



# African and South African perspectives on climate change





**Social and economic impacts**

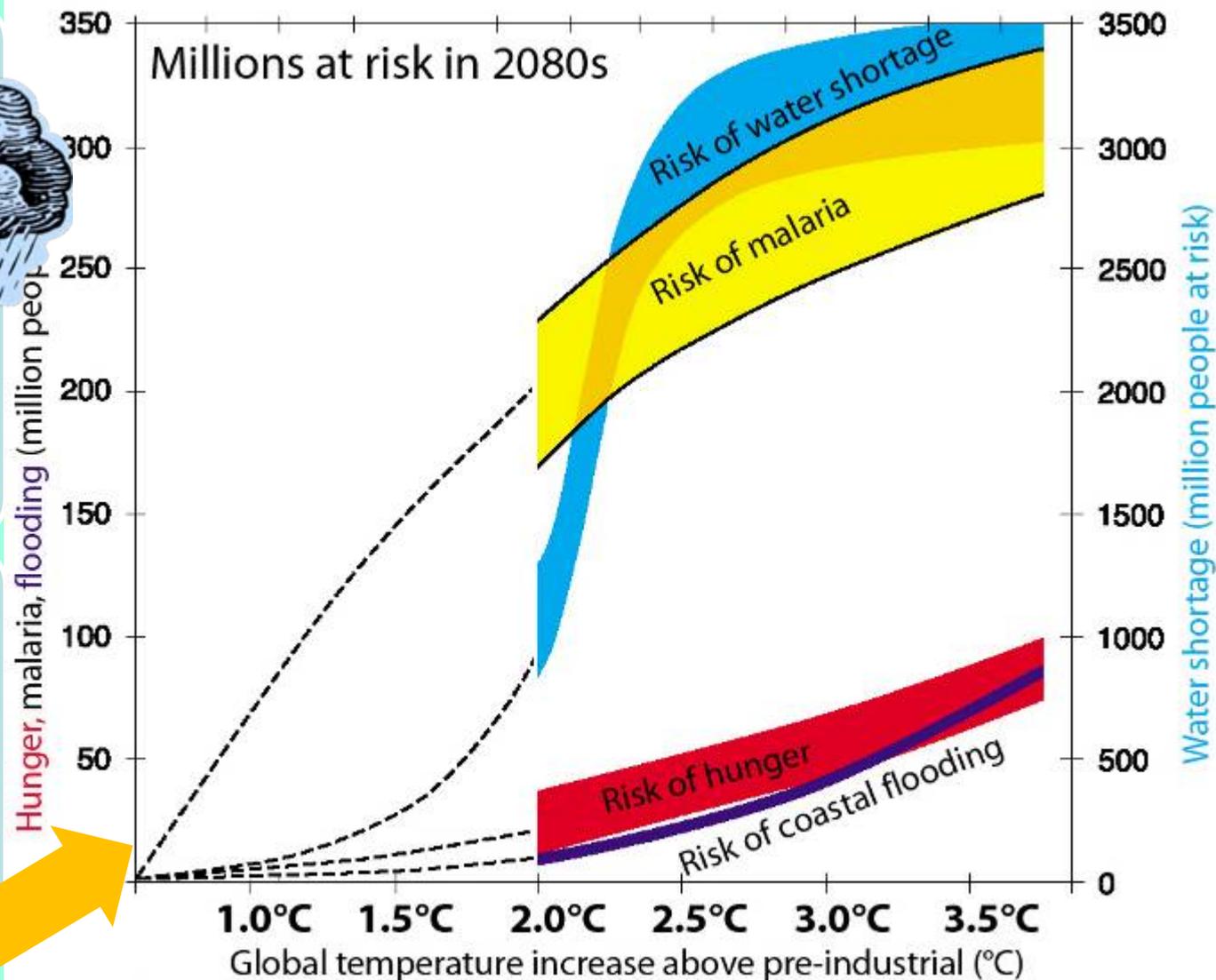


# How many will be affected?

evaporation,  
seasonal  
shifts,  
droughts,  
floods, species  
die or move,  
seas rise ...

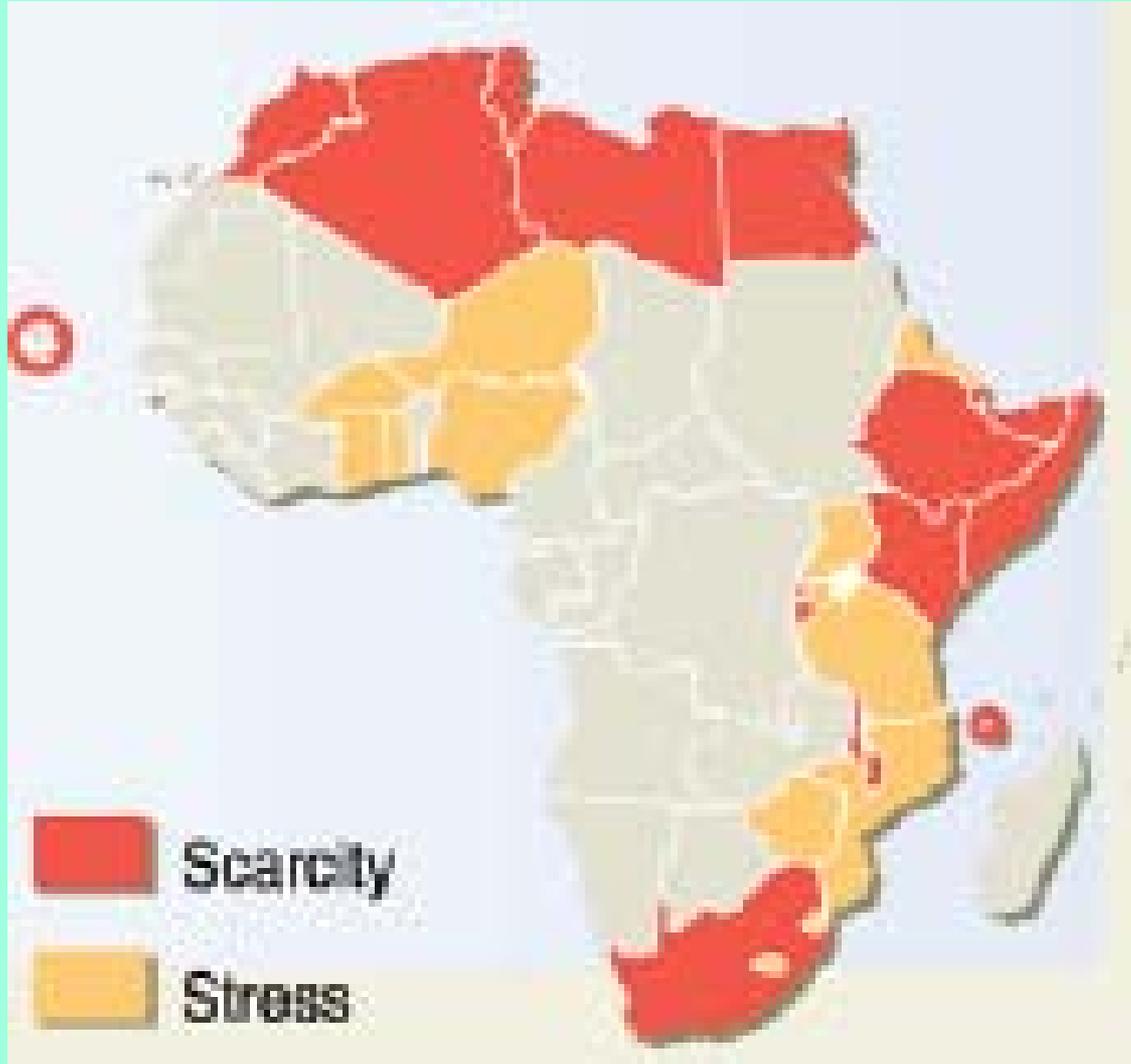


... fishing,  
crops fail,  
livestock dies,  
diseases shift ...





# Water availability in Africa



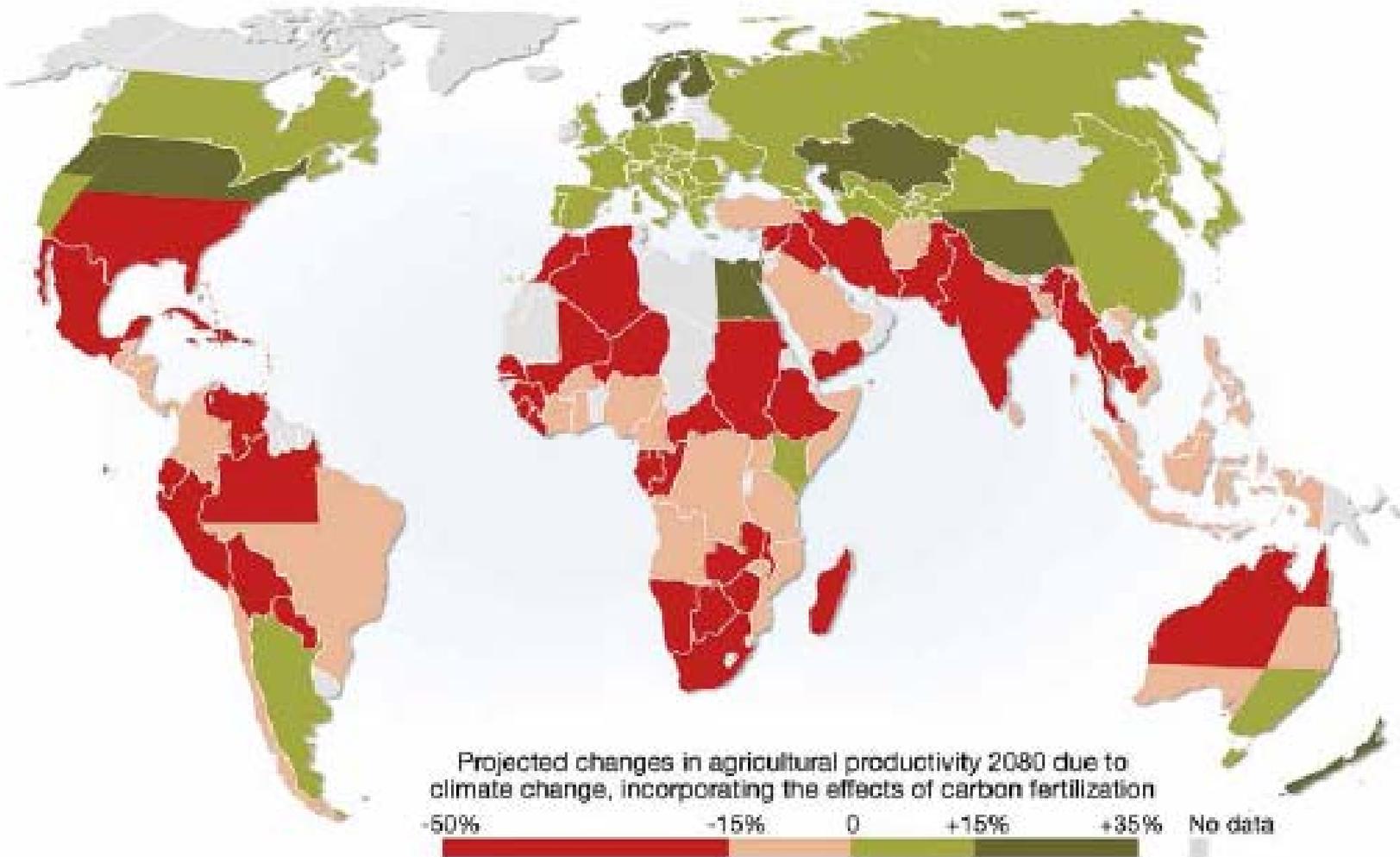
In Africa by 2020:

- between 75 and 250 million people are projected to be exposed to water stress due to climate change
- rain-fed agricultural yields could drop up to 50% by 2020 in some countries





# Agricultural productivity shifts

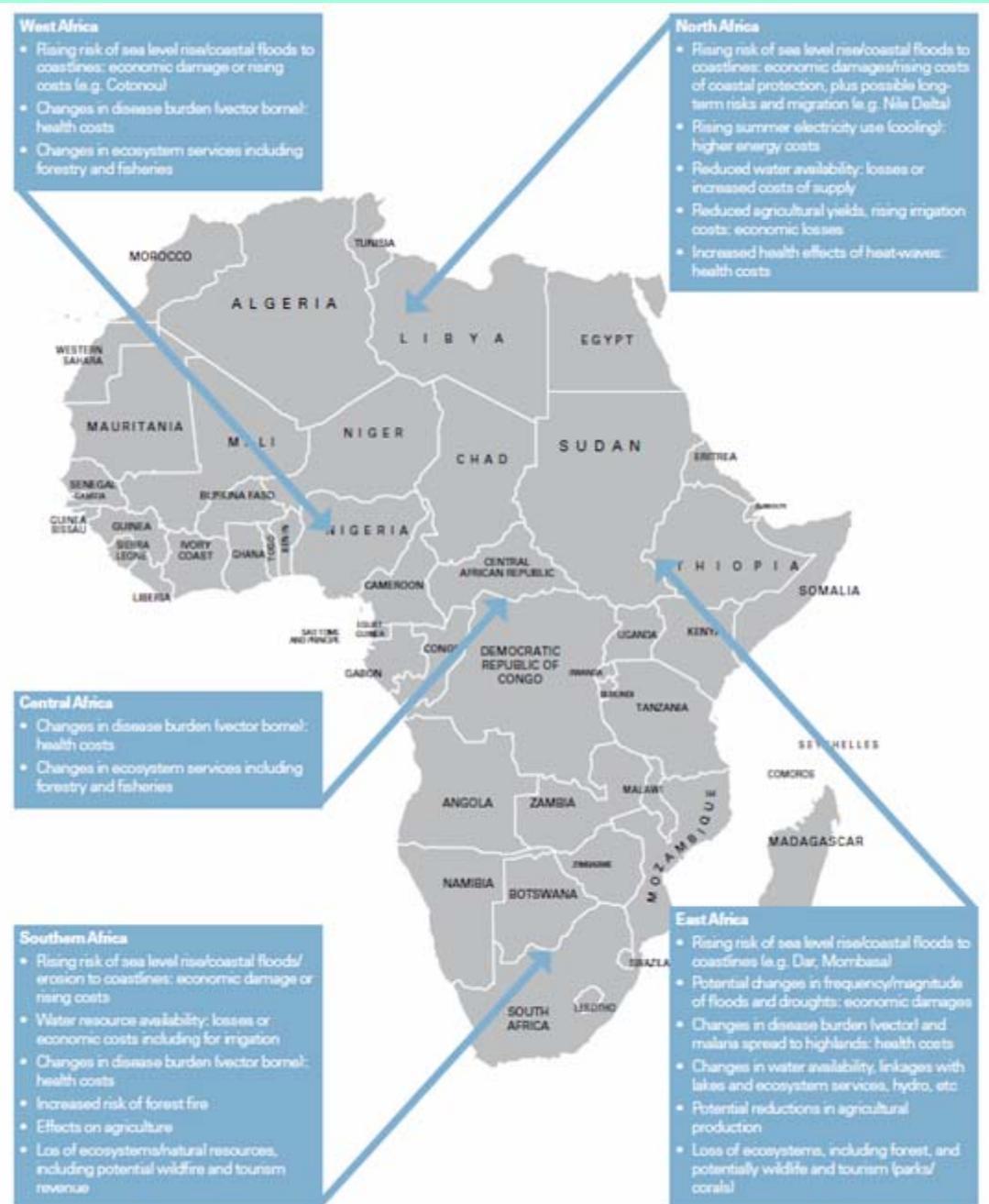




# Impacts

## Southern Africa

- Coastlines: sea level rise, coastal floods, erosion
- Stressed water resource availability
- Diseases shift as mosquitos, ticks, tsetse flies move
- More risk of wildfires
- Loss of ecosystems and natural resources
  - ⇒ Affects agriculture and fisheries
  - ⇒ Affects tourism
  - ⇒ Health burden, costs
  - ⇒ Rising costs
  - ⇒ Economic damage





# Health impacts in South Africa

PHENOMENON	HUMAN HEALTH IMPACT
Less cold days & nights	Fewer cold-related deaths
More warm spells & heat waves	Increased heat-related deaths & illness
Increased areas of drought, wildfires	<ul style="list-style-type: none"><li>• Greater risk of injury or death</li><li>• Food &amp; water shortages, malnutrition &amp; infection</li><li>• Toxic water pollutants become concentrated</li></ul>
More heavy rain events, tropical storms & cyclones	<ul style="list-style-type: none"><li>• Greater risk of injury or death</li><li>• Food &amp; water shortages</li><li>• More infectious respiratory &amp; skin diseases</li></ul>
Hotter & wetter	An increase in diseases transmitted via goggas
Greater air pollution	Respiratory illnesses worsened, earlier deaths
Changes in areas & strength of agents that cause allergies	More severe & more prevalent allergies
Sea level rise, salty water getting into fresh water	Abrupt coastline change, forced migration, injury, drowning



**What are the costs?**





# Costs to Africa as it hots up

Temperature rise	Year reached	Economic costs (% of African GDP)
<b>1.5°C</b>	<b>2040</b>	<b>1.7%</b>
<b>2°C</b>	<b>2060</b>	<b>3.4%</b>
<b>4.1°C</b>	<b>2100</b>	<b>10%</b>

- Stern Review on (global) mitigation costs:
  - 2% of world GDP likely to be needed
  - inaction likely to cost 5% to 20% of GDP
- The cost of inaction is greater later than the cost of action now





# Who pays the hardest price?



The true cost of not taking any actions is being borne by millions of poor people in the poorest and most vulnerable countries.

- Poor, workers, women
- Young children and elderly



# Effect on women of climate risks

Climate change effects: Direct	Examples	Potential effect on women
Increased ocean temperature	Increasing coral bleaching due to heat stress	<b>Jobs</b> Loss of coral reefs can damage the tourism industry, where women are 46% of the workforce.
Increased drought & water shortage	<ul style="list-style-type: none"> <li>• Morocco 10 years of drought 1984–2000</li> <li>• Northern Kenya 4 severe droughts 1983–2001</li> </ul>	<p><b>Workload</b> Women &amp; girls in developing countries are often the primary collectors, users &amp; managers of water. Less available water will increase their workloads and jeopardise family livelihoods.</p> <p><b>Opportunities</b> Leads to lower school enrolment for girls, and less opportunity for women to do income-generating activities.</p>
Increased extreme weather events	Greater intensity & quantity of cyclones, hurricanes, floods & heat waves	<b>Deaths</b> A sample of 141 countries over 1981–2002 found that natural disasters (& the resulting impact) kill more women than men on average, or kill women at an earlier age than men.



# Effect on women of climate risks

Climate change effects: Indirect	Examples	Potential effect on women
Decreased crop production	In Africa, crop yields expected to decline 20–50% in response to extreme conditions	<b>Food</b> Rural women produce half the world's food, & 60–80% in most developing countries. In Africa, climate-related crop changes could affect from 48% of women in Burkina Faso, to 73% in Congo.
Loss of species	By 2050, climate change could result in a species extinction rate from 18–35%	<b>Resilience</b> Women may often rely on crop diversity to adapt to climatic variability. Permanent temperature change will reduce crop & traditional medicine options, affecting food security & health.
Increased epidemics	Climate variability critical in recent epidemics: <ul style="list-style-type: none"> <li>• malaria in east African highlands</li> <li>• cholera in Bangladesh</li> </ul>	<b>Health &amp; nursing</b> Women have less access to medical services than men. Their workloads increase when they have to spend more time caring for the sick. Poorer households affected by HIV/AIDS have few resources to adapt to climate effects. Adopting new ways to farm is harder for poorer, female-headed or infected households



**What are the solutions?**



# A just transition ...

to a climate-resilient, low-carbon economy

- Fight poverty, gender oppression, create jobs, support health, advance energy security ... development builds climate resilience of the most vulnerable
- Defend and repair ecosystems
- Mitigation within a carbon budget
- Sustainable development
- Regional co-operation
- UNFCCC negotiations: common but differentiated responsibility



# The choices we face

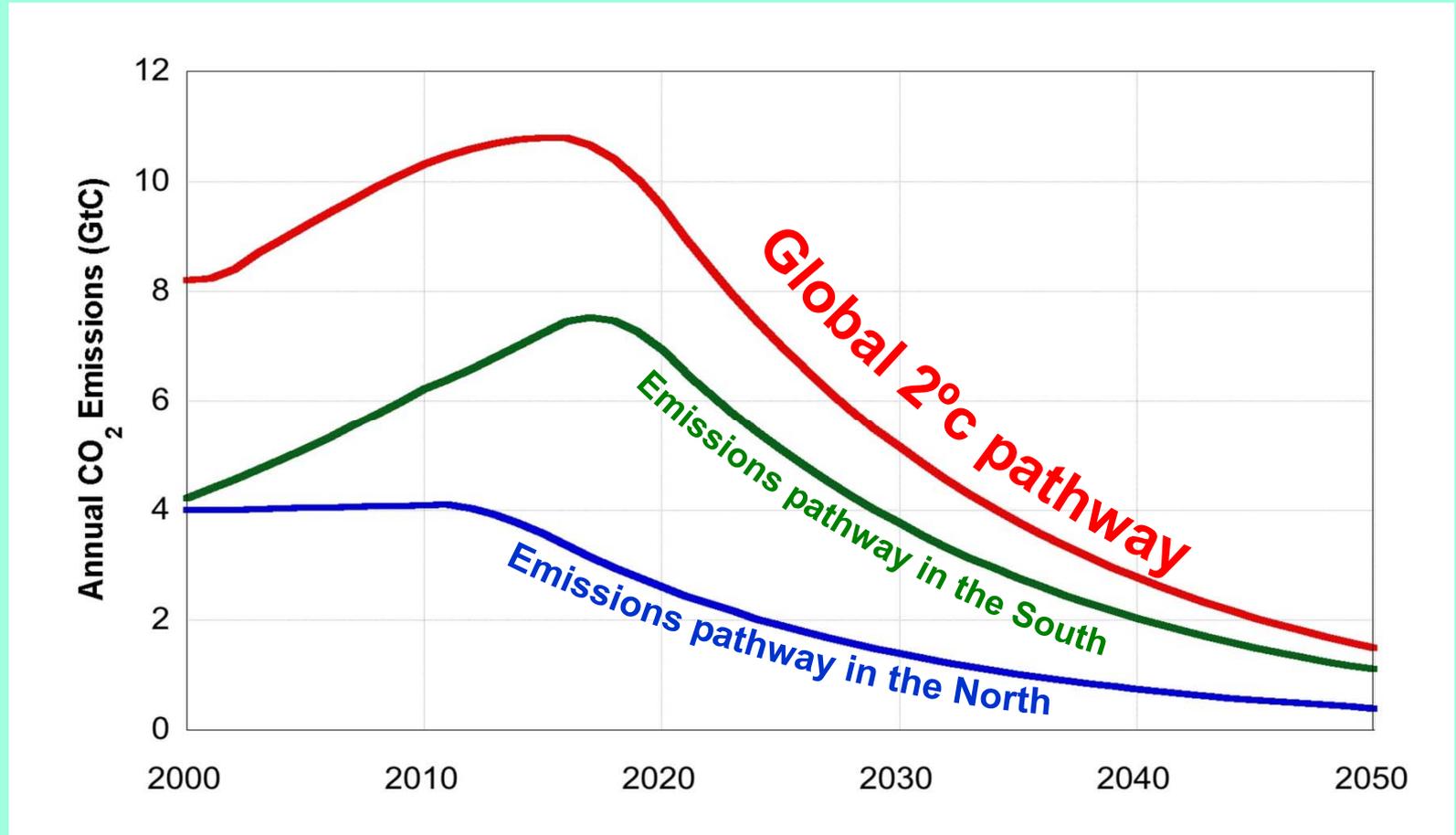


A close-up photograph of a person's hand holding a black fuel nozzle. The nozzle is connected to a black hose. The background is a blurred gas station environment. The text "Mitigation: carbon budget" is overlaid in white, bold font on the right side of the image.

**Mitigation:  
carbon budget**



# Staying well below 2° Celsius



still a 20-35% chance of going over 2°C





# African emissions

- Small contribution to historical build-up and current ongoing output
- Contribution will increase, depending what we do about our development path:
  - Future energy demand, consumption, supply
  - Exploitation of oil and coal
  - Land use practices e.g. denuding forests (we have  $\frac{1}{3}$  of world's tropical forests)
  - Consumption per person (population)





# Statements by African leaders

- Climate change is an “act of aggression” by developed against developing countries, who need to be compensated for the damage  
-- Yoweri Museveni, president of Uganda, 2007
- The greenhouse gas emissions of developed countries are equivalent to “low biological or chemical warfare”  
-- Kaire Mbuende, Namibian UN representative, 2007
- It is an irony that Africa, least responsible for global emissions, is likely to be the worst affected by the “excess consumption and carefree attitude of the rich”  
-- Basile Ikouébé of Congo Brazzaville, 2007

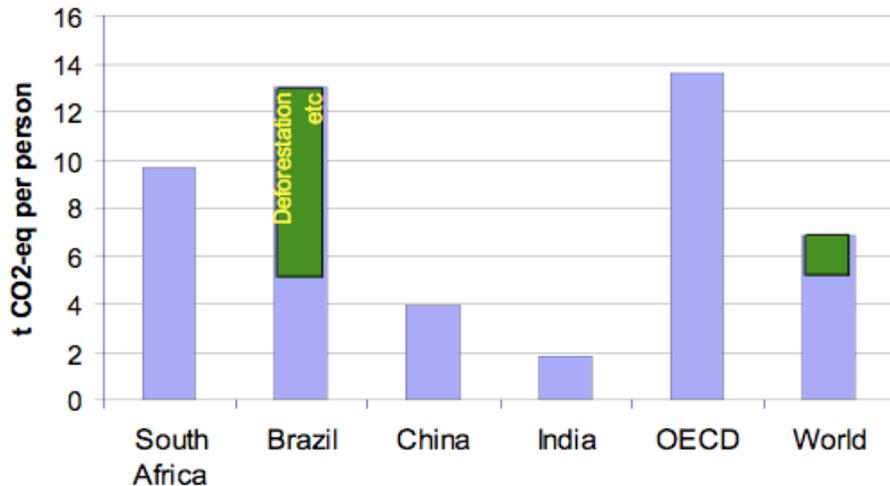




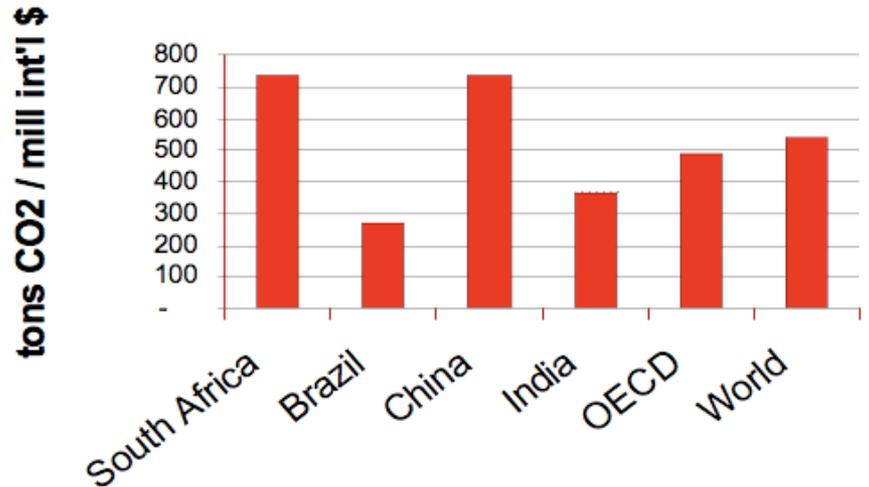
# SA emissions compared

- SA produces  $\pm 1\%$  of the global figure ( $\pm 500$  Mt GHG)
- Among top 20 world emitters, top 10 developing
- Contributes just under 50% of all Africa's emissions

Emissions per capita



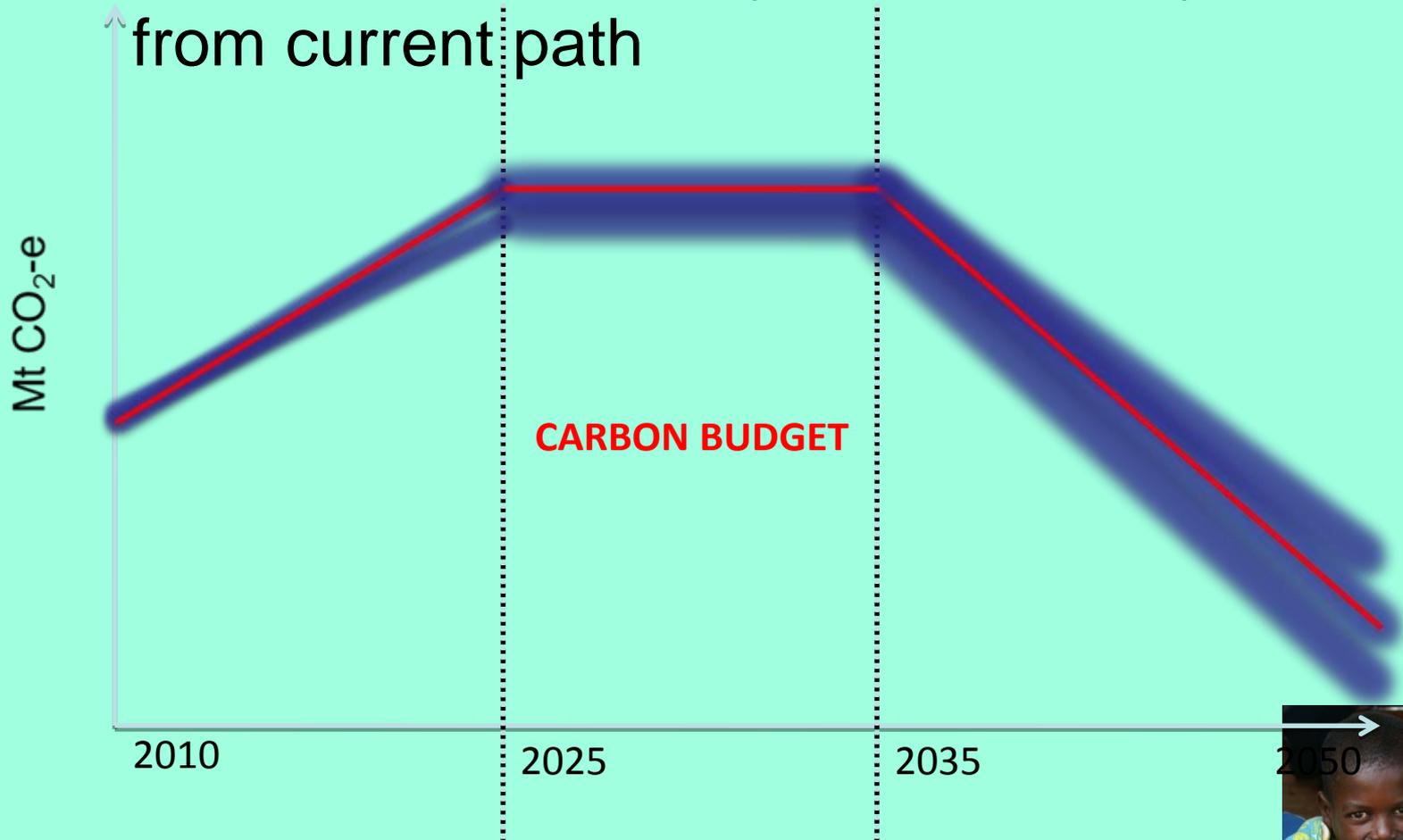
Emissions intensity





# SA carbon budget

cut emissions 34% by 2020, 42% by 2025,  
from current path



# Roadmap and trade-offs

Mt CO<sub>2</sub>-eq

A

B

2010

2025

- Waste
- Other fuel combustion
- Agriculture, forestry and land use
- Fugitive emissions
- Transport
- Manufacturing and construction
- Industrial processes
- Energy industries





**Adaptation: development**



# Shape policy, exercise oversight

## National Climate Change Response Policy (NCCRP) White Paper

- will identify flagship projects. Clear the way and accelerate implementation. (NCCC 30 June 2011)
- needs to give mandate for, and elements of, a systemic and systematic low-carbon action plan, with targets, deadlines, monitoring -- flagships must feed into plan

Drive implementation through oversight in and across all PPCs



A bright sun is visible in the lower-left quadrant of the image, shining through a deep blue sky filled with scattered, fluffy white clouds. The sun's light creates a lens flare effect, and the clouds vary in density and brightness, adding texture to the background.

# **International interventions**



# Climate migrants

- Why do we southern Africans migrate?:
  - to seek or follow work or an income
  - need for asylum
  - we want to move somewhere else
- Climate change may force migration
- Plan for climate migrants or refugees
- State control vs community approaches
- Tackle xenophobia





# Issues for COP17

- close the “gigatonne gap”: global greenhouse gas emissions **peak in 2015**, and are **reduced by 80% by 2050**
- innovative **finance sources** for mitigation and adaptation, such as international transport taxes and financial transaction taxes (FTTs)
- **Kyoto Protocol** second commitment period, with mandates for a **Long-term Co-operative Action** agreement, including developing countries



NICOLAS SARKOZY

2020



“ I’M SORRY.

WE COULD HAVE STOPPED  
CATASTROPHIC CLIMATE  
CHANGE... WE DIDN'T.”

ACT NOW - CHANGE THE FUTURE

tcktcktck

COPENHAGEN 7 DEC 09 | THE WORLD IS READY

GREENPEACE

BARACK OBAMA

2020



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