



**200 million climate
refugees By 2050**

Swiss Insurance Agency Swiss Re: 90% of climate related disaster will be in Asia



A central image of a blue and white globe of the Earth, surrounded by a ring of bright orange and yellow flames, set against a light green background. The globe shows the continents of North and South America.

CLIMATE CHANGE and DEVELOPMENT

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ISSUES

- THE CLIMATE CHANGE
- THE CAUSE
- THE IMPACTS
- IMPLICATIONS FOR DEVELOPMENT?
- WHAT OPTIONS?

Climate Change: To Stay

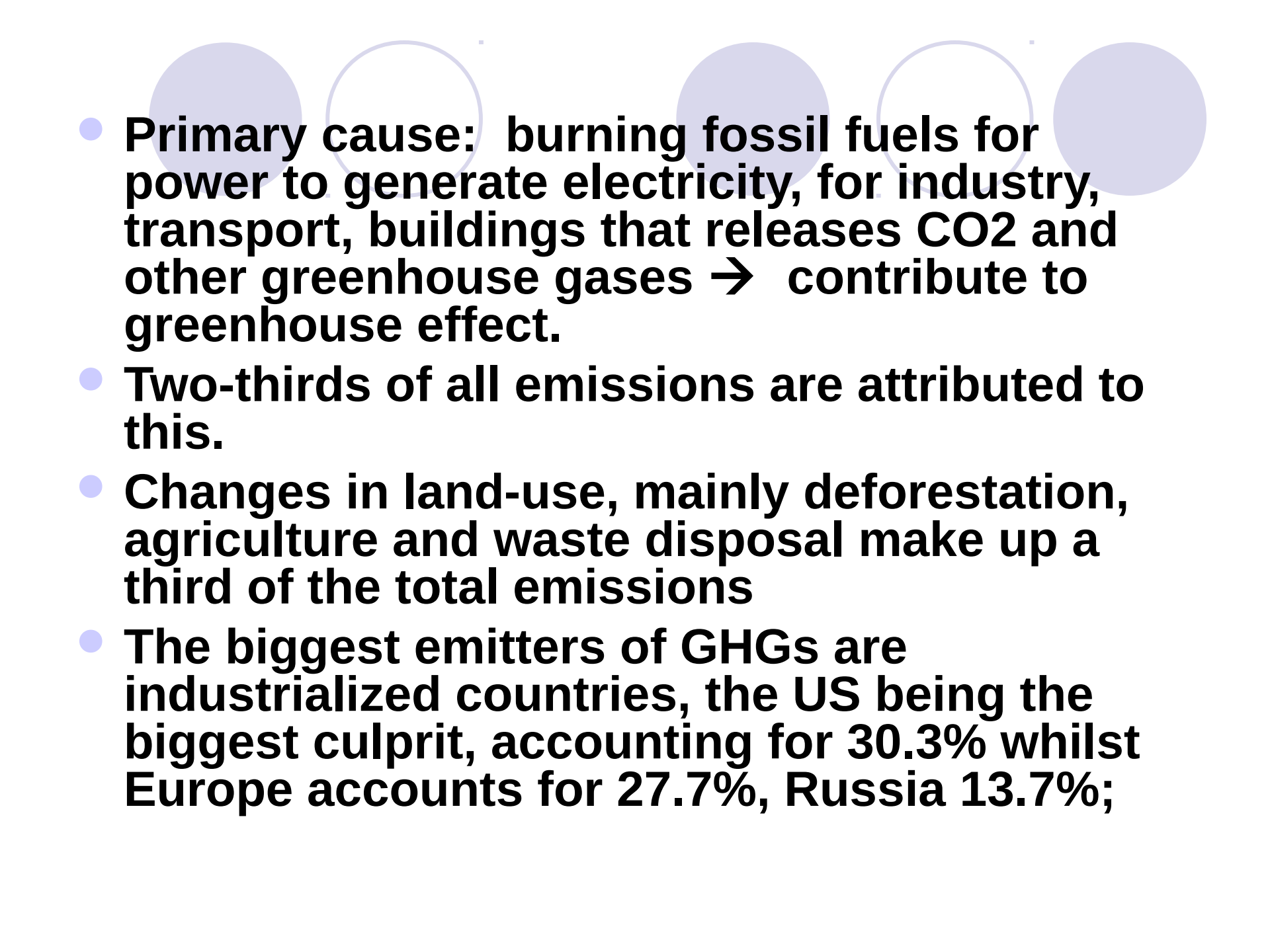
- Between 1850 and 2005 the IPCC have reported global temperature has increased by 0.76°.
- Over the 20 century, the Asian continent has recorded the highest temperature increase of a 1° increase (IPCC WGI 2007).
- Due to the lag time of emissions in the atmosphere, a further global average warming of about 0.6 degrees as unavoidable (IPCC WGI 2007).

Climate Change: To Stay

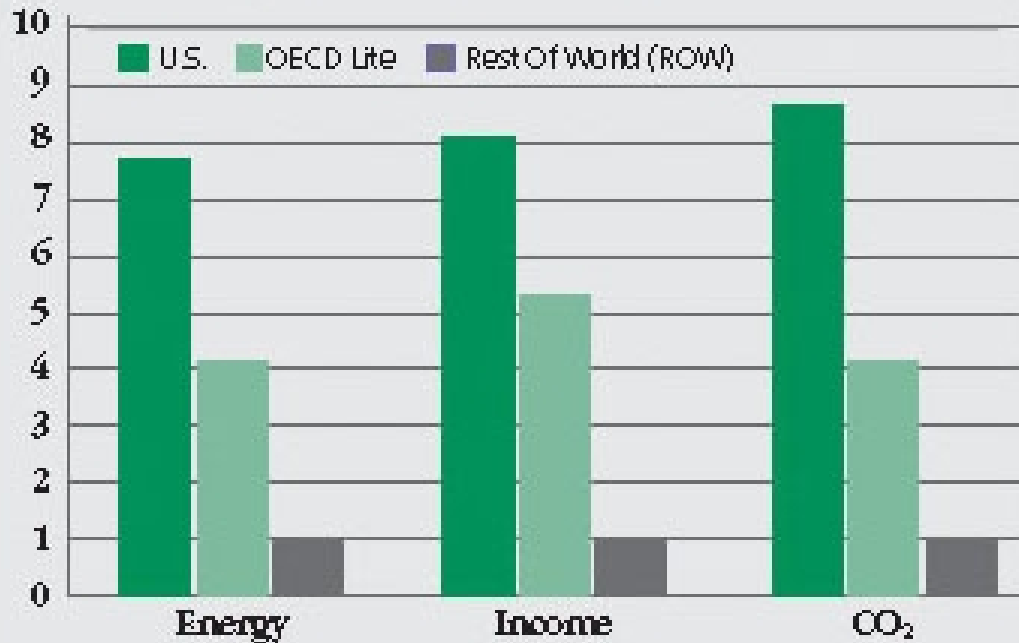
- It is now undisputable that the earth is getting hotter
- It is also fact that human activity is responsible for this
- Temperature rise must be limited to 2°C if the impacts are to be manageable

A photograph of a nuclear power plant with four large, dark, cylindrical cooling towers. The towers are illuminated from below, creating a warm, orange glow. In the foreground, a row of brick houses with lit windows is visible. The sky is a pale, hazy blue. The text "THE CAUSE" is overlaid in the center in white, bold, sans-serif font.

THE CAUSE

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- **Primary cause: burning fossil fuels for power to generate electricity, for industry, transport, buildings that releases CO₂ and other greenhouse gases → contribute to greenhouse effect.**
 - **Two-thirds of all emissions are attributed to this.**
 - **Changes in land-use, mainly deforestation, agriculture and waste disposal make up a third of the total emissions**
 - **The biggest emitters of GHGs are industrialized countries, the US being the biggest culprit, accounting for 30.3% whilst Europe accounts for 27.7%, Russia 13.7%;**

Energy = Income = Pollution



(The Community Solution, 2006)

Per capita, people in the U.S. use about eight times the income and purchasing power and release an even greater proportion of CO₂ into the air as do the people or the rest of the world.



- **US population → only 4% of the world → accounts for more emissions than 136 developing countries**
- **To Americans → consuming more products and services is the critical measure of both national and personal success, even freedom.**

(The Community Solution, 2006)

CO2 emissions - 2005

	CO2 emission (million tons)	population (million)	CO2 emission/ capita (tons)
I. OECD	13548	1166	11.62
II. Countries with emission > 3 tons/capita/annum	11515	2064	5.58
Sub-total (I+II)	25063	3230	7.76
III. Low emitters	3130	3215	0.97
Total	28193	6445	4.37

Assuming zero emissions from low emitters, 57.2 % reduction would be required from I & II to deliver 50 % of 1990 CO2 emission.

Source: EIA, UN data base.

IMPACTS: Asia

Water Scarcity

- **Glacier melt in the Himalayas is projected to increase flooding, rock avalanches from destabilised slopes, and affect water resources within two to three decades.**
- **decreased river flows as the glaciers recede.**
- **Freshwater availability in Central, South, East and Southeast Asia → projected, which, along with population growth and increasing demand, could adversely affect more than a billion people 2050.**



Increase Flooding

- Coastal areas, especially heavily-populated mega-delta regions in South, East and Southeast Asia, will be at greatest risk due to increased flooding from the sea and in some mega-deltas flooding from the rivers.

Risk of Hunger

- It is projected that crop yields could increase up to 20% in East and Southeast Asia while it could decrease up to 30% in Central and South Asia by the mid-21st century. Taken together and considering the influence of rapid population growth and urbanization, the risk of hunger is projected to remain very high in several developing countries.



Health impacts

- Endemic morbidity and mortality due to diarrhoeal disease expected to rise in East, South and Southeast Asia. Increases in coastal water temperature would exacerbate the abundance and/or toxicity of cholera in South Asia.



- It has been estimated that 634 million people lived in the coastal zone in 2000, including 360 million in towns and cities.
- 75% of them were in Asia!
- 1 in 10 people in the world are at risk from rising sea levels and powerful storms!

Development Implications

- Losses in agriculture & fisheries, additional cost of managing resources, damages to infrastructure and increased cost of living all threaten local livelihoods
- Climate change is also not occurring in a vacuum: multiple stresses exacerbate vulnerability: poverty and unequal access to resources, economic globalisation, conflict, and incidence of disease such as HIV/AIDS
- Most extreme adaptation is migration: 200 million climate refugees world-wide by 2050

Development Implications

- **Millions of people do not have *access* to energy in the South; The north has *excess* energy and wasteful lifestyle**
- Climate change will threaten poverty alleviation and the achievement of Millennium Development Goals (health, food, water)
- National budget will be diverted to disaster prevention & relief, refugee management

Development Implications

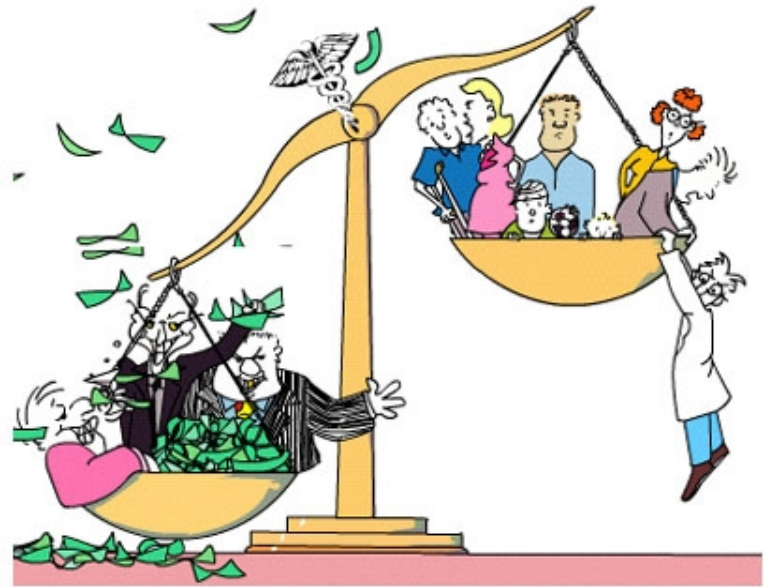
- The burden of financing adaptation will divert national resources from economic and social development
- Trade will also be disrupted, decreasing national income
- International negotiations will also put some of the burden for mitigation on developing countries

Development Implications

- Some solutions have further development implications → fuel from food → rising food prices
- Current development paradigm and practice will have to change → need finance and technology for alternative development pathway



CLIMATE INJUSTICE





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HOW MANY
CARS???

Los Angeles has more cars than the whole of China :

“In developed countries, two people ride in a car, and you want us to give up riding in a bus?” Chinese delegation at the Kyoto conference.

Climate Injustice

- With only 4% of the world population, the US accounts for more emissions than 136 developing countries that together are responsible for only about **24%** of all emissions
- 20% of the world's richest population are responsible for over 60% of current emissions and if past contributions are taken into account, the figure is 80%

Source: Climate of Injustice, MIT publication, Dec 2006

Climate Injustice

- The most severe impacts of climate change will fall on countries least able to cope, and with lowest GHG emission → billions of the world's poorest in the developing world.
- those who are the least responsible for the problem are paying the price – this is climate injustice

WHAT OPTIONS?

**SUSTAINABLE
DEVELOPMENT IS
THE BEST TOOL
FOR
ADAPTATION !!**



WHAT OPTIONS?

- ***Adaptation needs to be tailored to socio-ecological conditions.***
- ***Identify adaptation needs, methodology and implementation (NAPA for LDCs)***
- ***Key: switch to new development pathway to match new emission pathways to curb GHG emission.***

WHAT OPTIONS?

- ***Addressing climate change as a crisis requires a development solution***
- ***Solution: mainstreaming adaptation and environmental management into development planning***
- ***Economic resilience (country and community level) is also key; solutions must not undermine economic growth in developing countries***

QUESTIONS?

- ***WHO WILL PAY? HOW?***
- ***WHAT TECHNOLOGIES REQUIRED?***
- ***HOW TO GET TECHNOLOGY?***

KEY PRINCIPLES

- Need to end climate injustice through liability for past responsibility;
- Developed countries should generate new funds for the poorest and most vulnerable which have done least to contribute to the crisis and to acknowledge this as repayment for the climate debt
- Ensure technology transfer to the developing world to pursue clean, equitable and sustainable technologies. Intellectual property rights should not be a barrier to this.
- Need to assist developing countries to make transition to more equitable and economically sustainable and lower –carbon pathways of development

KEY PRINCIPLES

- **Need for fundamental changes in the way we produce and consume particularly among the rich of the North and South**
- **Need for just burden sharing based on historical emission and development capacity**

**THERE IS A NEED TO STRENGTHEN FAIR
INTERNATIONAL COOPERATION TO TACKLE
CLIMATE CHANGE TOGETHER,
AFTER ALL WE ONLY HAVE ONE PLANET !!!**