon sinks has never been greater

the ocean is the world's largest carbon sink followed by soil and forests

carbon sinks are crucial in managing the levels of carbon dioxide in the atmosphere

Industry sources

the primary source of greenhouse gas emissions is electricity and heat production - responsible for 37% worldwide

agriculture is the second largest cause - responsible for 22% of global emissions
10 countries produce more than 68% of emissions

Consequences of global warming

increased frequency of extreme weather events including:

torrential rains

floods

heatwaves

droughts

storms

average temperatures predicted to rise by

1.5°C by 2050

global sea levels rise as glaciers retreat
and ice sheets melt

more land at risk of coastal flooding

Effects on agriculture

higher CO₂ levels affect crop yields and
nutritional value

extreme temperatures can prevent crops
from growing

torrential rains, floods and droughts can
harm crops and reduce yields

rising sea levels may result in loss of
agricultural land

increased migration of invasive pests that
damage crops

global crop yields could decline by up to
30% by 2050

Challenges ahead

greenhouse gases now far exceed safe
levels

extreme weather events will impact crop
production

natural resources need to be protected
more resilient crop varieties are needed
protecting carbon sinks is essential for
keeping the climate stable
food insecurity set to become a global
issue

the world will need to produce 70% more
food by 2050 to feed an estimated 9 billion
people