Extractive industries and climate change

Fossil fuels – coal, oil and gas – cover about 80 percent of the world's energy supply. According to the International Energy Agency, global energy demand will be 60 percent higher in 2030. Fossil fuels are, however, the most important source of greenhouse gases (GHG) that trap heat in the Earth's atmosphere, leading to an overall rise of global temperatures and the disruption of natural climate patterns.

At present total annual emissions of GHG are rising. Over the last three decades, emissions increased by an average of 1.6 percent per year, with carbon dioxide (CO_2) emissions from fossil fuels use growing at 1.9 percent per year. The largest growth in GHG emissions in the period 1970-2004 has come from energy supply and consumption, and transport. The latest Intergovernmental Panel on Climate Change (IPCC)[1] reports confirmed that the resulting climate change has significant impacts:

food and water

Areas currently experiencing food insecurity and risk of drought, together with a lack of resources to import food (nearly half the populations of countries in central, southern and eastern Africa are already undernourished) will likely experience further reduction in crop yields caused by droughts. Lack of water as a result of climate change will affect populations in the subtropics where water is already scarce. Currently about a third of the world's population (1.7 billion people) live in water stressed countries and this is projected to increase to hundreds of millions of other people by the end of the 21st century.

glacier melting

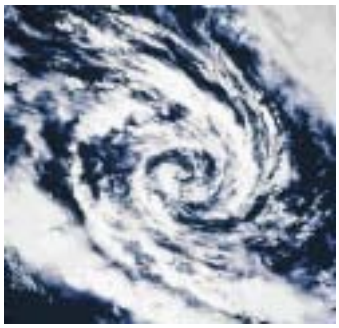
"Perhaps the first, and the worst, effect (of climate change) upon poor people will come about as a result of the rapid melting of mountain glaciers".[2] Indeed, more than half of the human population relies on the freshwater that accumulates in mountains. The Himalayas have the largest concentration of glaciers outside the polar caps. About 67 percent of glaciers are retreating at a startling rate in the Himalayas and the major causal factor has been identified as climate change.[3]

migration

Temperature increase leads to expansion of water, which in turn causes sea levels to rise. Global sea level is projected to increase by 20-60 centimetres in high emissions scenarios. At least 1 billion people will be forced from their homes between now and 2050 as the effects of climate change deepen an already burgeoning global migration crisis.[4] Asian 'megadeltas', countries such as Vietnam, Egypt, Bangladesh and small island nations, are especially at risk.

wildlife and biological diversity

The most vulnerable ecosystems which will face an increased risk of extinction include coral reefs, boreal forests, mountain habitat and those dependent on a Mediterranean climate. Sea life will be negatively affected due to increasing temperatures and the higher acidity of oceans. In all regions, the faster the temperatures rise, the greater the risk of damage.



Unpredictable weather. © foe ewni

The now closed High Marnham coal-fired power station on the River Trent in the UK.
© i. bracegirdle

Fossil fuels.
© dreamstime

Overall, developing countries are most vulnerable to these risks. Climate change will affect the ability of developing countries to deal with poverty, access to healthcare, education and energy. However, studies also show that the problem can be addressed and that affordable solutions exist. The IPCC suggests that future vulnerability depends not only on climate change but also on development pathways. Economic assessments indicate that the cost of inaction will exceed the cost of taking early action, probably by several orders of magnitude. The recently published Stern Review[5] suggests that the annual cost of emissions reductions leading to a stabilization of CO_2 in the air is likely to be around 1 percent of GDP by 2050.

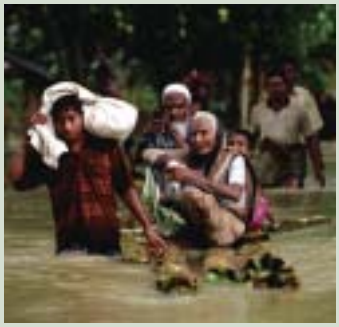
Despite this, the EU and member governments continue to fund fossil fuels by direct subsidies, tax exemptions or their export credit agencies, as well as through Multilateral Development Banks' loans or guarantees.

our demands:

- Industrialised countries must significantly reduce their emissions and enable clean development for developing countries based on new, renewable energies as well as their adaptation to unavoidable climate change.
- Extractive industries should stop destroying the environment and wrecking people's lives around the world. There should be a ban on any new projects unless free, prior and informed consent of local communities has been fully implemented.
- EU countries, the European Commission and international financial institutions should stop using foreign assistance and other public resources to subsidise the activities of the mega profit-making international oil companies. Private banks and pension funds should stop investing in projects extracting fossil fuels.

IPCC 2007 assessments:

- Warming of the climate system is unequivocal and accelerating.
- Most of the change is due to human activities that emit greenhouse gases.
- During the last 100 years the Earth has warmed by 0.74 °C, most rapidly over the last 50 years. Arctic temperatures increased at almost twice this rate.
- Concentration of CO_2 in the atmosphere is now higher than any time in the last 650 000 years.
- Eleven of the last 12 years rank among the warmest in the last 150 years.
- The warming trend has already affected all continents and oceans.
- Average temperature rise of around 3°C is expected this century (to illustrate: difference between the present average global temperature and an ice age is 5 °C).



Rising sea waters cause frequent flooding in low-lying Bangladesh.
© g. m. b. akash

Disappearing sea ice in the arctic has placed the polar bear on the red list of endangered species.
© n. alexandrov

1 The IPCC was established in 1988 by the World Meteorological Organisation and the United Nations Environment Programme. It provides the most authoritative assessments of the knowledge of climate change every five years.

2 Magrath, J.: Glacier melt: why it matters for poor people, www.oxfam.org.uk/what_we_do/issues/ climate_change/downloads/glacier_melt.pdf, Oxfam, 6 May 2007.

3 An overview of Glaciers, Glacier Retreat, and Subsequent Impacts in Nepal, India and China, WWF Nepal Program, March 2005.

4 Human tide: the real migration crisis, Christian Aid Week Report, May 2007.

5 http://www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/sternreview_index.cfm, October 2006.

This Fact Sheet has been produced with the financial assistance of the European Union. The contents of this Fact Sheet are the sole responsibility of Friends of the Earth Europe, Friends of the Earth Netherlands, Friends of the Earth France, CEE Bankwatch and can under no circumstances be regarded as reflecting the position of the European Union.

This publication has been printed on 100% recycled paper stock using bio vegetable based inks. image © s. zhang. Published in september 2007.