







# Introduction

Climate change is not about changes in the weather in some distant future. It is already with us. People in different parts of the world are experiencing more extreme weather such as droughts and floods, uncertain rainfall and rising sea levels. We see increasing floods in South Africa and the recent floods in Gauteng claimed the lives of 40 people. These climate changes are a threat to our health, jobs, livelihoods – and in the end, our survival on the planet.

Climate change is caused by our present system of production, distribution and consumption, a system which is both unjust and unsustainable. We have to change our way of producing energy, the way we work, produce goods and provide services. We have to create a low carbon economy in order to preserve our planet for future generations and in order to reduce the impact of climate change on water, food, livelihoods and other necessities.

COSATU is committed to making a just transition to such an economy. This means putting the needs of working and poor people first in the social and economic changes ahead of us. This booklet is intended to help us all understand what is involved. It is based on the Policy Framework on Climate Change adopted by COSATU's Central Executive Committee in August 2011.

## CONTENTS

<b>Chapter 1</b> Social and economic impacts of climate change	3
<b>Chapter 2</b> Understanding what is causing climate change	18
<b>Chapter 3</b> International politics of climate change	26
<b>Chapter 4</b> Solutions to the challenges of climate change	37
<b>Chapter 5</b> What is to be done by COSATU and the affiliates?	46
COSATU Policy Framework on Climate Change	52
Carbon footprint checklist for unions	60
Contact details	61
Further reading	62





## Chapter 1

# Social and economic impacts of climate change

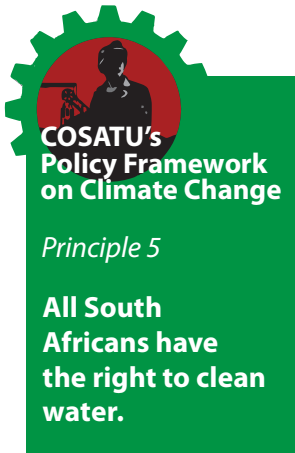
### This chapter should help you:

- **know** the terms water scarce, food security, adaptation
- **know about** the climate changes scientists predict for South Africa
- **understand** why we have to fight to limit climate change
- **be able to** link the changes in climate, their impacts on humans, and social and economic factors
- **discuss** what we need to do in our economy and society so that the working class, in particular women, can be resilient in the face of climate change
- **think about** how to deal with challenges in the southern African region as a whole

Climate changes are affecting issues like water supply and food prices that are important to the working class. We need to inform ourselves about coming and likely climate changes. Then we can plan and organise to deal with the impacts. We need not feel helpless. The issues unions have been fighting for and building – full employment, decent jobs and livelihoods, gender equality, clean water for all, food security, affordable access to health care, better education, decent housing in well-planned settlements with good affordable transport, people uniting to help other, environmental sustainability, an economy which puts people before profits – are the same things that will strengthen us to deal with climate change.

Much of the following climate information is taken from the National Climate Change Response Green Paper of 2010, and the website [www.cop17-cmp7durban.com](http://www.cop17-cmp7durban.com), which both used scientific studies done by researchers, government departments and agencies. If we do nothing about climate change, this is what is happening and will happen:

## Water resources



**COSATU's  
Policy Framework  
on Climate Change**

*Principle 5*

**All South  
Africans have  
the right to clean  
water.**



*This photo comes from COSATU's 2011 campaigns poster, which outlines calls for "Development built on environmental sustainability."*

Many South African do not have access to clean running water, and the free basic water allowance is limited. Subsistence agriculture depends mainly on rainfall. Water is essential for life, of people and the plants and animals we eat. It is not something we should have to pay for, and which is more available to the rich or powerful. How best should we protect our natural water systems, and use our water in ways and for purposes which advance economic justice?

## Freshwater supply

The challenge of equitably distributing South Africa's limited water resources will be worsened by climate change. We are already a "water stressed" country. We will become a "**water scarce**" country (meaning natural systems supply less than 1 000 cubic metres of water per person per year).





*A scene from Riemvasmaak in the Northern Cape, an area that is already arid.*

*Photo by Robert van Rooyen, from: Climate Governance in Africa: Adaptation Strategies and Institutions, a synthesis report compiled by Masego Madzwamuse, Heinrich Boell Foundation, October 2010*

This is because:

- All water comes from nature in the first place. Changes in rainfall timing and amount, more frequent and intense droughts, storms and flooding are affecting the natural water supply.
- Overall there are fewer rainstorms per year, including over crucial areas which supply our water, such as the Lesotho highlands. Half of the water in our main rivers comes from rain onto only 12% of our land – these areas are called headwater areas, and they have been areas of high rainfall.
- **Less rainwater** is reaching our rivers and dams. Especially in the west of the country, stream flows are reducing. Rainfall in the Western Cape is expected to fall by 66% in the next few years.
- Higher temperatures increase **evaporation** from dams, rivers and the soil.
- More intense storms are increasing the **soil** washed into the water system, changing river flows, clogging pipelines and making water treatment more complex.
- Species of plants that are not indigenous (called “alien”) draw more water than local species, leaving less for our use. Some **alien species** are likely to spread because they are better suited to the new climate conditions.
- Both natural changes and human destruction damage ecosystems such as water catchment areas and wetlands, which affects their role in supplying freshwater.

*COSATU has joined other organisations in the campaign to highlight the country's looming water crisis ... setting out the problems and challenges we face and demanding urgent measures to resolve the crisis. Should there be no progress in addressing the challenges raised in this application, COSATU will have no option but to mobilise its members for a protest which will take the form of marches, demonstrations, pickets and stayaways.*

COSATU on the Labour Constituency's submission to NEDLAC on the Acid Mine Drainage WaterCrisis, May 2011



*The water security problem is put as a trade off between human, agricultural, ecosystem and industrial consumers. But who will be favoured and what are the principles of ensuring a basic minimum amount of water per person? Nothing is really said about how prices of water and cross-subsidising tariffs will be structured so that it is not the poorest of the poor who face cut offs. ... When will we actually tackle the problems of high input and unsustainable commercial agriculture damaging our water resources?*

COSATU's input on the National Climate Change Response White Paper, November 2011

## Our use of water

Our water problems are not just about the supply of water from nature, but also our growing **demand** for water, and how we **waste** and **pollute** our water. We use about half of our water for commercial agriculture, and industry also uses massive amounts of water – both in ways that are very wasteful and put a lot of pollution back into rivers. Some water is lost through leaks and water infrastructure that is not well maintained. In our homes (especially middle class households) we sometimes use water wastefully, like rinsing dishes under running water. Demand, waste and pollution problems are a result of the way our economy works, not of climate change. With climate change worsening our water availability, we cannot continue in the same ways.

### South Africa's water demand

If we continue as we are, our demand for water is projected to increase by 32% between 2006 and 2030. According to the Director of Water Affairs, in the Western Cape demand for water will outstrip supply by 2012. Even with the Lesotho Highlands Water Project which brings us water from Lesotho, demand will grow bigger than supply in the Vaal area by 2014.

### Water pollution

Industrial agriculture uses large quantities of toxic pesticides and herbicides, and needs great inputs of harmful chemical fertilisers, which seep into our water sources and deplete the oxygen vital to many freshwater species. Some farmers are starting to adopt more environmentally sustainable forms of agricultural production.

Acid mine drainage from disused and abandoned mines is poisoning our freshwater supplies. Much of the Vaal River system is seriously contaminated by these discharges, as well as through pollution by heavy metals and radioactive substances.



A COSATU campaign sticker.



**Stop  
the looming  
water crisis**



## Agriculture and forestry

Food security problems will be worsened by climate changes. Jobs, production and revenues from these sectors will also be affected. This is because:

- Areas suitable for agriculture and forestry will shrink. We already cannot plant crops on more than 14% of our land.
- Growing seasons will get shorter.
- The land's potential to yield harvests will lessen, particularly around semi-arid and arid areas. The south-west of the country is getting drier.
- This will particularly affect farming of **maize** in summer rainfall areas, and **fruit** and **cereal** in winter rainfall areas.
- We may not be able to grow the same types of crops in the same areas as before. For example, some farmers in the Western Cape are changing from grapes to olives (also because world prices for wine are dropping). Climate change will even affect the price and taste of **beer**. South African Breweries is trying to find a solution to risks caused by climate change in the Western Cape where hops a main ingredient of beer is grown.
- Natural rangelands used for **grazing** are vulnerable to climate changes.
- Many **pests** and **diseases** that threaten crops and livestock flourish under warmer conditions.
- More intense rains cause more **erosion**.
- Extreme weather events impact on agricultural production, which takes place outside and on the land.
- An increase in dry spells and hotter temperatures increase the likelihood and strength of **wildfires**, which threaten forestry.

*Workers clear alien vegetation in KwaZulu-Natal. The project assists communities who have had land restituted to them to manage conservation on the land and generate incomes.*

Wildlands Conservation Trust, funded by The Green Trust



*A worker on a rooibos farm near Clanwilliam. Rooibos is an indigenous plant, adapted to dry conditions in South Africa.*

Photo by Michael van Rooyen, from: Climate Governance in Africa: Adaptation Strategies and Institutions, a synthesis report compiled by Masego Madzwamuse, Heinrich Boell Foundation, October 2010





## Food security

### COSATU's Policy Framework on Climate Change

#### Principle 3

**Food insecurity must be urgently addressed.**

## Rising food prices and hunger

By 2020, yields from rain-fed agriculture could be reduced by up to 50% in some countries. In many African countries, agricultural production and access to food is projected to be severely compromised. This would worsen food security and malnutrition. The same will be true for subsistence farmers in South Africa, and those who cannot afford higher and higher food prices.

The price of many **basic foods** is increasing, due to a range of factors including climate change. An Oxfam report warns that globally food prices could double in the next 20 years because of climate change. The IPCC calculates that unchecked climate change will cut global food production by up to 40% by 2100. (The IPCC is the Intergovernmental Panel on Climate Change, a United Nations body of hundreds of climate scientists from about 140 countries.) Temperature increases will affect the type and yields of many crops. Recent floods in Canada, China and Australia ruined crops. Experts predict that all over the world yields of maize, soya bean, wheat and rice will decrease dramatically as temperatures rise. Below you can read about the impact on seafood. The **price of oil** is rising and this also means higher food prices, because it affects the cost of transport and of the fertilisers which are based on oil.

For example, already the **wheat price** has been affected by climate change in the form of flooding in Australia and drought in Europe which damaged crops, and drought in Russia which destroyed much of the wheat harvest. Oxfam says the price of wheat will likely increase almost 120% by 2030. In South Africa the **price of bread** has risen 66% in the last three years, partly because we now import wheat.

### Hunger in South Africa

Presently about 40% of South Africans are "food insecure", meaning they go hungry sometimes. In the City of Johannesburg, 42% of households are classified as food insecure and this increases to 70% of households in the poorest areas. One in every four



In South Africa the **price of bread** has risen 66% in the last three years, partly because we now import wheat.

Many families depend on natural grasslands for stock grazing, like those of this group of children herding stock in the Transkei.





South African children under the age of six is showing signs of stunted growth due to malnutrition. This means that we are producing a new generation which is damaged both physically and mentally.

Rising food prices means that food insecurity – the polite word to describe people going hungry – will increase. We need to address poverty and inequality, change our methods of agricultural production and distribution, *and* take action to stop climate change. Unless we take drastic action, we could face food catastrophe in South Africa.

It is women who will suffer the most from these rising prices and shortages because it is women who are the majority of small farmers throughout Africa. Also it is women who administer household consumption. Higher prices mean more domestic work for women to feed and care for their families.



*A woman harvesting indigeneous sedge in Mbongolwane. The reeds are part of her livelihood. We are all directly or indirectly dependent on ecosystems.*

Photo by Chris Marais for WWF and Canon.

*Land reform is not just a matter of historic injustices, it is fundamentally about putting more people back on to the land to engage in more ecologically sensitive forms of agriculture for food security. ... We have no doubt that we are highly dependent on commercial and factory farming for much of our food. ... It is not for nothing that we are now a net importer of food. Agricultural reform and land reform strategies must cut across the spatial inequalities and ... meet more clearly delineated food security needs.*

COSATU's input on the National Climate Change Response White Paper, November 2011







## Coastal and marine livelihoods

Half of the world's population lives near coasts. Many economic activities such as fishing and tourism, and community **livelihoods**, depend on the coastlines and seas. Climate change will affect us because:

- Sea levels are rising, and starting to get into into low-lying lands and wetlands. Salty water gets into fresh water systems. According to the IPCC, by 2100 sea levels will have gone up at least 2060 cm from 1980-1999 levels (that is without any rapid ice changes) and they cannot say what the maximum rise could be.
- Together with sea storm surges and coastal erosion, this will damage or destroy **settlements** and **infrastructure** along the coast. People could be drowned, hurt or displaced, and economic activity will slow.
- More carbon dioxide in the air will mean the oceans will absorb more of this gas. This makes oceans more acidic. Evaporation makes the water more salty. Many ecosystems where our **seafood** and **fish** breed and feed will not be able to survive in more acid or salty conditions. This would be most severe in coastal coral systems and inter-tidal systems, but will also likely impact on the cold water systems of the west coast and southern oceans.
- The Agulhas and parts of the Benguela currents are warming. Scientists do not fully understand how the large systems of ocean circulation will be affected.
  - Changes to the Agulhas system east and south of South Africa could affect seasonal rainfall patterns over South Africa, with the consequences outlined above.
  - There could be long-term effects on the productive Benguela current system on the west coast, with impacts on **industrial fisheries**.

## Human health

South Africa's health system is already over-stretched and under-resourced. Under widespread poverty, people's health and their ability to recover suffers. This includes mental health issues such as stress and depression. Climate change will add to our health problems, because:

- Water shortages and increased **malnutrition** undermines people's health and ability to cope with disease and other stresses.
- **Diseases** are spreading or moving due to hotter temperatures and changes to rainfall patterns in southern Africa. For example:
  - Mosquitos and ticks carrying malaria and other diseases can now survive further south and west than before.
  - Outbreaks of cholera and other water-borne diseases are linked to hotter conditions, flooding and warmer sea-surfaces.
  - Germs leading to skin diseases, infections and food-borne diseases like diarrhoea flourish in warmer, wetter conditions.
- People's **immune systems** and our **health system** may not be equipped to deal with certain diseases in areas which have not experienced those diseases before.
- Alien plants spread and push out indigeneous species which many people use for food and **medicines**.
- In urban areas higher levels of certain greenhouse gases lead to **heart and lung diseases**.
- With more evaporation, poisonous **pollutants** in water become more concentrated and dangerous.
- Extreme weather events and disasters lead to deaths, injuries and illnesses.



### Principle 7

**The impacts of climate change on health must be understood and dealt with in the context of the demand for universal access to health.**

*Over 1 300 people were infected in cholera outbreaks in Delmas in Mpumalanga during 2008.*



## Gender factors in resilience to climate change

### Potential climate changes and their effects on women



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 and water shortage	Morocco 10 years of drought 1984–2000 Northern Kenya 4 severe droughts 1983–2001	<b>Workload:</b> Women and girls in developing countries are often the primary collectors, users and managers of water. Less available water will increase their workloads and jeopardise family livelihoods. Leads to lower school enrolment for girls, or less opportunity for women to do income-generating activities.
Increased extreme weather events	Greater intensity and quantity of cyclones, hurricanes, floods and heat waves	<b>Deaths:</b> A sample of 141 countries over 1981–2002 found that natural disasters (and their subsequent impact) kill more women than men on average, or kill women at an earlier age than men.
Climate change effects: Indirect	Examples	Potential effect on women
Decreased crop production	In Africa, crop production is expected to decline 20–50% in response to extreme conditions	<b>Food:</b> Rural women do half the world’s food production, and between 60–80% of the food in most developing countries. In Africa, climate-related crop changes could affect from 48% of women in Burkina Faso, to 73% in the 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, but permanent temperature change will reduce agro-biodiversity and traditional medicine options, potentially affecting food security and health.
Increased epidemics	Climate variability played a critical role in: <ul style="list-style-type: none"> <li>• malaria epidemics in East African highlands</li> <li>• Bangladesh cholera outbreaks</li> </ul>	<b>Health and 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 change effects. Adopting new ways to produce crops or farm livestock is harder for female-headed and infected households.



## Gender differences in vulnerability and adapting to disasters

The social position and roles of women and men equip them differently when disasters do happen. The same factor can be both an enabler and a barrier – in different ways – within one gender. For example, generally women are more constrained to the home and local environment – this means both that they don’t have networks in the wider world and the experiences that broaden one’s horizons (a limitation), and that they have extensive knowledge of their own community and strong social networks (a resource). The points are broad characterisations based on the most common roles and position – as they objectively exist given the current gender differentiation.

Gendered ...	Women	Men
... differences that increase <b>risks</b> in disasters	<ul style="list-style-type: none"> <li>■ Higher levels of poverty</li> <li>■ Extensive responsibilities of caring for others</li> <li>■ Domestic violence</li> <li>■ Traditional women’s occupations</li> </ul>	<ul style="list-style-type: none"> <li>■ Work away from the home and are isolated from the community</li> <li>■ Internalised norms of masculinity</li> <li>■ Roles in the family and home</li> </ul>
... experiences that can increase <b>capacities</b> for managing disaster situations	<ul style="list-style-type: none"> <li>■ Social networking</li> <li>■ Caring abilities</li> <li>■ Extensive knowledge of communities</li> <li>■ Management of natural and environmental resources</li> <li>■ High levels of risk awareness</li> </ul>	<ul style="list-style-type: none"> <li>■ Professional and work contacts</li> <li>■ Technical abilities</li> <li>■ Limited childcare responsibilities</li> </ul>

*The table is from Gender, Climate Change and Community-Based Adaptation, by the United Nations Development Programme, July 2010. It reflects research on disasters in general (not just climate disasters), done amongst the poorer majority in underdeveloped and developing countries.*

Please do not think we are saying “Women are naturally more caring than men.” The points reflect what exists, and are not about women’s and men’s potential. Also, there will always be exceptions at an individual level, and some differences between cultures, classes, and economies.





## Conflict within and between countries

Conflicts often arise between desperate individuals and groups of people as resources become scarcer, people can afford less and less, or unemployment rises as economic activity is disrupted. We need to build unity, organisation and a collective approach to economic and climate change challenges.

Climate does not respect political borders. Many of these climate change impacts described above will affect our southern African neighbours. We will need to tackle such matters **regionally**. This will involve cross-border approaches to ecosystems, water systems and natural resources. We also need to prepare as a collective of countries to deal with disaster events in the region. We need to build peaceful solutions before violent conflicts and wars break out in the face of climate change impacts.

Thousands of “**climate refugees**” could swell the ranks of economic and political refugees, as people move or are displaced when water runs out, harvests can’t feed them or fertile land shrinks, or to seek alternate livelihoods, or to flee disasters or violent conflicts. Up to a billion people could be forced to leave their homes by 2050, due to climate change, environmental degradation and resultant conflict, with women being disproportionately affected. For example, it is estimated that more than a 1 metre rise in sea level by 2100 will displace a least 100 million people in Asia.



COSATU's  
Policy Framework  
on Climate Change

Principle 10

**African solidarity  
is imperative.**

## The financial costs of coping with climate change

The full costs of climate change cannot be quantified financially. How does one put a price on that which is priceless – human suffering and loss of life, biodiversity loss, ongoing damages over generations from events such as storm surges, crop failures and water scarcity? For practical purposes, estimates of the costs of climate change are based on the likely costs of cutting carbon emissions and of the future need to adapt to the effects of climate change. For example, damage due to extreme weather-related events (flooding, fire, storms, drought) have been estimated to be at least R1 billion per year over the years 2000–2009.

### Costs of coping with climate change impacts in Africa

If the temperature goes up by ...	By this year ...	Then the cost will be this % of Africa's GDP
1.5 °C	2040	1.7%
2 °C	2060	3.4%
4.1 °C	2100	10%

The AdaptCost project, sponsored by the United Nations Environment Programme has investigated the economic costs of climate change adaptation in Africa. Look at <http://weadapt.org/placemarks/view/504#> on the internet.

*We need training programmes for unemployed youth so that they have the skills for new "green jobs." Preparing for climate change now saves us money in the long run.*  
meunierd | shutterstock.com

The Pan African Climate Justice Alliance produced a report *The Economic Cost of Climate Change in Africa* in 2009. The report estimated that the potential cost to Africa of adapting to climate change will reach at least US\$10 billion – but will more likely be in the region of US\$30 billion – every year by 2030. The GDP cost predictions in the table are also from the PACJA report.







## Discussions and debates

**COSATU's Policy Framework on Climate Change**

Principle 8

**A just transition to a low-carbon and climate resilient economy is required.**

### *Impacts on the working class*

The impacts on humans of changes in natural systems depend on the economic and social conditions that people are in. In South Africa we are still trying to create a better life for all, and many of us still live in poverty and difficult living conditions, while the economy is still largely designed for private companies.

Discuss:

- Have you noticed any signs of the climate changes described in this chapter?
- How will such these climate change impacts affect workers in your union, and poor people in areas that you know.
- How will men and women be affected differently?

### **What does “adaptation” and “mitigation” mean?**

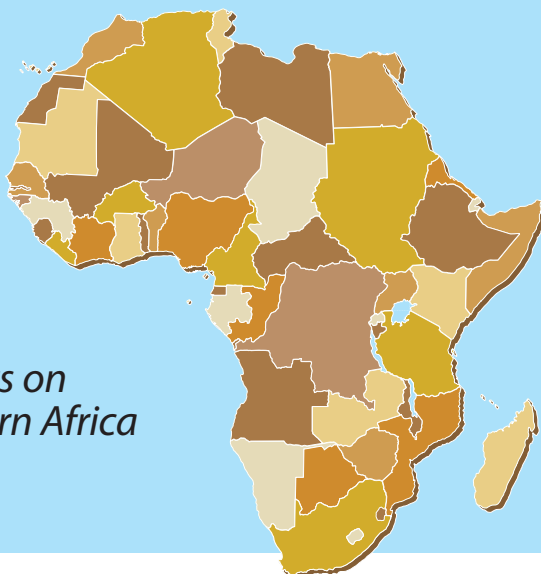
**“Low carbon”** refers to the need for us to transform our economy and the way we live so as to limit our emissions of greenhouse gases. This is called **“mitigation”** of climate change.

**“Climate resilient”** refers to strengthening the capacity of our people, environment and economy to prepare for, withstand and respond to the impacts of climate change. This is called **“adaptation”** to climate change.

### *What can we do about it*

Debate what we can do in terms of adaptation to climate change. Consider water, food, health, housing and settlements, infrastructure, ecosystems.

*Impacts on Southern Africa*



Coastlines, sea level rise, coastal floods, erosion

Diseases shift as mosquitos, ticks, tsetse flies move

Stressed water resource availability

More risk of wild fires

Loss of ecosystems and natural resources

- Affects agriculture and fisheries
- Affects tourism
- Health burden, costs
- Rising costs
- Economic damage

## Campaign work

In 2011 COSATU conducted a campaign against xenophobia, and adopted a declaration under the theme "Working class solidarity knows no borders." Get a copy of the declaration and see how to integrate this campaign into work on climate change.

*This belief that there is simply no end to our consumption of infinite resources lies at the heart of what is wrong. It is precisely what continues to drive big oil's ongoing attempts to exploit the margins of what is extractable irrespective of environmental consequences e.g. fracking the Karoo. Resources are not infinite. Nor are they accessible by all.*

COSATU's input on the National Climate Change Response White Paper, November 2011

## Environmental justice includes other issues as well as climate change

The environmental crisis is deepening. Precious natural resources are wasted, air and water contaminated, and soil degraded by • the production processes of mining, smelting, electricity, chemical production, industry and industrialised agriculture • the way and distances we transport products and people • wasteful consumption and excessive demand for luxury goods.

Fossil fuel extraction, processing and use releases other pollutants as well as greenhouse gases. These damage the health of workers, surrounding communities and environments. Many of our people also use coal, paraffin or wood for heating and cooking. We have some of the highest rates of respiratory diseases, such as asthma, in the world, particularly affecting our children.

We use natural resources as if they are limitless, and destroy grasslands and natural forests, rivers and wetlands. We are losing indigenous seed varieties, and plants and animals are becoming extinct.

*Ecosystem failure will seriously compromise our ability to address our social and economic priorities. Natural resources are national economic assets ... we have no option but to manage our natural resources in a sustainable way. We have no choice but to be eco-friendly.*

from address by President Jacob Zuma at the Green Economy Summit, May 2010

The burden of these environmental issues has fallen more intensively on the poor, especially on poor black people. This can be termed environmental racism or **environmental injustice**. The same is true of climate change impacts.



## Chapter 2

### COSATU's Policy Framework on Climate Change

#### Principle 1

**Capitalist accumulation has been the underlying cause of excessive greenhouse gas emissions, and therefore global warming and climate change.**

*COSATU recognises that the fundamental cause of the climate crisis is the expansionist logic of the capitalist system. Capitalism is a system that constantly seeks to expand production by the cheapest means possible. This means that it depends on the exploitation of workers around the world as well as the depletion of the natural resource base of the planet. What is produced is very often not really needed by people, but becomes desirable through advertising and marketing. It is also a system that creates massive waste – either in the form of production that exceeds demand, or in the form of goods that are bought but thrown away.*

COSATU Climate Change Policy Framework, August 2011

# Understanding what is causing climate change

## This chapter should help you:

- **know** the terms greenhouse gases, carbon emissions, global warming, mitigation
- **understand** how carbon emissions lead to climate change
- **be able** to tell others about the emissions situation in South Africa
- **discuss** what we need to change about how our economy contributes to climate change

There is a physical cause-and-effect chain from **greenhouse gases**, to **global warming**, to **climate change**. With industrialisation starting in Europe from the mid-1700s on, human activity has released increasing amounts of greenhouse gases into the atmosphere. These are the gases that trap heat, leading to global warming, which is causing climate change. The good news is that since human activities are causing the emissions, we can change our economies to stop causing a worsening problem – and can take the opportunity to create greater economic justice in the process.

### The difference between “weather” and “climate”

**Weather** includes temperature, humidity, wind, cloudiness, sunshine and rainfall conditions in a particular place at a particular time. It can change from hour to hour and season to season, and from one place to another in the same region. For example, it may rain for an hour and then become sunny, or we may have a few warm days in winter. Weather is what we hear about on the radio or television news every night.

**Climate** is the repeated weather patterns for a particular region observed over many years. This includes average weather conditions, the weather linked to the seasons (winter, spring, summer, and fall), and the frequency of special weather events (like tornadoes and floods). For example, on average:- the climate in South Africa is more sunny than it is in Europe, the humidity in KwaZulu-Natal is higher than in Gauteng, in the Western Cape the rainy season is in winter, and we don't expect tornadoes in southern Africa. There can be variations and exceptions on some days or in some years, but the overall patterns remain. Climate change is not just a temporary change in the weather. It refers to changes in patterns and trends over time. For example, we have had bad drought in the Eastern Cape in the past, but if droughts happen more and more often, that is a change in the pattern.



## The planet is a big greenhouse

Sunlight from the sun reaches the earth, providing light and warmth. Some of it is **reflected** back into space. For example, the white ice sheets of the Arctic and Antarctic reflect sunlight.

Not all the heat from the sun escapes back into space. Some is **trapped** by the air around the earth, called the atmosphere.

The atmosphere is made up of different gases. The gases that trap heat are called **greenhouse gases**. They make the earth act like a greenhouse, where you grow plants in a building that stays warm and moist inside.

Some natural processes add greenhouse gases to the atmosphere and other processes reabsorb them. The oceans, soil and vegetation act as "**carbon sinks**", absorbing or storing more carbon than they emit. For example, trees and other plants take in carbon dioxide (CO<sub>2</sub>) and give off oxygen (which humans need to breathe). As a natural system, the amount of gases in the atmosphere has remained stable enough for survival.

All living things, including humans, are adapted to survive on the "greenhouse" planet. There is no life on the other planets around our sun, because they do not have an atmosphere with greenhouse gases that create a livable environment.

### The link between "greenhouse gas emissions" and "carbon emissions"

Different greenhouse gases have different global warming and hence climate change impacts. To be able to compare the warming impact of these gases, they are converted to a common basis called carbon dioxide equivalent (written CO<sub>2</sub>e). Shorthand we talk of "carbon emissions", which means the same as "greenhouse gas emissions."

### Measuring temperature

Temperature is measured in "degrees centigrade" written °C for short. To get an idea of the measure, think of the maximum and minimum °C temperatures on the weather report.



## Human activity is adding greenhouse gases



Greenhouse gas emissions

Capitalist industrialisation developed in Europe and spread with colonialism. The technologies and processes that drive the big factories, mechanisation of agriculture, motorised transport, and construct and power cities, all cause huge volumes of emissions and destroy natural carbon sinks. We **produce, distribute and consume** energy, food and other goods in a way that is economically and environmentally unsustainable. There is a lot of waste and over-consumption by some. This damaging “development” has not delivered a good standard of living for most people.



The most common greenhouse gas released by human activity is CO<sub>2</sub>, which is **emitted** when we make cement, burn wood and use fossil fuels such as gas, coal or oil. Another major greenhouse gas is methane from livestock farts, rubbish landfills and rotting things.

Changing the way we **use land** contributes to emissions, both by destroying the sinks so that they can no longer absorb carbon, and by releasing the carbon they stored. When trees are cut down for development, agriculture or other reasons, they no longer take carbon dioxide out of the air, but they actually release carbon dioxide as they decay or burn.

The **net emissions** caused by humans is the emissions we emit plus the carbon sinks we destroy. If we maintain and restore the carbon sinks, the carbon that gets reabsorbed reduces our net emissions.

The way our economies are run is releasing increasing amounts of greenhouse gases into the atmosphere. Currently nature absorbs about half the CO<sub>2</sub> we emit, but this is declining steadily. The emissions that are not absorbed stay in the atmosphere for centuries, and build up over time. Concentrations of CO<sub>2</sub> are about 40% above those of 200 years ago. Since 2000, emissions have been rising by more than 2% per year.

## More greenhouse gases lead to global warming



Average global warming

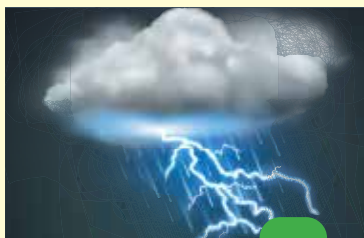
As humans emit ever more greenhouse gases, the gases have been accumulating in the air over time, and getting more and more concentrated in the atmosphere, trapping more and more heat.

The average world temperature has gone up by more than 0.7°C over the past century. Most of this increase has been since 1970. That may not sound like a lot, but remember that is a **global average increase**. Some areas will get a lot hotter than the average. The warming is stronger over land than over oceans and in the polar regions than in the tropics. There will always be natural variability, and some places and some years will be warmer or cooler than average.

If we continue as we have been, scientists predict the global average temperature will rise by at least 2°C to 4.5°C by late this century. (Latest scientific results seem to suggest we may already have emitted too much to keep us below 2°C.) If we do nothing to change our development path, we could be on track to a long-term average warming between 4°C and 8°C. We can hardly imagine surviving in a world like this.



## Effects of a warmer planet



Climate change



Climate change effects



Impacts on humans

A higher average temperature of the world leads to:

- more **water evaporates** from the oceans, inland water and plants and land:
  - the seas get saltier
  - there is less fresh surface water available
  - plants dry out quicker
  - extra water vapour in the air (humidity) also traps more heat
  - more water vapour held by a warmer atmosphere leads to heavier rains and snowfalls
- **ice caps** at the north and south of the planet melt, so ...
  - level of the seas go up with the extra water, which also expands with heat
  - less ice reflects less of the sun's heat away
- glaciers and snow on mountain tops melt and shrink every year, and over time supply less water into streams in spring
- changes in the **ocean currents** (which create climate conditions)

These effects all create changes in climates around the world. In general, summers are hotter and winters are warmer (this will be welcome in some places). Rainfall and seasonal patterns shift. Plants and animals die, or move if they can to climate conditions where they can still survive. Diseases shift to other areas, for example bacteria like cholera thrive in warmer conditions and the mosquito which carries malaria can survive further south as it warms up.

It is not just that climate patterns shift slowly over time, but the weather becomes **erratic, unpredictable and extreme**. Extreme weather events like tornados, fierce storms, hurricanes, heat waves, droughts are more frequent and more intense. In 2003 a heat wave in Europe killed 35 000 people.

**Droughts** get longer and extend to new areas, including southern Africa, the Mediterranean, Middle East and Central Asia. A 2004 study by the USA's National Center for Atmospheric Research found that the percentage of earth's land experiencing serious drought had more than doubled since the 1970s.

### Concentration of gases

The concentration of greenhouse gases in the atmosphere is measured in parts per million (ppm): of every million molecules in the air, how many are CO<sub>2</sub>e molecules. The more tonnes of emissions we add, the higher the concentration becomes. This is like dissolving more and more spoonfuls of sugar in a cup of tea. Concentrations of CO<sub>2</sub> are about 40% above those of 200 years ago. Pre-industrial levels were 284 ppm. We are now at the highest levels in 800 000 years.

Scientists research the relationship between temperature and levels of carbon emissions in the air. According to the IPCC, for the planet to have a 50% chance of avoiding a dangerous global average temperature rise of 2 °C or more above pre-industrial levels, greenhouse gas concentrations must stabilise at 450 ppm CO<sub>2</sub>e. This will be very tough to achieve, but is still possible. As at April 2012, globally we are already at 396.18 ppm, so there is no time to lose. Many organisations argue that allowing for 450 ppm is too high. They say that humanity cannot allow our emissions to increase the average global temperature by more than 1.5 °C. Cooler would be better, but by now is unlikely to be possible.



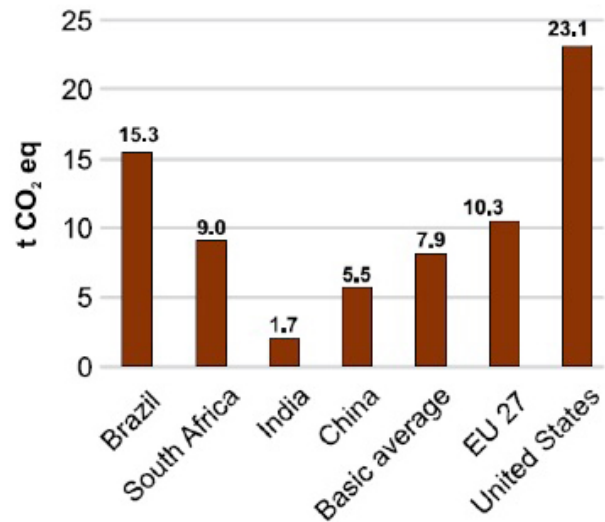


## The situation in South Africa

### South Africa's contribution to global emissions

More than 90% of our Eskom electricity is produced by burning coal in our power stations. Sasol's process that turns coal into fuel also releases carbon emissions, as do the refineries that process oil into petrol, and all the vehicles and machines that use the fuels. If we look at individual installations around the world, Sasol's Secunda plant is the worst emitting one.

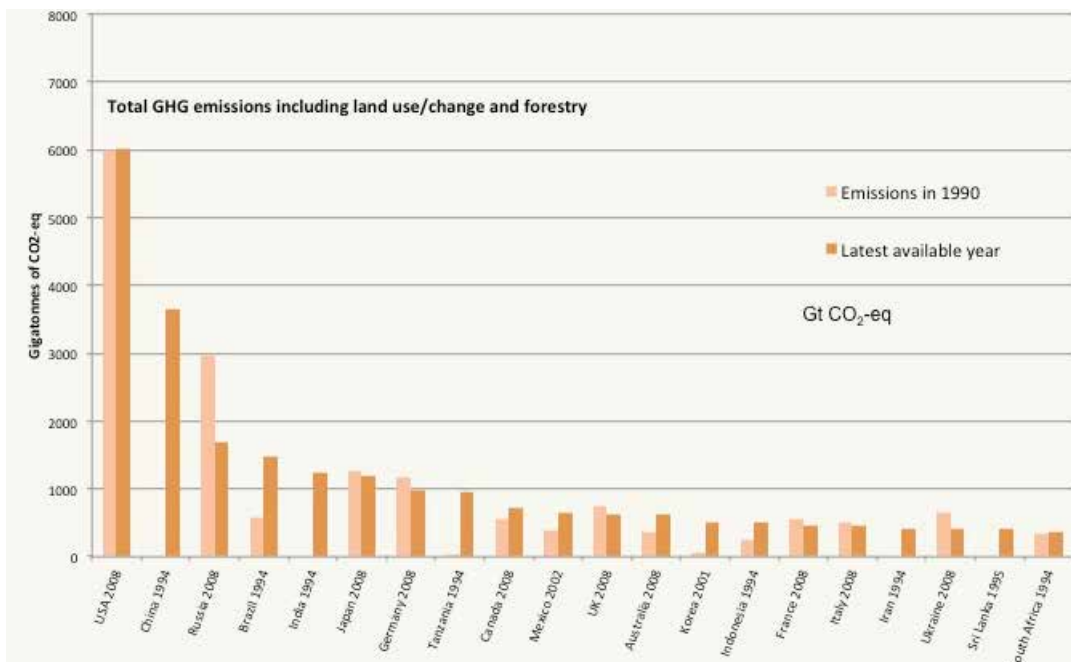
This graph compares South Africa's per capita emissions in 2005 with those of some other countries. Per capita means a country's emissions gets divided by the number of people in the country. It gives on average what every citizen's share of that country's emissions was. It is striking that our per capita emissions are nearly as high as those of the European Union, and much higher than those of other emerging economies. (Brazil's emissions are mainly due to the destruction of the Amazon forest.) Yet the average South African's standard of living is nowhere near that of a European.



This graph is from Stockholm Environment Institute's 2010 Policy Brief "Together Alone? Brazil, South Africa, India, China (BASIC) and the Climate Change Conundrum". The emissions shown for "BASIC" is the total for the BASIC countries added together. The emissions are shown including land use. Most of Brazil's emissions come not from gases emitted, but from the Amazon forest being cut down.

*Satellites show average Arctic sea ice shrink by 2.7% per decade from 1978 to 2006, with faster melting in summer. According to scientists the amount of ice is the smallest size ever observed in the three decades since consistent satellite observations of the polar cap began. Previously the ice on average only shrunk as far as the orange line.*

Aug 26, 2012



This graph comes from emission numbers published by the United Nations in 2010.

There are however very clear sites of greenhouse gas emissions [in South Africa] that need to be tackled front on and urgently, and which should not be allowed to try and pass the buck by offsetting the necessity of their emission reductions against alleged growth and development contribution.

In terms of the absolute amount of greenhouse gases emitted, our heavy use of fossil fuels makes South Africa one of the worst top twenty countries. South Africa contributes half the emissions coming from Africa.

We only produce about 1% of the world’s emissions. So if other big-emitting countries don’t cut emissions, our contribution cannot help much on its own. This is why it is important to get all countries to cut emissions. But with the planet racing to climate chaos, every bit of emissions reduction is essential and we must do our part.

COSATU’s input on the National Climate Change Response White Paper, November 2011

## Warming in South Africa

If world emissions and warming continues on the same trend, the predictions for **South Africa’s average °C rises** above current levels are:

	by 2050	by 2100
in the interior of the country	+ 3°C 4°C	+ 6°C 7°C
in coastal regions	+ 1°C 2°C	+ 3°C 4°C

Imagine these increases on top of the hottest day in your area. The year 2050 is less than 40 years away.

These numbers come from South Africa’s National Climate Change Response White Paper, adopted by government in 2011. It says “With these kinds of temperature increases, life as we know it will change completely.”



## The financial costs of reducing carbon emissions

### Externalised costs

*We endorse the main point which is that currently external costs need to be internalised in the cost of production, even though the mineral energy complex has been busy in the public media warning of dire consequences and job losses.*

COSATU's input on the National Climate Change Response White Paper, November 2011

Business typically “externalises” as many of the costs of production as possible. For example, the externalised costs from running a mine may include damage to the health of workers because of poor safety or pollution, and acid mine drainage into our water supply. The company does not pay the costs of better health and safety practices, of workers’ or residents’ health care, nor of cleaning up the water. Those costs are paid by the workers, the residents, and taxpayers when the state has to clean up. Climate change is an immense externalised cost.

Because its costs are lower, the company’s profits are higher. If the company had to carry the costs of properly caring for workers and managing the pollution, it might increase the price of its products. But the overall externalised costs to society would be reduced.

Because externalised costs are hidden in expenses and taxes paid by citizens, and because resources like the sun, air and water are provided free by the earth, we tend to think these costs are not “real.” But companies are getting these “public goods” for free and someone else is paying for them, now or in the future.

### Spend now or pay more later

The 2006 Stern Review describes climate change as “the greatest market failure in human history.” (The Review was a study of climate costs done for the British government by a team led by economist Nicolas Stern of the London School of Economics.) The study by mainstream economists says that not including the external costs of greenhouse gas emissions in prices has allowed the current market-based economic system to sow the seeds of general economic and social destruction through climate change. In June 2008 the study was updated to account for climate change happening faster than expected.

The Review calculates that we need to start investing about **2% of global GDP per year** on actions to avoid the worst effects of climate change. It says that if we fail to spend this money now, climate change impacts will bring **global GDP down 520% lower** than it otherwise might be. In other words, spend 2% now or pay a 20% price later, as we cope with heavier climate change impacts, scramble to reduce greenhouse gas emissions, and have wasted money spent on the wrong infrastructure.

The 2009 Pan African Climate Justice Alliance report *The Economic Cost of Climate Change in Africa* estimates that Africa needs between US\$510 and US\$675 billion between 2010 and 2030 for low-carbon future growth.



## Discussions and debates

### Explain climate change to others

Work in pairs and practise explaining the causes and planetary effects of climate change to other workers in a simple way. The headings “The planet is a big greenhouse” and “More greenhouse gases lead to global warming” and “Effects of a warmer planet” explain the cause-and-effect from greenhouse gases, to global warming, to climate change. For each heading, say the two most important things that need to be understood.

### What can we do about it

Based on the causes of global warming, debate what we can do in South Africa to mitigate climate change. Consider energy supply and use, passenger and freight transport, land use, waste, livestock farts.

**COSATU's  
Policy Framework  
on Climate Change**

*Principle 8*

**A just transition to a low-carbon and climate resilient economy is required.**

### Remember what “mitigation” means

“**Low carbon**” refers to the need for us to transform our economy and the way we live so as to limit our emissions of greenhouse gases. This is called “**mitigation**” of climate change.

In most cases, adaptation to climate change impacts and mitigation are linked, and need to be considered together. For example, we may need to consider desalination plants to get drinkable water from the sea as water becomes more scarce. But we must be careful not to destroy the marine environment, which will affect fisheries, livelihoods and food security. These are both adaptation issues. On the mitigation side, we must not create more emissions when we build and run the plant.

*Transport is a major and growing contributor to carbon emissions. We need affordable, safe and convenient public transport. We need to change the culture in South Africa where we all want to travel everywhere in our own luxury car, as a status symbol.*

Attila JANDI | shutterstock.com





## Chapter 3

# International politics of climate change

*The greenhouse gas emissions of developed countries are equivalent to low biological or chemical warfare.*

Kaire Mbuende,  
Namibian Ambassador to  
the United Nations, 2007

This chapter should help you:

- **know** the terms UNFCCC, COP, *per capita* emissions, Kyoto Protocol, gigatonne gap, FTTs
- **understand** “common but differentiated responsibilities and respective capabilities” among countries
- **think** about strategy and tactics in campaigning on a global climate treaty and building international solidarity

*Congress supports the possible strengthening of global long term goals for emissions reductions in the light of new scientific evidence, including a possible limit of temperature rise to 1.5 °C.*

Resolution on combating climate change through sustainable development and just transition”, adopted at the 2nd World Congress of ITUC (International Trade Union Confederation), June 2010

Climate change is a deeply political issue in the sense that it reflects relations of inequality, power and injustice created within an unsustainable world economic order. Greenhouse gases released anywhere in the world go into the one atmosphere we all share, and create worldwide effects. Economic **globalisation**, the **geopolitics** and the **geophysical** working of the planet, all make climate change an international issue, that cannot be solved by or within one country alone.

Economic activity causing emissions is located within multinationals, countries, sectors, companies and other collectives, and that is where we can change our global emissions. We can strategise and act in all these spheres, to limit climate change and better deal with its impacts. This will be a part of wider working class struggles around economic and political power, and to advance justice and gender equality. Internationalism – building unity and campaigns across national borders – needs to be part of the way we organise.

### Class or national interests?

We hear talk of the “global South” and “global North”, of poor and rich countries, of under-developed, developing and industrialised developed countries. (Some now talk of “declining” countries with the financial crises persisting in Europe and other developed countries.)

The standard of living of an ordinary person in the developed world may be higher than those in most of Africa, parts of Asia, and other developing countries. But we must remember there are poor people and underpaid workers in every country. They share interests with each other around the world, more than with their fellow citizens in the rich and powerful elites found in every country. We can find allies in every country.

## International negotiations through the UNFCCC

In 1992, a principle of “common but differentiated responsibilities and respective capabilities” was adopted in United Nations climate negotiations. It means that all countries share the **common** problem of global climate change and all must act on it. But different countries have different levels of **responsibility**, based on their cumulative emissions. Also, what actions a country can take depends on the **capability** of that country – the levels of development, including its resources, technologies, finances, skills.

There is still no agreed method to quantify a country’s “responsibility and capability.” Which countries should cut how much of their emissions, by when? Should developing countries still be allowed to increase their emissions, and if so by how much, for how long? How will we verify that countries are actually doing what they say? Will they be sanctioned if they don’t? Where should the money come from? What are the criteria for a country to get some money? Should it be a loan or a donation? These questions are being negotiated through the UNFCCC, trying to arrive at an international agreement or “global deal” between countries.

COSATU calls for a global deal that is **fair, ambitious** in terms of emissions cuts, and **legally binding**.

Millions have been spent on international meetings over 17 years of negotiations, but the global elite have not agreed on binding reductions of carbon emissions. Instead carbon emissions are rising and the climate crisis is getting worse.

### Whose interests do the Parties represent?

The Parties are governments, so the question is about whose interests are reflected in the government and ruling party of a country. Multinationals also may have great influence that cuts across borders. Who wields the power of the state in a specific country? The answer is not always simple.

*The state is not class, gender and racially neutral and nor should [the ruling party] be neutral, but biased in favour of workers and the poor, and must intervene to transform the basis of our economy ...*

COSATU General Secretary’s address to the Nedlac Summit on behalf of the Labour constituency, September 2012

### What is the UNFCCC?

The United Nations Framework Convention on Climate Change (UNFCCC) was established in 1992 at the Earth Summit in Rio de Janeiro, and has been signed by 194 countries.



**RIO+20**  
United Nations Conference  
on Sustainable Development

*This is why we speak of “Rio+20” in 2012.*

### Who are the Parties?

The Parties are governments and government blocs like the European Union, which are signed on to the UNFCCC.

### What is a COP?

The Parties to the UNFCCC meet annually in a Congress of the Parties (COP). Individual countries are represented by negotiators at COPs, and they speak and vote during sessions. COP17 was the 17th session of the UNFCCC, held in Durban in 2011.

### Can anyone else get in?

COPs take place within venues run by the UNFCCC and you need to be accredited to get in. Media and civil society can get accredited as observers.

*Is this what world leaders will be saying in 2020, after COP26?*

*tckctck “countdown to Copenhagen” campaign at the Global Climate Change Alliance*







**COSATU's  
Policy Framework  
on Climate Change**

*Principle 10*

**African solidarity  
is imperative.**

Governments also tend to advance the interests of their own country above those of “the planet” or other countries. None of the major governments seem willing to consider any emission reduction policy that would undermine “economic growth” in their country. In the developing world, the government can consist of the rich elite of that country, who advance their own interests as “national.”

The Africa Group presents a common position to strengthen the voice of African countries in the face of more powerful developed nations. But consider the difficulties of arriving at a strong united position when Africa also includes the OPEC countries Algeria, Angola, Gabon, Libya and Nigeria, whose economies rely on the emissions of their oil exports.

Within the UNFCCC we have seen the dominance of narrow, national and corporate interests on the part of those with power, and could speak of a “corporate capture” of the process. There are few who question the economic framework underlying climate change. It seems that the UNFCCC has served to protect the capitalist economy, not the climate.

*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  
(since 1986), 2007

## What would a “fair” global deal be?

What does “fair” mean? What underlies the principle of “common but differentiated responsibilities and respective capabilities”? Does it lead to “climate justice”?

### ***Historical and continuing responsibility***

Developed countries that have been industrialising for over 200 years have historically been emitting the greenhouse gases that have built up to today’s concentrations in the atmosphere, which are causing climate change today.

Unequal levels of emissions continue into the present. This is due to over-consumption and waste by the rich, not only the past high-carbon path of industrialisation. On average, each person in the rich industrialised countries emits four times as much carbon as those in developing countries. Africa only contributes 4% of global greenhouse gas emissions, but is the most vulnerable to their adverse effects.

### ***Different capabilities***

It will take a lot of money and effort in the developing world to change economies to a low-carbon development path, to build climate resilience, and to deal with climate impacts. Developing countries motivate that:

- They should still be allowed to emit to continue their economic development, at least up to a certain level. The many people who are very poor with few resources need to be uplifted to be able to cope with climate impacts. And everyone deserves the benefits of development, not just those in the developed countries who already enjoy them.

**COSATU's  
Policy Framework  
on Climate Change**

*Principle 15*

**The South African  
government's  
position in the  
UNFCCC processes  
must properly  
represent the  
interests of the  
people.**



Left: In between the COPs, there are UNFCCC conferences called “inter-sessionals” where negotiations continue but decisions are not adopted. This is what it looked like inside the UNFCCC inter-sessional in Bangkok in 2009.

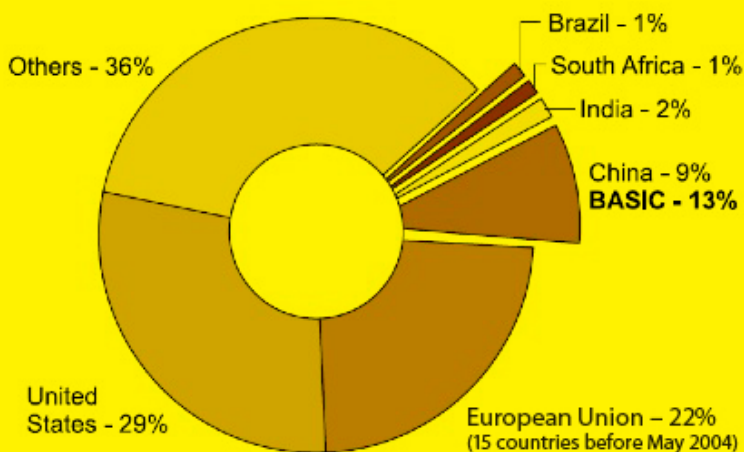
Right: There are lots of UNFCCC subgroups which discuss specific issues in more detail. Civil society representatives are allowed into some meetings. They may only speak if the chairperson invites them to “make an intervention”, when no more negotiators have requested the floor. Here Nina Jamal delivers the Climate Action Now Intervention in Bonn in 2012. Seated next to her is a South African Commissioner on Gender Equality.  
CAN International

■ The rich countries must contribute “reparations” in the form of money and technology transfers. The notion of “climate justice” emphasises the historic responsibility of the developed countries.

It is the least developed countries, and the poor and vulnerable in each country, who will bear the brunt of climate change impacts, and pay the hardest price. Small island states, like Mauritius and those in the Caribbean including Cuba, stand to lose their whole country as the oceans rise.

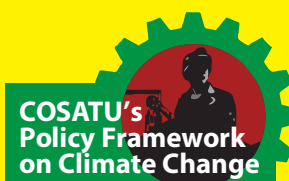
### How can we work out each country's share of the global effort?

How should the mitigation effort be shouldered by different countries? By this we mean the emissions reductions that have to be made. This is where geopolitics and national interests as interpreted by governments often serving the interests of elites play out.



#### Share of cumulative emissions

This graph adds up the emissions from each country over the period 1850–2006. This shows their share of accumulated historical emissions (like sharing out slices of a cake). This should be their share of the effort, based on their “historical responsibility.” Remember that it is the concentration of gases in the atmosphere that causes climate change, and this has been building up over centuries.



#### Principle 13

**Developed countries must pay for their climate debt and the Green Climate Fund must be accountable.**



**COSATU's Policy Framework on Climate Change**

*Principle 14*

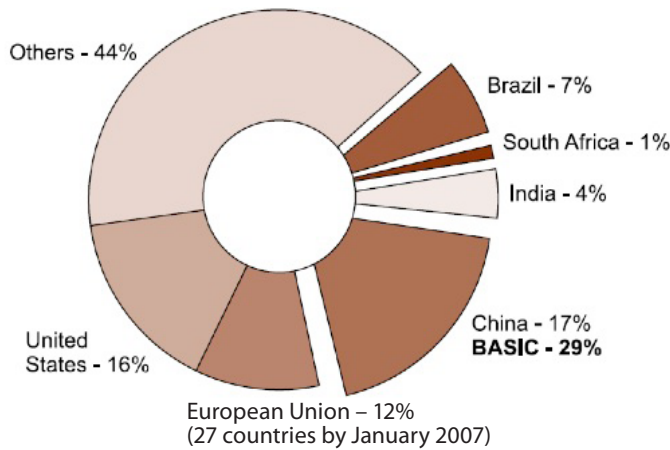
**We need investment in technology, and technology transfers to developing countries must not be fettered by intellectual property rights.**

It seems clear:

- Developed countries must commit to legally binding emission reduction targets which reduce their emissions drastically and immediately. (Not to say that this is easy to do.)
- Least developed countries have little responsibility and little capability, so need only take voluntary actions that they feel capable of.

What about:

- Newly industrialised countries (e.g. Malaysia, Taiwan, Korea Republic, Israel, Singapore, Gulf States)?
- Developing countries, including South Africa? At the moment developing countries are not required to take legally binding targets. Indeed many still need to meet developmental needs, which may involve increased emissions in the shorter term and the need for climate funding.

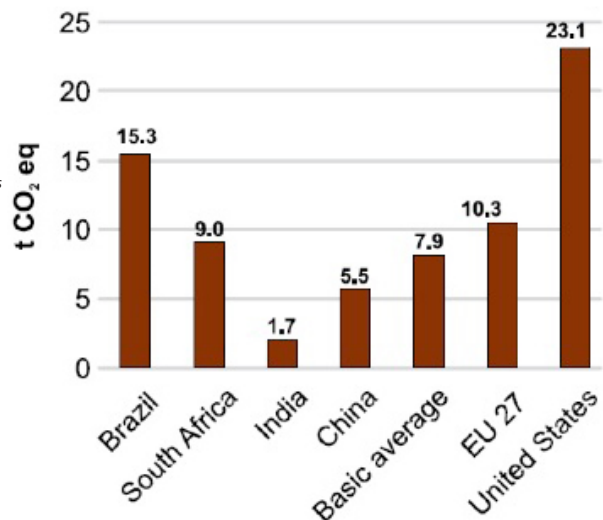


**Share of emissions in one year**  
This graph shows each country's emissions in the year 2005.

The USA points to the fact that China's current annual emissions now exceed that of the USA. China is rapidly industrialising and has a huge population, so its emissions are becoming huge. The USA argues that China should not be excused from binding emission reduction targets just because it is a developing country. The USA refuses to accept binding targets, unless China also does.

*This graph takes each country's emissions in the year 2005, and divides it by the number of people in the country. This shows the per capita emissions in that country – on average what was every citizen's share of that country's emissions.*

The graphs in this section are from Stockholm Environment Institute's 2010 Policy Brief "Together Alone? Brazil, South Africa, India, China (BASIC) and the Climate Change Conundrum". The emissions shown for "BASIC" is the total for the BASIC countries added together. The emissions are shown including land use. Most of Brazil's emissions come not from gases emitted, but from the Amazon forest being cut down.







China and India both have large populations and extensive poverty. They motivate that every country's per capita emissions should end up being the same (so that every person in the world has the same "emissions level of development"). This approach is called "convergence". There is debate about whether there should be convergence in terms of a global per capita carbon allowance, where everyone ends up with the same per capita allowance; or whether there should be an ongoing disparity in per capita emissions that favours developing countries to compensate for historical emissions.

### What is South Africa's fair share?

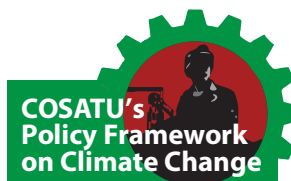
South Africa is positioned as a developing country. But this does not mean we in South Africa need do nothing. South Africa must do its fair share of the global effort. Look at South Africa's share in the graphs above: our historical responsibility share, our contribution to emissions in 2005, and our *per capita* emissions. How would you determine what our fair share of a global effort is? South Africa is responsible for about half of the emissions from Africa, so we have to do more than other countries in the African continent to reduce carbon emissions.

*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,  
Minister of Foreign Affairs  
of Congo Brazzaville, 2007

## What else do we need from a global deal?

FAIR	Based on a principle that "historical polluter pays", developed countries must provide funding and technology for climate actions in the developing world. There is a Green Climate Fund being set up, to receive and disburse the money.
FAIR	The UNFCCC must focus more on adaptation issues, which are of most concern to African countries and the developing world, where the poor will be hardest hit by climate impacts.
AMBITIOUS	The agreement must aim to stabilise at 1.5°C average increase in global warming. This implies we must live within a certain global "carbon budget" an amount of emissions that we can still emit before causing unbearable temperatures. This is what is called "required by science." A carbon budget approach looks top-down at how much the world has to cut emissions by, as required by science. Then emissions cuts are set for each country that together get us down to this total required reduction.
AMBITIOUS	Emissions are measured in gigatonnes At the moment there is a "gigatonne gap" between the emissions reductions countries have undertaken in the UNFCCC, and the carbon budget required by science. A 2011 UNEP report finds the gap puts us on a pathway for 3.5°C warming and the associated climate impacts.
BINDING	To ensure that we cut emissions as required by science, we need a legally binding target for all countries. In contrast, some countries including the United States, are proposing a voluntary bottom-up "pledge and review" system. This means countries decide for themselves how much they are going to cut their emissions. These pledges are merely reviewed annually. But nothing happens if countries do not stick to their pledges. The pledges need not add up to the carbon budget.
BINDING	There must be consequences for countries which do not stick to the agreements.



### Principle 11

**An ambitious legally binding international agreement designed to limit temperature increases to a maximum of 1.5 degrees is essential as an outcome of the UNFCCC process.**



## Problems with the UNFCCC agreements

We have covered what we need from a UNFCCC global deal, and indicated the different interests at work in the negotiations.

The biggest **failing** of the UNFCCC process has been that we do not have legally binding emissions reductions which add up to the global cuts required by science. There are further serious **weaknesses** in the agreements so far, and some elements which risk taking us in the wrong direction, sometimes referred to as **“false solutions.”**

**COSATU's Policy Framework on Climate Change**

*Principle 12*

**We reject market mechanisms to reduce carbon emissions.**

### The “gigatonne gap” gapes

There was a big push for COP15 in Copenhagen, to get stronger targets, and to extend targets to all countries except the least-developed. Hopes were dashed and since then negotiations have not gained momentum. After COP15 in Copenhagen, the head of the Bolivian delegation said that the weak promises made in the Copenhagen Accord meant that the earth would be condemned to temperature increases of up to 4°C.

The First Commitment Period of the Kyoto Protocol ends in 2012. The European Union is the only Party which looks set to meet its (low) targets. A weakness with the Kyoto Protocol is that if countries do not meet their commitments, there are as yet no well-defined sanctions against them. However, it is the one legally binding climate agreement we have. Beyond 2012, the Protocol will still exist, but if countries do not make further commitments for the next 5-year period the Protocol will be a piece of paper with no force. Canada, Russia, Japan, who had targets before, have announced they will not commit to the second period.

The Durban Platform for Enhanced Action agreed at COP17 keeps us trading water (perhaps better than drowning). Countries committed to start early in 2012 to formulate a legally binding treaty involving all countries, to be decided by 2015 and to come into force by 2020. The Kyoto Protocol First Commitment targets are extended to bridge the period between 2012 and 2020.

This lack of progress is leading to devastating climate change impacts on hundreds of millions of people, especially in Africa. As Kumi Naidoo of Greenpeace expressed it, “Polluters won, people lost.”

*[This] is creating a climate apartheid where the richest 1% of the world have decided that it is acceptable to sacrifice the 99%. Scientists maintain that the delay until 2020 will be too late, as the world would have surpassed the scientific cut-off point of halting a temperature rise of more than 2°C.*

Climate Justice Now statement on the Durban Platform for Enhanced Action

*Delaying real action until 2020 is a crime of global proportions. Increase in global temperatures of 4°C, permitted under this plan, is a death sentence for Africa, Small Island States and the poor and vulnerable worldwide. The enormous power and influence of corporate polluters is the main reason for this disastrous outcome.*

Nimmo Bassey, Chairperson of Friends of the Earth International



A vibrant programme was held at COP17, in the People's Space and World of Work. Groups came from across Africa and the world. On 3 December 2011 organisations marched for climate action and climate justice. Labour and working class formations were out in full force. Top: Some of the COSATU and affiliate leaders and members who marched. At the back middle is the ITUC balloon. Bottom left: Earthlife Africa mobilised people from communities across South Africa.

William Matlala matlalawilliam@gmail.com; WWF South Africa

A Caravan of Hope bus travelled through Burundi, Rwanda, Uganda, Kenya, Tanzania, Zambia, Malawi, Zimbabwe and Botswana bringing activists to COP17 in South Africa.

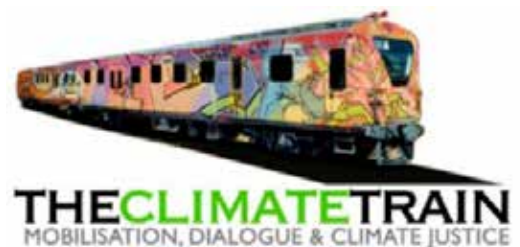
## Two parallel negotiations tracks

### Kyoto Protocol (KP)

This is a UNFCCC agreement which entered into force in February 2005, and has been ratified by 193 Parties (famously not by the USA). It commits 37 industrialised countries and the European community to emissions reduction targets. These are the "Annex 1" countries. These targets only amount to reducing emissions 5% down from 1990 levels, over the First Commitment Period 2008-2012. The idea was that targets would be increased in future periods.

### Long-term Cooperative Action (LCA) negotiation track

A parallel negotiations track was started at COP13 (the Bali Action Plan), which will legally bind all countries. It aims to try to accommodate USA's concerns, to cater for emissions cuts by developing countries, and to look at consequences to not fulfilling commitments.



South Africa organised a Climate Train which travelled around the country holding learning and creative events, ending up at COP17.





## Shallow or deep change?

### COSATU's Policy Framework on Climate Change

#### Principle 13

Developed countries must pay for their climate debt and the Green Climate Fund must be accountable.

... the importance of avoiding or minimising negative impacts of response measures on social and economic sectors, promoting a **just transition** of the workforce, creating decent work and quality jobs in accordance with nationally defined development priorities and strategies and contributing to building new capacity for both production and service related jobs in all sectors, promoting economic growth and sustainable development.

Cancun Agreement adopted at COP16 in 2010

Trade unions and other organisations managed to get the “just transition” wording above included in the final document from COP16. Countries were forced to recognise social and worker concerns in the text. A small step forward. How far does it take us?

A “just transition” could involve demands for **shallow change** focused on protecting vulnerable workers, or **deep change** rooted in a vision of dramatically different forms of production and consumption. In this sense the ecological crisis represents an opportunity: to not only address the unemployment crisis in our society, but to demand the redistribution of power and resources; to challenge the conventional understanding of economic growth, and to mobilise for an alternative development path.

Jacklyn Cock's paper “Labour's Response to Climate Change”, October 2011

Even if we made progress on a global deal, all the proposed treaties include mechanisms which rely on, or do not challenge, market-based approaches. The Durban Platform for Enhanced Action just continues in the same direction. The Kyoto Protocol includes provisions which enable carbon trading. The COSATU Policy Framework explains why it rejects carbon trading, which allows multinational corporations to profit while continuing to pollute.

Women in the Climate Justice Now movement held this protest outside the inter-sessional in Bangkok in 2009.



So far no money has flowed from developed to developing countries through a multilateral climate deal. The Green Climate Fund is being set up, and its operation and funding must not just entrench existing inequalities. Climate-related funding to developing countries must be additional funding, not just reallocating existing overseas development aid. Besides funding from developed countries, there is very

We are not convinced by cap-and-trade systems. There is a difference between market instruments such as the carbon tax as a disincentive to emit, or other incentive measures to encourage emission reduction and energy efficiency. Faced by the unmitigated free market we have always urged interventions to curb its excesses. What is not acceptable is to turn the tax price on carbon into an exchange value for carbon in a market.

COSATU's input on the National Climate Change Response White Paper, November 2011



broad support for financial transaction taxes (FTTs). Some organisations propose “bunker fuel levies” on the emissions of international air and shipping transport (with protection for developing countries).

## “A strong organised global movement”

There are many international sites of struggle around climate change, where unions and other organisations work beyond national boundaries and take up climate and other global issues together. The UNFCCC negotiations are but one focus for such campaigns. Some organisations participate as civil society inside the UNFCCC, hoping to make some gains however limited, by challenging and persuading negotiators, and perhaps even finding allies among them. Some organisations see UNFCCC events more as an opportunity to mobilise and build international links and campaigns among civil society, and so put their energies into work outside the UN precinct. More meaningfully, there are differences between organisations working for “shallow” or for “deep” change, whether inside or outside the UNFCCC processes. There may be room for some tactical alliances around certain demands or programmes?

COSATU engages both within the UNFCCC and with broader campaigns, to advance its positions and make gains for the working class on all fronts. It does this guided by its Climate Change Policy Framework, which makes it clear where the federation stands.

COSATU, often in collaboration with ITUC, has played an important role in these struggles. COSATU also endorsed a resolution passed at the 2nd Trade Union Assembly on Labour and Environment held in Rio in June 2012. It was organised by SustainLabour, ITUC and the Trade Union Confederation of the Americas (TUCA), and attended by 396 delegates, representing 66 organisations from 56 countries.

The resolution recognises that “our current profit-driven production and consumption model, identified as the source of rising social inequalities and environmental degradation, must be replaced if a truly sustainable development is to be achieved.” It demands that “the Commons, natural and energy resources are brought and kept under public ownership, securing their public preservation and administration with social control.” Thus the labour movement must play “a decisive role in fighting for an alternative development model for our societies, grounded in people’s needs, on solidarity, on economic democracy and on a fair distribution of wealth.”

*We commit to ... Make use of our organisational capacity and our experience of past struggles to form a strong, organised global movement in a bid to spur governments and corporations, who are reluctant to act, into taking appropriate measures to tackle and stop climate change. ... We are committed to strengthening alliances with social, environmental, peoples’, women, indigenous, youth movements and researchers in favour of sustainable development.*

Resolution adopted at 2nd Trade Union Assembly on Labour and Environment, June 2012

### COSATU’s Policy Framework on Climate Change

#### Principle 1

**Capitalist accumulation has been the underlying cause of excessive greenhouse gas emissions, and therefore global warming and climate change.**

*Climate change jeopardises human rights. It is essential that the fight against environmental degradation and climate change be carried forward with full regard to overall trade union goals of social justice, decent work and gender equality, within the framework of a strategy of just transition from the current production and consumption pattern to a sustainable low-carbon climate-resilient alternative.*

“Resolution on combating climate change through sustainable development and just transition”, adopted at the 2nd World Congress of ITUC (International Trade Union Confederation), June 2010



## Discussions and debates

### *Do we need a global deal at all?*

**Debate** the following statement: The UNFCCC is going nowhere and we should just ignore it. Divide into two teams. One team is “for” the statement, and the other team is “against”. Here are some arguments to get you going:

#### **For**

- The UNFCCC is just a distraction from the real struggle and we must not waste any time and money on it. We can put our resources to much better use and achieve more on other issues.
- UNFCCC decisions are made by consensus. Countries who want to block a global deal can just endlessly drag out debates. Why would a big emitting country ever agree to kill its own economy? There will never be a global deal.
- We can campaign and build international solidarity in lots of other ways, without ever going near the UNFCCC.
- We need more creative strategies than just protest marches outside a closed door. Maybe we must tackle the powers behind the throne, like the multinationals.

#### **Against**

- Only the United Nations can implement multilateral treaties and sanctions at a global level. How else will we make sure that all countries get a fair deal and that all countries are doing their part to address the global nature of the problem? We have to engage with it.
- We have made a few gains, and must push on. Do we want to go back to square one, where there were no climate talks at all?
- We can find allies within our own and other countries’ political parties to work with. We need to work together to support people who are trying to make positive changes of or in any government, against those who want to serve vested interests.
- If nothing else, we must be there to safeguard the most basic interests of the least developed countries, of workers, of poorer women.

### *Roleplay countries*

- Ask the union’s International Policy Officer to brief you about the positions and roles certain countries have been taking in the UNFCCC negotiations. For example, Canada, Japan, Russia, of the Annex 1 countries; the United States; China; the OPEC group; an African country.
- Divide into groups, one group for each country. In the group, discuss the economic interests of that country. Plan a strategy to take forward in negotiations, as if you were the government of that country.
- Groups come back together. Role play being a group of negotiators for your group’s country. Try to reach consensus as the different countries on the issue: Should all countries end up with the same per capita emissions? How much emissions per person should that be? (Use the levels in the *per capita* graph in the section “How can we work out each country’s share of the global effort?” as a guide.) You may caucus, make alliances, anything a country might do.

### *Building solidarity*

Discuss whether it is relevant for your union to be involved in any international climate change work. Which of the union’s positions, work and campaigns could benefit from or contribute to that of other organisations in South Africa or around the world? Make a list of organisations to reach out to, and a plan of how to do so.



## Chapter 4

# Solutions to the challenges of climate change

This chapter should help you:

- **know** the terms carbon budget, mobility services, energy services, clean energy, climate jobs
- **be able** to propose good solutions for a low-carbon development path and counter some arguments that it is not feasible
- **understand** why we need a “just transition” and how a carbon budget, renewable energy and climate jobs can help



COSATU's  
Policy Framework  
on Climate Change


Principle 8

**A just transition to a low-carbon and climate resilient economy is required.**

The knowledge gained from Chapters 1 to 3 is power in our collective hands. Humans have created the causes of climate change, and the economic conditions that make the impacts of climate change unbearable by most people. So we can change these systemic things, by doing things in the short, medium and long term. In this chapter we look at ways we can start to change our unsustainable economy, and create one which is not so reliant on fossil fuels and which is job-intensive. This needs to be done in such a way that it advances the cause of the working class.

*Solar power technology in the Salmonsdam Nature Reserve in the Western Cape.*  
Shutterstock.com





**COSATU's  
Policy Framework  
on Climate Change**

*Principle 2*

**A new low carbon development path is needed which addresses the need for decent jobs and the elimination of unemployment.**

*We are convinced that any effort to address the problems of climate change that does not fundamentally challenge the system of global capitalism is bound not only to fail, but to generate new, larger and more dangerous threats to human beings and our planet. Climate change ... is caused by the global private profit system of capitalism. Tackling greenhouse gas emissions is not just a technical or technological problem. It requires a fundamental economic and social transformation to substantially change current patterns of production and consumption.*

Labour response to the National Climate Change Response Green Paper, February 2011

## Low-carbon development

The longer we delay cutting emissions, or if our cuts are insignificant, the more dramatic our actions will need to be and the heavier the price we pay – not only in conventional economic terms, but in human suffering, and destruction of the ecosystems which support life. We must redesign our economic activities to eliminate or minimise emissions of greenhouse gases.

These changes are easy to identify, but not always very easy to do, even though we know they are necessary and urgent. Fossil fuel use is completely integrated into how our economy works and how we conduct our lives. Shifting our dependence on fossil fuels will be particularly challenging for South Africa given the carbon-intensive nature of our economy and the continued dominance of the “minerals-energy complex.” But solutions do exist.

## Low-carbon solutions

- Develop renewable energy using wind, sunlight, and water
- Capture methane gas from landfills, sewage works and mines, and convert it into useable energy
- Change our methods of production, especially in relation to iron, steel and cement, and in oil refineries
- “Reduce, shift and improve” our transport use and technology, including develop good low-carbon public transport systems
- Build and adapt homes and commercial buildings in ways that they use less energy
- Move away from current practices of industrial agriculture: reduce the use of oil-based fertilisers, produce more locally to reduce distances that we transport food (food miles), and expand organic agriculture
- Protect and restore our natural vegetation, soil and biodiversity, which store and absorb carbon

*We are already probably beyond a point at which it will be easy to reverse emissions and global warming in the short to medium term. Cuts in emissions take time to reverse existing concentrations of greenhouse gases. [South Africa has] not even begun to mitigate. When we do get going, 2 years on or so, there is every prospect that the required downward trajectory will have grown considerably as we catch up with more effective measures.*

COSATU's input on the National Climate Change Response White Paper, November 2011



Cape Town's MyCiti hub at the Civic Centre  
Jaques Marais

A 2011 report called *Bridging the Emissions Gap* by the United Nations Environment Programme (UNEP) shows that it is still possible to keep global warming below 2°C, if we act rapidly on a range of technically feasible measures across different sectors.

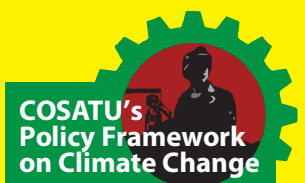
Some resist the changes and put up barriers, especially companies who just defensively protect their profits. Some think that we are sacrificing a “higher” standard of living and development in favour of “second best” solutions for the sake of the environment – “development versus environment.” Rather, the changes can bring **improvements** in all our lives. “Sustainable development” must mean delivering both social and environmental justice, neither one at the expense of the other.

## A just transition

While the bosses talk about a change to new technologies in a low carbon economy which emphasises economic growth, competitiveness and efficiency, the labour movement is committed to an idea of a “just transition.”

All of these “low-carbon” shifts have a “justice” dimension. For example, passenger transport is not just a technology issue, it is about “**mobility services**” for people. People don’t want transport, they want the access that transport brings. It is the poor majority who need to be able to get to school, work (or to look for a job), clinics, or to visit friends, without spending a large share of their small income on transport. So amenities must be within poor areas, and public transport must be affordable (even free) and reliable. The issue is not just about practical solutions, but also who controls and owns the solutions.

COSATU supports the climate change platform led by ITUC, which defends workers’ rights – any new jobs created in the transition must be decent jobs with gender parity, and there must be retraining and financial support for workers in sectors which may shrink. While there is great cause for employment optimism, at the same time there is real concern as to what will happen to all those workers with jobs in traditional employment sectors that depend on fossil fuels and therefore significantly contribute to climate change. These sectors include energy, mining, chemical, transport, manufacturing and industrial agriculture. Not only will these sectors be affected as we shift to a national low-carbon economy, they are at risk from international markets and competitors demanding or producing low-carbon products.



**COSATU's  
Policy Framework  
on Climate Change**

*Principle 6*

**We need a massive  
ramping up of  
public transport in  
South Africa.**

*Africa needs to  
pursue an industrial  
development path that  
is different from those  
of the old industrialised  
nations.*


Address by South Africa's  
President at the Green  
Economy Summit,  
May 2010





But the COSATU Policy Framework goes deeper than that and says “we need to ensure that the concept of a just transition is developed further to fully incorporate our commitment to a fundamentally transformed society.” COSATU is therefore clear that the solution to climate change does not lie in green-washing capitalism.

## Carbon budget approach



**COSATU's  
Policy Framework  
on Climate Change**

*Principle 9*

**We need a carbon  
budget for South  
Africa.**

### Global carbon budget

If we want to avoid the worsening impacts of climate change, the temperature has to stay within limits, and so we cannot emit more than a certain amount of emissions, as required by science. This amount is our **global carbon budget**. It is a global budget because emissions from anywhere on earth go into the atmosphere we all share. Ultimately we have to reduce emissions overall. A budget is a finite limit to the amount of emissions we can allow ourselves before we are locked into catastrophic climate change.

To stay within budget, a rise in emissions from one activity or country will require emissions to fall in another; and an “overspend” in one year will require greater cuts in emissions in future years. We can't exceed the total budget. A global carbon budget approach involves dividing up the total carbon budget between countries in terms of how much they can emit. This is then the country's carbon budget.

#### A gas budget, not a money budget

We speak about “spending our carbon budget”, but note that a carbon budget is not an amount of money. It is an amount of greenhouse gases. Imagine a balloon full of gases and we can only emit what is left in the balloon. Every time we do the things which cause emissions, we let gas leak out of the balloon. How to “spend our carbon budget” is a question of how much gas we will allow ourselves to release, for what activities and in whose interests.

*We have strong reservations about basing our [emissions reduction] targets on upper and lower limits. Government should be stating what it is really aiming for by 2015 and for every 5 year period thereafter. ... It is an advance that some numbers are put to the trajectory but they have to be related to the global state of emissions. ... It is self evident that we need to measure what carbon space we can in justice occupy globally.*

### A carbon budget approach in South Africa

The National Climate Change Response White Paper commits South Africa to a carbon budget approach. Exactly what this means and how to do it is still being contested.

We need to get an idea of South Africa's carbon budget, to work out how much emissions we should be allowed to emit. Then the way in which we use our carbon budget is up to us to decide. For example, we could use our emissions allowance to improve roads for private cars, or we could use it to create public transport infrastructure. Or focus on developing minerals beneficiation rather than accelerating mining. We should not waste our budget doing things which take us in the wrong direction. We can make choices about the timing and use of emissions, but not all choices are feasible or affordable, nor desirable, particularly from a just transition perspective.

COSATU's input on the National Climate Change Response White Paper, November 2011

These are the kinds of questions a carbon budget approach can help us tackle. Such questions of national development are unlikely to arise if we just allow the companies in each sector to determine emission reduction targets for the sector based on what they think is “reasonable.”

## The energy question

### Energy services

At least a quarter of South African households are energy poor and these are poor, largely black households. **“Energy poverty”** means that they are denied access to electricity, due to either the lack of infrastructure or to high electricity prices and an inadequate free basic allowance. They have to rely on coal with its unhealthy fumes, dangerous paraffin stoves and candles, or firewood which is time-consuming to collect and mainly done by women and children.

Everyone should have enough **“energy services”** for light, cooking, warmth, communication and enriching your life. “Energy services” does not have to mean electricity as we know it. For example, water geysers heated by the sun can provide the service and reduce people’s electricity bills by up to 40%. Justice demands that all households have access to affordable, safe and reliable energy; environmental sustainability demands that this should be clean and renewable energy.

**Clean energy in every home**

Clean energy does not:

- Use huge amounts of arable land and water in producing it
- Contaminate our groundwater, like acid mine drainage does
- Pollute our air
- Destroy the health and livelihoods of local communities

“Dirty” energy does all these things, and the companies do not pay for these damages, the people do.

We must also ensure it is “clean” in the sense of not involving corruption.

### Energy supply which meets our needs

South Africa is a “carbon intensive” economy mainly because 92% of our electricity (which all economic activity uses) comes from coal. Those whose jobs depend on coal need not worry that we can switch coal off overnight it will be with us for decades to come.

Government has announced plans to reduce our dependency on coal in the long run, but is building more coal-fired power stations. Medupi and Kusile will be two of the biggest coal-fired power stations in the world. The World Bank has made a \$3.75 billion loan to Eskom, most of which will be spent on coal plants. The government is also planning to build a fleet of nuclear power plants, which will likely cost at least R1 trillion.

**COSATU's Policy Framework on Climate Change**

*Principle 4*

**All South Africans have the right to clean, safe and affordable energy.**

*We welcome the intention to draw up a carbon budget for each significant sector within 2 years. ... This should entail the holding of “sector summits” in which all the social partners in NEDLAC are involved. There should also be industrial and workplace based engagement by employers and unions. ... Given the emission intense structure of the economy the nature of the transition to a low carbon future will require a strong hand on the tiller. We are not starting off on a good footing by immediately reducing our approach with the statement that many sectors will require a “flexible mitigation approach.”*

COSATU's input on the National Climate Change Response White Paper, November 2011

*We repeat our objection to nuclear power for the record.*

COSATU's input on the National Climate Change Response White Paper, November 2011



*NUM remains opposed to nuclear energy ... NUM strongly feels that South African cannot afford a fleet of reactors worth a trillion rands as envisaged. ... Already, South Africans are paying an arm and a leg towards electricity costs and any one trillion rand project would skyrocket the prices and hit the taxpayer hard in the pocket. ... The NUM is therefore totally opposed to the building of a fleet of nuclear reactors, especially because South Africa does not as yet have a plan in place to dispose of its nuclear waste.*

NUM National Spokesperson Lesiba Seshoka, 10 October 2011

Nuclear power is not renewable and is not “clean” energy, it is a “false solution.” The money to be spent on all these new power stations will increase the price of electricity, which increases energy poverty even more.

*[Energy supply] remains a vision dominated by large base-load power plants. It is not currently evident that the state intends to drive renewables. The Integrated Resource Plan [for electricity supply] pays lip service to their development. Everything indicates that a route being pursued is to relying on the private sector to take the risks, not Eskom. We can only say that we oppose privatisation and the running of State Owned Enterprises in the interest of companies and not the nation.*

COSATU’s input on the National Climate Change Response White Paper, November 2011

In the end we will have to rely 100% on renewable energy. Money **for new electricity supply infrastructure** would be better spent on renewable energy, which in the long run will provide cheaper electricity. We have some of the best solar resources in the world, meaning areas where it is practical for us to get power from sunlight. Studies have shown that it is possible to supply 50% of our electricity needs from renewables by 2030, creating hundreds of thousands of new jobs in the process.

Some energy and low-carbon economy issues are being debated within COSATU and its affiliates: fracking, biofuels, carbon capture and storage, carbon tax. The next chapter has more on this.

Government’s reliance on the private sector to develop renewable energy supply is problematic. NUMSA has rejected **privatisation** of the generation of electricity, because private interest prioritises profit maximisation above the meeting of social needs, in this case the provision of affordable electricity for the mass of our people. For this reason NUMSA’s call is for a publicly-owned and democratically controlled renewable energy sector made up largely of parastatals and cooperatives.

## Million Climate Jobs campaign

*We need a just transition which will not lead to job losses. We need a transition that will create jobs.*

Address by COSATU President in a public meeting at COP17, 7 December 2011

If we are to move to a low-carbon economy using renewable energy instead of coal, it will be workers who will have to build wind, wave, tide and solar power. It is workers who will have to renovate and insulate our homes and buildings, and build new forms of public transport.

The Million Climate Jobs Campaign calculated that more than three million new “climate jobs” could be created. There are few accurate statistics on the number of jobs that could be under threat in the transition to a low-carbon economy. But the number of new jobs which could be created in a just transition is likely to far exceed any possible job losses. There are opportunities for local manufacture. Production processes which are more environmentally friendly tend to be more labour intensive, using people rather than machines or chemicals to do the work. The Central Committee of COSATU endorsed the Million Climate Jobs Campaign in June 2011.



## What is a climate job?

“Climate jobs” are decent, primarily publicly-driven jobs that directly reduce the causes and impacts of climate change. The definition has a number of parts:

### Calculating new climate jobs

These are some of the jobs the Million Climate Jobs campaign has identified that could be created:

- Renewable energy: 150 000 plus
- Manufacturing (related to renewable energy): 38 000
- Housing(retrofitting): 78 700
- Ecological repairs: 400 000
- Transport: 460 000
- Waste: :400 000
- Tourism: 220 000
- Rainwater harvesting: 65 000
- Urban agriculture: over 500 000

Not all of these jobs are full time but all should be “decent”.



Workshop on the Million Climate Jobs campaign at COP17.



### An example of climate jobs

Urban food agriculture is an area with great potential for job creation. It could be possible to create almost 500 000 jobs in Gauteng alone. Local and provincial government departments could help this growth by changing their procurement policies to require state institutions to procure some of their food requirements from local suppliers. Regulation could support food retail companies to do the same. Several countries pursue such localisation policies to bring producers and consumers closer together.

On the causes side: The present wasteful pattern of long supply chains is reduced. “Food miles” refers to how far food has had to travel to get to your plate. Reducing food miles will reduce the high emissions of transport, cooling and packaging.

On the impacts side: Extra income from food gardens and affordable, available food also builds people’s climate resilience.

If the growers adopt organic and conservation agricultural practices, that adds extra environmental and health benefits.

■ Addressing the **causes** means jobs that reduce our dependence on the fossil fuels (coal, oil and gas) which produce the carbon emissions which cause climate change. Reducing this dependence implies fundamental transformation. It means changing the way we all live, particularly the ways we produce and consume, the ways in which people and nature are exploited and abused.

■ **Publicly-driven jobs** means active state involvement. Some jobs could be directly created by the state as in the Expanded Public Works Programme, or by expanding direct employment in the public sector to perform climate change functions. Others could be the outcome of state policies which create incentives for low-carbon practices and disincentives for emitting ones. Climate jobs are similar to “green jobs” but these are usually defined more broadly such as attempts to provide a more sustainable use of natural resources.

*If South Africa generates just 15% of total electricity use in 2020 using renewable energy technology, it will create 36 400 new direct jobs, without taking any jobs away from coal-based electricity.*

Research finding cited in ‘Towards a resource efficient low-carbon and pro-employment growth plan’ a briefing document for government’s Green Economy Summit, May 2010

- **Decent jobs** means safe and healthy working conditions, social protection and security, as well as fair wages. The best way to make sure they are decent is for them to be public, such as municipal jobs.

Climate jobs can help promote gender equality, because new kinds of jobs created can be opened to both men and women alike, and with equal pay for equal work. For example, the fossil fuel mining industry, such as coal mining, has traditionally been male-dominated, but the new era of renewable energy needs to focus on the entire workforce. Women also need to be considered for the widest range of jobs and skills required to establish a low-carbon economy.

## The role of the public sector

While many of the new climate jobs will be created in the private sector, this definition of “climate jobs” tries to ensure that those jobs will meet the ILO standards of “decent work” and be in alignment with progressive goals, such as meeting the social needs of the majority of the population. It aims to exclude attempts by capital to use the climate crisis as an opportunity for accumulation in a new neo-liberal strategy of “green capitalism.” “Green capitalism” assumes “business as usual” aimed at making profits must continue. This will make money from climate change, not solve it.

The creation of climate jobs on a mass scale could result in **savings** for government. The scale of the present negative economic and social impacts of climate change and unemployment require the investment of public resources. A simple example is all the funds used for disaster management, when disasters will be the norm if we don’t take action.



Climate jobs are **affordable**, and need not require extra government spending. Redirecting resources away from military spending is an obvious example of what should be done. It is obvious because it is widely acknowledged that South Africa faces no conventional military threat.

The real threats to our common security are growing poverty, inequality, unemployment and climate change. In fact, far from being costly many of these policies can form part of a solution to our economic problems and help not only with employment and climate change but encourage **people-centred development** as well.



## Discussions and debates

### *Making the argument for sustainable solutions*

Here are five points that some use to resist a new low carbon development path in South Africa. Make a few notes for yourself of how you would **argue** against them.

- Europeans and Americans enjoy a high standard of living. We should not have to settle for less.
- Too many jobs will be lost and we will create more unemployment.
- These “low carbon” technologies are not for a modern economy.
- If we can’t have coal, we need nuclear power to provide baseload electricity.
- Business is straining under all these demands, for decent jobs, to make new investments in low-carbon machinery, to convert our processes to emit less, and now even a carbon tax. Companies will go under or disinvest.

### *Inform ourselves on energy issues*

Hold a **seminar** on energy. Some affiliates have position papers on energy questions. Many organisations, including COSATU, participate in the civil society Energy Caucus. Get papers from affiliates or other organisations. Hold a meeting where members work through one or two papers and discuss them. Before the meeting, for each paper get one member to prepare, to take others through the paper in the meeting and identify key questions. It is not a session of presentations with questions, but a guided collective discussion.

### *Campaigning*

There are lots of campaign possibilities raised in this chapter. There is the Million Climate Jobs Campaign, a campaign for more renewable energy in our energy supply, and other ideas. If it will strengthen the work of the union, **plan** how the union can include one of them in its work, and which organisations to work with.

*We must] examine proposals for new ways of projecting “growth” statistics that are sensitive to environmental and social externalities of production, distribution and consumption. The measurement of GDP as a measure of growth in production, without consideration to human and environmental impacts, is not a way forward. Our measurement of growth must include clear targets for employment growth, carbon reduction and quality of life indicators.*

Labour constituency’s input to NEDLAC on the National Climate Change Response Green Paper, March 2011





## Chapter 5

# What is to be done by COSATU and the affiliates?

This chapter should help you: **Take action!**

There can be no “just transition to a low-carbon and climate resilient economy” without the participation and leadership of organised labour. We are central to developing solutions and preparing workers to be active in the changes. Taking up the challenge of climate change can be part of organising and building unions, and strengthen labour’s position to advance the interests of all workers and the poor.

## A timeline of COSATU initiatives so far

- 2009** COSATU’s Congress passed a resolution on climate change.
- 2010** The Declaration of the labour/civil society conference convened by COSATU in October recognises the ecological crisis.
- 2010** One of the policy pillars in COSATU’s *Growth Path Towards Full Employment* is environmental sustainability.
- 2011** Based on a mandate from COSATU’s Congress, a Climate Change Project was established with NALEDI. This has done a literature review; a survey on unions’ understandings of climate change and related developments; seminars on gender and climate, energy, fracking, and a carbon tax; the capacity-building workshop in July 2011; followed by a survey on what unions have done and their needs from the project for taking the work forward; this booklet.
- 2011** The federation / affiliates made its own input to government’s National Climate Change Response policy, and as part of the joint Labour submission in NEDLAC, from Green to White Paper stages, culminating in November submissions in Parliament.
- 2011** COSATU’s July CEC endorsed the Million Climate Jobs campaign.
- 2011** In July, after a capacity-building workshop held with NACTU, FEDUSA, ITUC and SustainLabour, COSATU affiliates continued the next day to explore policy proposals. The conference was attended by national office bearers, representatives of the 20 affiliated unions and 9 provincial structures.

*We need to ... migrate the economy from one based on coal to a low-carbon ... economy. ... We have to make sure that we are in charge of this process and do not become the objects of it.*

Declaration of the labour/civil society conference convened by COSATU, October 2010



- 2011** This led to a Climate Change Policy Framework being adopted by the August CEC. The full text of the Policy Framework is included in this booklet.
- 2011** The federation / affiliates made critical inputs into the National Planning Commission on its low-carbon economy vision and plan.
- 2011** At COP17, a large COSATU contingent participated in the civil society programmes in the People's Space and the World of Work. COSATU was included on the government's delegation of negotiators and advisers inside the UNFCCC.
- 2011** In November COSATU signed a tripartite Green Accord with government.

## COSATU must still resolve our positions on some issues

Climate change throws up new challenges every day. With the situation being so critical, we need any solution that helps – but not false solutions. Many of the solutions that have been put forward by scientists, politicians and businesses are controversial. COSATU has yet to take a position on the following issues, which need more research and debate within the federation:

<b>Fracking</b>	This is a method to harvest natural shale gas trapped in the earth, by hydraulically fracturing the earth at deep levels. The debates are: The process destroys the land where fracking is done, and there is a lot of evidence to suggest that this process is very damaging to underground water systems. It is banned or heavily restricted in at least 155 instances globally. The Department of Mineral Resources set up a task team to investigate the pros and cons of fracking, but the report was finalised without public input and has not been released. Cabinet has lifted its moratorium and exploration licenses are to be granted. Will shale gas help South Africa's energy security and job creation?
<b>Biofuels</b>	Biofuels are fuels made from biological matter, including crops grown for the purpose. The debate is: Biofuels emit fewer greenhouse gases than fossil fuels, and maybe we will need them. But there is a concern that commercial production of crops for biofuels will displace food production, as biofuels could be more profitable. This would further threaten food security.
<b>CCS</b>	There are many scientists working on trying to find a way to capture carbon emissions at point of production and then to bury them underground. This is called "carbon capture and storage" (CCS). The South African government is funding such research. No such safe process has yet been developed however. The debate is: Can it really work to reduce emissions or does it just postpone the problem? Are its impacts safe? If the risks are too high should we continue researching?



### Carbon tax

Treasury has proposed introducing a carbon tax on companies' use of fossil fuels, by taxing their purchase of electricity, petrol and diesel. The debates are: Polluters must pay – at the moment people pay for climate change impacts. Companies can avoid higher taxes by using less fossil fuel, which is an incentive for them to change. But companies could pass some or all of the extra costs on to their customers (who would then also want to buy cheaper, lower carbon options). Poor people cannot afford any increase in costs and need to be protected against such effects, by measures such as the provision of affordable and decent public transport on a mass scale, or increased social grants.

## How can affiliates take climate change work forward?

Here are a whole lot of ideas.

### Ongoing COSATU work affiliates can get involved in

- COSATU's Policy Department coordinates a **Climate Change Committee** with representatives of all affiliates. Started in 2010, it meets regularly about policy implementation and programmes on climate change issues. Attend and share experiences and ideas for action.
- The NALEDI **Climate Change Project** continues. Affiliates are welcome to send representatives to participate in the Reference Group which guides the project. **Reference Group** members are happy to talk to union members and share ideas on what is to be done. The Climate Change Project coordinated by NALEDI is keeping track of what affiliates have done, their policies and programmes, and you can ask about these.
- COSATU participates in the **National Climate Change Committee** of stakeholders, convened by government. Strengthen the voice of workers by attending.
- COSATU is active internationally in the ITUC-led efforts to bring about a coherent and consistent trade union response to climate change.

### Building the union

- Distribute and discuss the COSATU Climate Change Policy Framework.
- Educate leadership and members so that they develop an understanding of the issues and can meaningfully participate in leading change and creating solutions, especially as these relate to your sector/s and to their communities.



- Develop your own affiliate policies on climate change in relation to your sector/s.
- Adopt initiatives which reduce carbon emissions at union offices, and in members' own practices at their workplaces. Shopstewards can also promote that companies adopt these practices as a policy. Unions can encourage members to adopt these actions at home. A **checklist** of actions is provided at the back of this booklet.
- Ensure behavior change of your members and leaders, in terms of reducing wasteful and extravagant consumption that worsens climate change.



## In the workplace

- Include climate change demands in your collective **bargaining** agenda. For example, where a workplace adopts energy saving initiatives, the cost savings should be passed on to the workers as additional income.
- Negotiate for education and training for workers in new technologies and processes, and in skills that will be needed.
- Use workplace and bargaining forums to make sure management keeps workers informed about envisaged changes to machinery, processes and work organisation, and that workers have a say about all this.



*The transition to low-carbon production will not put workers out of jobs overnight. The numbers of some kinds of jobs will grow as others shrink – and there will be more jobs created than lost.*

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## In the industry

- Do research to understand the contributions of your sector/s to climate change, the changes that are needed, and the impacts on your industry.
- Push employers in your sector/s to engage collectively to draw up **sectoral carbon budgets** and set ambitious targets for carbon emissions reductions.
- Participate in processes about a carbon budget for the sector/s, and interrogate what business puts forward.
- Devise adaptation responses within the sector/s. For example, changing production to reduce water use.
- Push for training so workers can actively participate in making decisions, and will be ready to take on changes in work. Skills levy funds and SETAs can be used for this.
- Think about what trade union investments should go into; where pension funds should be invested; public or collective control.



*Companies such as Shell, BP and Engen are notorious for polluting our rivers and oceans through oil spills. They are notorious for threatening life under water, food security and the health of many people. We cannot afford to fold our arms as more and more workers die as a result of radioactive poisoning from mine dumps and as food security in many of our rural areas becomes increasingly threatened by drought and flooding. As the world's nations converge in December for the COP17 climate change conference, our task is to mobilise all workers and civil society for a new climate regime.*

Address by  
COSATU General  
Secretary, April 2011

*We need to prioritise development issues like energy access, public transport and localisation in the way we deploy our carbon budget.*

meunierd | Shutterstock.com

## Job creation and loss

Implementing low-carbon solutions will not be an overnight process. Jobs in the coal industry and high-carbon sectors will be sustained for many years to come. But it is important to start engaging with industry and government about the transition. This must ensure that workers in 'job loss' industries do not carry the burden of climate mitigation, and that workers in 'job gain' sectors look forward to a more secure future. Engage government and management on 'sunrise' and 'sunset' strategies for jobs.

- Investigate how many and what kinds of climate jobs can be created in your sector/s, push for these, and to get workers, school leavers and the unemployed prepared.
- Strategise to ensure that jobs created are decent, and advance gender parity.
- Establish worker co-operatives to take advantage of new opportunities.





- Workers in high-emitting sectors (energy, mining, chemical, transport, manufacturing and industrial agriculture) must be trained in advance, so that they are ready to be absorbed into the newly created jobs. Workers who lose their jobs in the transition to a low carbon economy must be first in line for the new jobs.
- Start 'climate job loss funds' to provide good pensions and benefits to older workers as jobs in high-emitting sectors get fewer.

## Local authorities

It is at the level of local authorities that many climate mitigation and adaptation plans have to be implemented. Affiliates via COSATU provincial and local structures, should embark on joint efforts to engage local authorities to embark on radical actions to reduce carbon emissions as well as to manage the impacts of climate change that we are already experiencing.

## At national level

- Help create solutions that advance and defend the interests of workers and the poor.
- Demand more renewables as part of the next **Integrated Resource Plan** for electricity.
- Demand and work for improved energy generation and distribution by Eskom and other state entities.

## Build solidarity and internationalism

- Network with environmental organisations and other relevant civil society structures to build a strong movement to protect our planet.
- Build links around climate issues with unions in other developing and African countries, and prepare for peace.
- Find out about **global union federations** in your sector/s and see whether building links could be fruitful. Contribute to international debates.

And at **home**, reduce your own use of electricity and transport as much as you can.





## COSATU Policy Framework on Climate Change

Adopted by the COSATU Central Executive Committee (CEC) in August 2011

### COSATU's positions on climate change so far

Climate change is part of a larger economic and ecological crisis which represents a serious challenge for the working class in general and the trade union movement in particular. It is a challenge that has a gender dimension in that working class women, as the administrators and labourers of households, are bearing the brunt of the impacts of climate change.

For some years COSATU has recognised that as more and more greenhouse gases (GHGs), especially carbon dioxide (CO<sub>2</sub>) but also other gases such as methane, are thrown up into the earth's atmosphere, so a blanket of these gases is being formed around the earth, which in turn is heating up the temperature immediately above the surface of the earth. This is what is called "global warming" and is what is causing extreme weather events on a scale that has not been seen before. Such extreme weather events include droughts, floods, tornados, and snow storms. Global warming is also causing the rapid melting of ice in the north and south poles, which is causing sea levels to rise. Climate patterns are changing and becoming unpredictably variable, with shifts in rainfall and other seasonal patterns.

All these events (which collectively we refer to as "climate change") are having devastating impacts on the poor and the powerless throughout the world. Already there are over 150 million "climate refugees" in the world who have been displaced through drought, failed crops, floods and rising sea levels. In addition 262 million people are being affected a year by climate related disasters, with the poor worst affected.

COSATU resolved at its 2009 Congress that "climate change is one of the greatest threats to our planet and our people." It noted that "it is the working class, the poor and developing countries that will be adversely affected by climate change." The Congress also noted that "unless the working class and its organisations take up the issue of climate change seriously, all the talk about 'green jobs' will amount to nothing except being another site of accumulation for capitalists." The 2009 Congress resolution also committed COSATU to increase its research capacity on climate change.

The labour/civil society conference convened by COSATU in October 2010 included over 300 civil society organisations and resulted in a declaration which included recognition of the ecological crisis. There are also references in the Declaration to eco-agriculture, zero-waste, green jobs, and a rejection of nuclear power. The declaration states:

*We need to move towards sustainable energy, to migrate the economy from one based on coal to a low carbon or possibly carbon free economy. The renewable energy sector will grow, needing different skills and different locations. We have to make sure that we are in charge of this process and do not become the objects of it.*

Declaration of labour and civil society conference, October 2010

A resolution on campaigns adopted at COSATU's CEC in July 2011 endorsed the Million Climate Jobs campaign and resolved to mobilise members for the Global Day of Action on climate change on the 3 December 2011 in Durban.

COSATU's *Growth Path Towards Full Employment*, published by the federation in 2010, presents a strong argument for a growth path that promotes redistribution and which creates decent work. The document puts forward six policy pillars for the achievement of redistribution and decent jobs. One of these pillars is environmental sustainability, which is fleshed out in chapter 17 of the document under the heading "Green jobs and the environment". The chapter does not however directly address climate change and the challenge of carbon emissions. The other five pillars are fiscal policy, monetary policy, industrial development, collective and public forms of ownership, and the development of the southern African region.

The above resolutions, declarations and growth path framework, while important milestones for COSATU, do not constitute fully fledged policy on climate change. This document provides a framework for such a policy. The framework prioritises the interests of the working class in the changes involved in reducing carbon emissions. These changes will involve a transition from our total dependence on fossil fuels like coal, oil and gas to a mix of energy sources which includes the renewable sources of solar, wind, hydro and waste. The framework supports a "just transition" to a low carbon economy. A "just transition" means changes that do not disadvantage the working class worldwide, that do not disadvantage developing countries, and where the industrialised countries pay for the damage their development has done to the earth's atmosphere. A just transition provides the opportunity for deeper transformation that includes the redistribution of power and resources towards a more just and equitable social order.

Further education and research work will be required across the federation to ensure implementation of the policy.

### COSATU climate change policy principles

1. Capitalist accumulation has been the underlying cause of excessive greenhouse gas emissions, and therefore global warming and climate change.
2. A new low carbon development path is needed which addresses the need for decent jobs and the elimination of unemployment.
3. Food insecurity must be urgently addressed.



4. All South Africans have the right to clean, safe and affordable energy.
5. All South Africans have the right to clean water.
6. We need a massive ramping up of public transport in South Africa.
7. The impacts of climate change on health must be understood and dealt with in the context of the demand for universal access to health.
8. A just transition to a low-carbon and climate resilient economy is required.
9. We need a carbon budget for South Africa.
10. African solidarity is imperative.
11. An ambitious legally binding international agreement designed to limit temperature increases to a maximum of 1.5 °C is essential as an outcome of the UNFCCC process.
12. We reject market mechanisms to reduce carbon emissions.
13. Developed countries must pay for their climate debt and the Green Climate Fund must be accountable.
14. We need investment in technology, and technology transfers to developing countries must not be fettered by intellectual property rights.
15. The South African government's position in the UNFCCC processes must properly represent the interests of the people.

### **Principle 1: Capitalist accumulation is the underlying cause of excessive greenhouse gas emissions**

COSATU recognises that the fundamental cause of the climate crisis is the expansionist logic of the capitalist system.

Capitalism is a system that constantly seeks to expand production by the cheapest means possible. This means that it depends on the exploitation of workers around the world as well as the depletion of the natural resource base of the planet. What is produced is very often not really needed by people, but becomes desirable through advertising and marketing. It is also a system that creates massive waste – either in the form of production that exceeds demand, or in the form of goods that are bought but thrown away. This includes food. In the highly industrialised countries it is estimated that at least 40% of all food produced is thrown away. Continuous expansion of production means massive use of electricity, which historically has been mostly produced by burning coal. The burning of coal and other so-called fossil fuels such as oil produces huge volumes of greenhouse gases (especially CO<sub>2</sub>). The excessive waste created by capitalism is either burned or dumped – either way it also produces huge volumes of GHGs. Capitalism also ravages the natural production of oxygen and absorption of carbon dioxide by destroying forests and marine life.

Of course even under socialism and communism greenhouse gases are produced and oxygen replenishment is undermined. However the scale of this process can be limited and controlled, because production is geared to meeting real needs of people,

not for the sake of creating profits for the bourgeoisie regardless of the cost to humanity as a whole.

The argument that capitalism is at the root of the current climate crisis has already been reflected in a joint (COSATU, NACTU and FEDUSA) labour submission in 2011 in response to the Green Paper on Climate Change. The submission states that:

*We are convinced that any efforts to address the problems of climate change that does not fundamentally challenge the system of global capitalism is bound not only to fail, but to generate new, larger and more dangerous threats to human beings and our planet. Climate change ... is caused by the global private profit system of capitalism. Tackling greenhouse gas emissions is not just a technical or technological problem. It requires a fundamental economic and social transformation to substantially change current patterns of production and consumption.*

Of course we cannot however wait for the socialist revolution to resolve the immediate threat of climate change. We have very little time left to slow down and reverse the world-wide production of greenhouse gases which is threatening the future of humanity at large, but the future of the working class in particular. So while we are working towards our goal of socialism, we have to build in strategies and demands that immediately address the crisis. This takes us to our second principle.

### **Principle 2: A new low carbon development path is needed which addresses the need for decent jobs and the elimination of unemployment**

COSATU's 2010 *Growth Path Towards Full Employment* already provides a framework for redistribution and the creation of decent work. At the same time, the various resolutions referred to in the introduction have committed COSATU to a future of much reduced carbon emissions i.e. "a low carbon future". It is now time to put the two arguments together.

This means that every time we think of economic expansion and the creation of jobs – whether it be in manufacturing, agriculture, services, construction, transport, or mining – we must think about how the activity can either contribute to reducing carbon emissions, or can contribute to managing the consequences of climate change. The first response (reduced emissions) is known as mitigation, and the second response (dealing with the consequences) is known as adaptation.

We also need to start thinking even more seriously about focusing production and consumption on meeting basic needs. This implies starting to think about growth in a different way. We need to start thinking of measuring growth not in money terms ("gross domestic product") but in terms of targets for housing, health, education, access to services, and even in terms of leisure, happiness and wellbeing.



Support for this notion of a new low-carbon development path is increasing globally. A resolution adopted at ITUC's second congress in 2010 stated that:

***The global crises show clearly that coherent and ambitious initiatives are needed to address the challenges of today and tomorrow. It demands a transformational change in global production and consumption systems to make our societies and workplaces sustainable and to safeguard and promote decent work for all.***

At a gathering of trade union and global movement leaders in April 2011 known as the Madrid Dialogue a new low carbon development paradigm was discussed. Ambet Yuson, the General Secretary of Building and Woodworkers International (BWI) argued that "a green economy based on rights, sustainability principles and decent work can meet the challenge of our societies." The Social Democratic Spanish Minister of the Environment stressed that "the social and environmental agenda should be indissolubly joined in order for a just transition to be produced towards a new model of growth." At the same meeting, the General Secretary of COSATU cautioned that the path to a low carbon economy must be based on new relations of production:

***We will not support any form of capital accumulation that breeds inequalities – even if those forms of capital accumulation are green.***

The International Transport Workers Federation (ITF) in a 2010 Congress discussion document "Transport workers and climate change: Towards sustainable, low carbon mobility", spelt the argument out further:

***This new economy will still see growth – but the emphasis should be on "social growth" whereby the number of good jobs increase; the incomes of the poor are raised; the deployment of climate-friendly and other green technologies are advanced; the availability of health care becomes more widespread; and security against the risks of job displacement, old age, and disability are enhanced. Policies are needed that temper traditional economic growth while improving social and environmental wellbeing – policies establishing, for instance, increased "time wealth" by reducing the number of hours at work and lengthening vacations. For the global South, top priority must be given to providing space for countries to develop their productive forces in an environmentally sustainable way. Many countries still lack adequate water and sanitation systems. They also need to expand electricity generation based on renewable sources, build safe and affordable public transport systems, and introduce road safety systems in order to protect both drivers and pedestrians. This kind of social growth will only happen if economic life is made much more***

***democratic and more responsive to social and environmental needs.***

Clearly workers and their trade unions are an indispensable force in the transition to a low carbon economy. COSATU has a responsibility to lead in this regard. We have to acknowledge that some employment will be shifted, and some jobs may even eventually disappear. Some workers will need training in new skills to accommodate the changes in their trade e.g. plumbers and electricians. But above all, we need to seize the opportunity to demand a massive expansion of jobs in order to meet the need for new kinds of energy production (such as solar, wind and water power), more public transport, more recycling, renovating and insulating already existing buildings (including homes) with energy saving and carbon reducing devices etc. This is why COSATU adopted the campaign for a Million Climate Jobs at the June 2011 CEC.

Climate jobs are decent jobs that reduce the emissions of greenhouses gases and/or that strengthen the resilience of communities to deal with the impact of climate change. These jobs are in almost every case more labour-intensive. First prize would be for these jobs to be created directly by the state – via existing or new parastatals, and via all levels of government. We need these jobs, and we need them now! We have a lot more research and campaigning work to do to make these jobs a reality. There are a number of progressive campaigns for climate jobs and/or retraining around the world that we can learn from.

### **Principle 3: Food insecurity must be urgently addressed**

Climate change will increase the food insecurity already affecting 40% of all South Africans. As part of our new low-carbon development path we need to change the present unsustainable system of industrialised agriculture. This will help us both adapt to the climate reality that is already with us, and to reduce carbon emissions from the sector.

Future food production will lack cheap energy, abundant water or a stable climate. The increase in droughts and floods which are part of climate change will cut food production in parts of the world by 50% in the next 12 years. This will put pressure on food prices, including on basic foods such as bread. South Africa will not be exempt from this. In fact the bread price in South Africa has already risen by 66% in the last three years.

The way food is produced under the current corporate food regime also contributes directly to climate change. Long supply chains mean wasteful "food miles." Fertiliser and pesticides are made from petroleum and natural gas. Both are used in planting, harvesting and transport. Cultivating right up to edge of water sources, including rivers, destroys those water sources and leaves no natural habitat in which plants and animals can adapt to new climatic conditions. Ploughing also releases lots of carbon.

For reasons of adapting to climate change as well as for reasons of reducing the agricultural sector's direct contribution to climate change, we therefore have to start changing the way we produce





food. We need to be promoting and supporting local small-scale agriculture for local consumption – a form of food production that creates more jobs and requires less chemical and transport inputs. Such a shift must include support for urban small-scale production. Such shifts are what we mean by moving to a state of food sovereignty. This shift implies a substantial ramping up of food production to eliminate food insecurity.

#### **Principle 4: All South Africans have the right to energy**

Presently 17.4% of all South African households are not connected to the electricity grid. We would have to add to this the number of people who are connected to the grid, but who cannot afford to pay for electricity to get a true figure for household access. It has to be acknowledged that a life without electricity in the 21st century is one of great disadvantage, and has a multiplier effect on inequality. Therefore in developing a strategy that reduces our dependence on fossil-fuel produced electricity we have to at the same time rapidly expand our household electricity connections.

We reject nuclear energy as too expensive and dangerous. There are no known safe ways of disposing of nuclear waste. The commitment of our government to nuclear energy contributes to policy incoherence as it is proven that this industry is not labour intensive, and therefore cannot contribute in any real way to job creation. Nuclear plants cost billions to build and take a long time to get up and running. This is money and time that the country could better spend on real renewable energy solutions, and other developmental imperatives. We therefore need to continue to oppose government's current commitment to expansion of nuclear energy generation. It can be shown that we can meet South Africa's electricity demand using renewable energy technologies and have no need of nuclear for "base load" as is often promoted.

New and renewable power generation from sources such as wind, solar, hydro and waste needs to be cheap. In order to keep it cheap it must be generated and distributed by entities owned and controlled by government.

While access to cheap electricity needs to be ramped up, levels of household consumption can be limited through the construction and retro-fitting of energy efficient homes. This includes the fitting of solar water heaters, installation of decent ceiling insulation, and the design of houses to best take advantage of natural light and warmth from the sun.

The expansion of access to electricity, the growth in renewable energy production, and the initiatives to reduce electricity consumption, will be part of a strategy to create tens of thousands of new jobs.

#### **Principle 5: All South Africans have the right to clean water**

South Africa is already a country of water scarcity. Climate change is putting further pressure on this. As with agriculture, we have to

adapt how we deal with water distribution and consumption.

Access to clean water remains a dream for millions in South Africa. In adapting to increasing water stress, we have to ensure that at the same time those who currently have no access are given access. State support for rain collection (or "rain harvesting" as it is referred to) through the mass distribution of rain water tanks should be considered. Addressing water wastage is also critical. Leaking municipal and domestic pipes account for massive daily wastage.

As a water stressed country we need to value and safeguard the natural sources of water – our aquifers, groundwater, water catchment areas, rivers and wetlands. These are part of the natural cycle which cleans and provides water to life on the planet. In our quest for new energy sources we must ensure that we do not compromise this scarce resource.

Strategies to address preventing water wastage and the protection of our water sources will be part of a campaign to produce tens of thousands of new jobs.

#### **Principle 6: We need a massive ramping up of public transport in South Africa**

We note that transport in South Africa is a significant emitter (over 12% of all GHGs). COSATU will lead a national campaign for the rapid expansion of public transport.

The most obvious intervention to reduce transport emissions is to ramp up the provision of public transport. 32% of commuters travel to work daily in private cars – the majority being one person one car. Attracting even a portion of these private car users to public transport could assist in cutting emissions. But in order to attract private car users to public transport, services need to be safer, more frequent, more comfortable, and more affordable. Massive public investment is required to make this possible, but the spinoffs would be significant not only in respect of reduced carbon emissions, but also in respect of job creation.

To meet the need for massive expansion in public transport, the local manufacture of public transport vehicles that use cleaner fuels must be supported as a job creating initiative. And the infrastructure for transport of fuels must be invested in to make it suitable for movement of cleaner fuels.

#### **Principle 7: The impacts of climate change on health must be understood and dealt with in the context of the demand for universal access to health**

There is already a body of international evidence on the health impacts of climate change. This includes predicted increases in incidents of malaria (due to warmer and wetter conditions), water-borne diseases, heat-stroke etc. Drought and other extreme weather related events will also impoverish the already marginalised, making them further vulnerable to ill-health and disease.



These health impacts are however little understood by the health sector in South Africa. Urgent attention needs to be paid to developing an understanding and a response in the health sector.

### **Principle 8: A just transition to a low-carbon and climate resilient economy is required**

A just transition addresses both the unemployment crisis and the ecological crisis.

The evidence suggests that the transition to a low-carbon economy will potentially create more jobs than it will lose. But we have to campaign for protection and support for workers whose jobs or livelihoods might be threatened by the transition. If we do not do that, then these workers will resist the transition. We also have to ensure that the development of new green industries does not become an excuse for lowering wages and social benefits. New environmentally-friendly jobs provide an opportunity to redress many of the gender imbalances in employment and skills. The combination of these interventions is what we mean by a just transition.

The just transition is a concept that COSATU has supported in the global engagements on climate change that have been led by ITUC. The basic demands of a just transition are:

- Investment in environmentally friendly activities that create decent jobs that are paid at living wages, that meet standards of health and safety, that promote gender equity, and that are secure
- Putting in place comprehensive social protections (pensions, unemployment insurance etc.) in order to protect the most vulnerable
- Conducting research into the impacts of climate change on employment and livelihoods in order to better inform social policies
- Skills development and retraining of workers to ensure that they can be part of the new low-carbon development model
- It is noted that ITUC and others' lobbying, which COSATU is a part of, succeeded in 2010 in getting governments to agree internationally at the UNFCCC on a commitment to the concept of a just transition. We also need to ensure that the concept of a just transition is built into the final text of the international legally binding agreement that we are pushing for as international labour.
- Internationally we support the ITUC position that the International Labour Organisation (ILO) should be given the mandate to set recommendations to the UNFCCC on operationalising the just transition agenda. The ILO should also be given the mandate to monitor and report on progress in achieving a just transition.
- As COSATU we need to ensure that the concept of a just transition is developed further to fully incorporate our commitment to a fundamentally transformed society. We need to embed it in all our local campaigning and negotiating on climate change. We need to urgently educate our members on the shop floor so that they can identify issues for negotiation

and items for intervention. We also need to find ways of extending the discussions and mobilisation into communities.

### **Principle 9: We need a carbon budget for South Africa**

- The process of working within a global carbon budget, measuring current emissions and making targets for the future that get us down to emissions levels as required by science is what is known as having a "carbon budget." Our government has already developed a system of calculating emissions per sector, and of reporting these to the UNFCCC. The only target for emissions reduction that we have however is a contested overall national target. This has not yet been broken down per sector.
- South Africa urgently needs a carbon budget, so that all sectors can work to targets and be held accountable. As COSATU we need to have input into the development of such a carbon budget. Our proposals for such a budget must be based on the other principles of our approach to climate change.

### **Principle 10: African solidarity is imperative**

In developing our policy response to climate change, we have to ensure that we are taking into account the wider interests of Africa as a continent, and the interests of the SADC region in particular. This is for two reasons. We are already the worst carbon emitters in Africa, and Africa (including South Africa) is likely to be worse affected than most other regions of the world. This is because Africa has a very large land mass which means that whatever average temperature rise is experienced world-wide, Africa will experience a rise of one-and-a-half times that average. So, for example, a 2°C global rise in temperature will mean a 3°C average rise for Africa.

A rise of even 1°C in Africa will cause a loss of 65% of the continent's present maize growing capacity. Food production overall could fall by as much as 20%. The latest Intergovernmental Panel on Climate Change report predicts that wheat production will disappear from Africa and there will be a marked decrease in the amount of maize under cultivation across the continent. An OXFAM report estimates that the price of wheat will increase by 120% in the next few years which will put bread out of the reach of many.

A 1°C global rise in temperature will result in a 10% decline in rainfall by 2050, creating water stress for 480 million people. Africa also has large coastal areas at sea level or marginally above sea level. A warming of 2°C will produce a significant rise in sea levels, which will flood many coastal communities and destroy much of Africa's coastal infrastructure.

Africa is also more vulnerable because it has fewer resources to deal with the results of climate change. As a continent we lag behind in technology, skills and financial resources. This is why the argument for technology transfer without the constraints of intellectual property rights, and the argument for a transfer of



grant funds from the developed nations are so important. Grant funds for climate change must be in addition to other “overseas development assistance.”

We also need continental solidarity to resist a new neo-colonial land grab that is taking place in Africa. Biofuels are liquid fuels made from plants such as maize, sugar, and other crops. These crops need large amounts of land on which to be cultivated. Ironically, laws introduced in Britain and the European Union that demand the blending of rising amounts of biofuels into petrol and diesel, have resulted in British and European companies buying up large tracts of land in Mozambique, Senegal, Mali, Guinea and at least 16 other African countries. There are no central records of land acquisitions in Africa, but research by the Guardian newspaper has revealed the scale of the biofuels rush in sub-Saharan Africa – 100 projects and 50 companies in more than 20 countries. A commission set up by an institution called the Nuffield Council on Bioethics found that in the UK only 31% of biofuels used meet voluntary environmental standards intended to protect water supplies, soil quality and carbon stocks in the source country. This is over and above the fact that the land and resources used to produce biofuels competes with land and resources required for food production – creating a link between biofuels and record food prices and rising hunger. A study by Greenpeace on the acquisition of African land has also shown that in the wake of the growth of the biofuels industry, European companies are buying up even more land as hedge funds and stocks. So while biofuels in themselves produce less carbon emissions, this does not make them necessarily desirable from a development point of view.

It is imperative that as COSATU we work with our sister federations throughout Africa to develop a continent-wide labour perspective on climate change. It is also imperative that we push our own government towards policy positions that go beyond the self-interests of South Africa. We need to be part of developing a comprehensive African trade union response by engaging in the debates to be held at the ITUC-Africa Regional Congress (held in October 2011).

### **Principle 11: A legally binding international agreement designed to limit temperature increases to 1.5°C is essential as part of the UNFCCC process**

The United Nations Framework Convention on Climate Change (UNFCCC) was adopted in 1992 and entered into force 1994. Under this agreement, all governments commit to reduce their emissions, under the principle of common but differentiated responsibilities and respective capacities. However 17 years and millions of tons of carbon emissions later, there is still no effective agreement to ensure emissions cuts at the scale needed to avoid catastrophic climate change. The last annual meeting of the UNFCCC process was in December 2011 in Durban. This meeting was the 17th Conference of the Parties to the UNFCCC, known as COP17.

In line with the position of ITUC, as COSATU we demand an

international agreement that is:

- Fair i.e. which respects the different responsibilities of developed and developing countries, and ensures also a just transition for workers and their families around the world.
- Ambitious i.e. whereby developed countries take the lead and make binding commitments for emission reductions of up to 40% of 1990 levels by 2020, and whereby allowance is made for an average increase in temperatures of no more than 1.5°C.
- Legally binding with sanctions against those that break the agreement.

As part of a parallel UNFCCC process of working towards an international binding agreement, an agreement was reached by a limited number of countries (37 in all) in 1997 and entered into force in 2005. This is the Kyoto Protocol, which sets rather inadequate emission reduction targets for the signatory countries and introduced carbon trading and other market mechanisms for reducing emissions. The USA as the worst emitter, has never signed up to the Kyoto Protocol. The first round commitments of the Kyoto Protocol are about to come to an end in 2012. In the absence of a new global and binding agreement under the UNFCCC process, we believe the signatories must agree on deeper commitments for a period beyond 2012. However, many of the signatories to the Protocol, including Japan, Russia, Canada and Australia, are resisting adopting a second commitment period. The future of the Kyoto Protocol is likely to be the main issue of contention at COP 17

Those who are resisting a second commitment period under the Kyoto Protocol have joined the USA in proposing that emission cuts, whether under Kyoto or under a new global agreement, should be “pledges” rather than targets. This “pledge and review system”, coupled with the market mechanisms that the same countries are happy to retain, represents the deregulation of the international climate regime, with no consequences for those that break their pledges. This will continue to drive us towards climate catastrophe. We therefore reject the system of voluntary “pledge and review.”

### **Principle 12: We reject market mechanisms to reduce carbon emissions**

There are a number of market mechanisms that have been developed by governments in an attempt to reduce carbon emissions. The problem is that these mechanisms are all about making the atmosphere into a commodity for sale in the same way that other natural resources have already become commodities used to generate profit. Using market mechanisms also means that the rich and powerful dictate the terms on which the last “free space” (the atmosphere) is carved up and allocated unfairly. Worst of all, the market mechanisms don’t necessarily even reduce emissions!

The market mechanisms that have been developed are:-

- the Clean Development Mechanism (CDM)
- Carbon trading, including government-regulated “cap and trade” systems





The Clean Development Mechanism (CDM) is part of the Kyoto Protocol. It allows the 37 countries with reduction targets to “offset” their own carbon emissions by investing in emissions reducing projects in other countries. Carbon offsets work by investing in a carbon-reducing project in a developing country, and then receiving “carbon credits” for these investments. In this way they can continue to pollute in the mother country. It has been compared to paying someone else to diet and lose weight for you!

There are about 200 projects in South Africa which have applied for CDM status, of which 20 have so far been formally registered as carbon offset projects. One of these projects is Sasol’s nitrous oxide plant. Sasol’s registration as a CDM project means that as world’s worst single carbon dioxide emitter, it is receiving CDM funds which are then being used to further invest in carbon intensive coal-to-liquid plants across the globe! So in practice, CDM is enabling further destruction of the planet.

Carbon trading is another manifestation of “green capitalism” which is aimed at making profits from climate change, not solving it. A specific form of carbon trading exists where governments have set national emissions reduction targets (or caps). These governments can give out “pollution permits” to major emitters or sell them at auction. The permits can also be bought and sold by emitters who need them. This is called “cap and trade.” Emitters are supposed to have an incentive to cut their emissions because they will have to buy fewer permits and may be able to sell any spare. This is the principle behind Europe’s internal carbon emissions trading system and the ones being set up in Australia and under discussion in the USA and Mexico. In Europe however, it has already been found that the system can easily be manipulated by a government over-allocating carbon permits. In addition, the most recent recession has resulted in a drop in production in many polluting industries, which in turn has meant that these industries have accumulated massive carbon credits. Arcelor Mittal alone has credits in Europe worth 1.7 billion Euros.

We reject these market mechanisms. We need international regulation, coupled with sanctions against those who bust the regulations.

### **Principle 13: Developed countries must pay for their climate debt and the Green Climate Fund must be accountable**

While we accept that developing countries, including South Africa, have to play their part in reducing emissions, developed countries must carry a larger part of the burden.

- Developed countries have less than 20% of the world’s population but they have emitted almost three quarters of all historic GHG emissions – and they have grown wealthy through this. On a per person basis developed countries are responsible for more than 10 times the historical emissions of developing countries.
- There are two forms of climate debt that the developed countries now owe – an emissions debt and an adaptation debt. This means developed countries need to make deeper

emissions cuts than developing countries, and indeed many developing nations need to be allowed to grow their emissions (off a very low current base) before peaking and then also reducing. It also means that developed countries need to provide direct funding for assisting developing countries to adapt to the damage that has already been and will be caused by climate change.

- In regard to the management of these debts, the UNFCCC process has agreed on the establishment of a global Green Climate Fund. This Fund is in its infant stages, with the sources or mechanisms for funding not yet agreed. The only steps that have so far been taken are the appointment of a Panel which has been given the task of designing the Fund. Seven African countries have seats on this Panel, with Trevor Manuel being one of the appointees and the co-chair.
- The pledge made by developed countries at COP15 in Copenhagen in 2009 of US\$100 billion by 2020 is hopelessly inadequate to meet the debts. Modest estimates argue that at least US\$200 billion of public finance per year will be needed to meet adaptation and mitigation requirements. Some estimates of requirement are as high as US\$600 billion per year.
- We need to campaign to ensure that the Green Climate Fund is innovative in sourcing funds and that it considers options such as a Financial Transaction Tax. A tax on stocks, derivatives, currency and other financial instruments (i.e. excluding simple money transfers including remittances of migrant workers to developing countries) of between 0.2% and 0.5% could generate up to USD\$650 billion a year globally. This figure could be achieved without applying the tax in developing countries. Such a tax would have the co-benefit of curbing dangerous financial speculation.
- We must also ensure that the Fund provides finance through direct grants, not loans. The Fund must not become another mechanism for creating debt and impoverishment of developing countries. The governance of the Fund must be democratic and fair, and trade unions and civil society must be guaranteed participation. Gender equality must be a guiding principle in the governance and operationalisation of the Fund. Any project funded by the Fund must respect ILO core Labour Standards and environmental requirements, and must not be speculative.
- The Fund should not be administered or dominated in any way by the World Bank, as has already been mooted. The World Bank has historically been part of the problem of climate change, not part of the solution. It continues to fund massive fossil fuel projects in at least seven different countries (including the 2010 granting of a loan to build a new coal fired power station in South Africa).

### **Principle 14: We need technology development, and technology transfers must not be fettered by intellectual property rights**

We recognise that one of the constraints that South Africa and other developing countries has is a deficit of technology and skills





## Carbon footprint checklist for unions

<b>Actions that can be taken</b>	<b>Are we doing this?</b>	<b>What is our plan?</b>
■ Is the union implementing progressive environmental plans?		
■ Has the union had an environmental or carbon audit?		
<b>To reduce emissions in the workplace and union offices</b>		
Use less electricity. South Africa's electricity comes mainly from coal and creates masses of emissions.		
■ Switch to energy saving light bulbs		
■ Turn off and even unplug electrical appliances that are not being used (even turned off they still pull power if plugged in)		
■ Are all computer monitors flat screens?		
■ Dress for the weather and add or remove jerseys, jackets, scarves, gloves as needed, instead of using heaters or air-conditioning. If they must be used, be sparing.		
Reduce consumption. Making things uses energy (and water).		
■ Buy equipment and goods only when necessary		
■ Minimise the printing of paper		
■ Use tap water rather than bottled water (high water, transport, packaging impacts)		
■ Reduce any unnecessary travel and reduce flights. Walk, cycle, share cars, skype, video conference ...		
■ Recycle waste so that less energy is used to make new things		
Use union procurement to drive change.		
■ Source only from suppliers with good labour and environmental standards		
■ Reduce transport and distances. Buy locally.		
■ Caterers must use local produce as much as possible, and not processed or over-packaged foods		
■ Use energy saving and environmental criteria to choose meeting and conference venues. Ask for natural air and light, tap water, no unnecessary handouts (like adverts), catering ...		
Unions and shopstewards can engage management.		
■ Is the company implementing such practices?		
■ Find out what plans the company has to reduce emissions of its production processes and products. Ensure the union is involved in making such decisions.		
<b>To reduce emissions at home</b>		
■ Is the union encouraging members to do all of the things above, where relevant to a home? Also:		
■ Use public transport so that there are fewer cars on the roads		
■ Use gas rather than electricity for cooking		
■ Grow as much of your own food as possible (saves on cost, transport and packaging, and builds resilience)		
■ Buy South African products rather than imported goods		
<b>To build climate resilience</b>		
■ Are water saving measures in place?		
■ Plant fruit trees in urbanised areas; re-plant indigeneous trees in wilder areas (not any tree helps)		





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## Further reading

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*We already use renewable wind energy. Windmills are a common sight in South Africa, like this one on the road to Fouriesburg in the Free State.*  
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The climate change challenge is not the only crisis we face in South Africa. The climate crisis is linked to the environmental, unemployment, poverty, inequality, and food crises. All of these crises link back to the central economic crisis of capitalism.

COSATU has always faced the crises of poverty, unemployment and inequality head on. It will not run away from the climate crisis. We now have a Climate Change Policy Framework, and we have a Green Accord signed with government and business. Some affiliates have started on a programme of education and action. We are now at a point where we need mass education and action throughout our structures. Climate change affects workers not only in the workplace, but in their communities too.

This booklet puts knowledge in your hands. It explains the causes and effects of climate change, and its impacts on workers and the poor, in an economic system which puts profits before people and the planet. It unpacks international negotiations about a global climate deal. Solutions are introduced and analysed, and suggestions made for unions to take the work forward.

We hope that this booklet will help workers and unions to grapple with climate change and its challenges. Most importantly we hope that this booklet will inspire readers to action.

Included:

- COSATU Policy Framework on Climate Change
- Carbon footprint checklist for unions



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