In South Africa, emissions from fuels in private cars make a large contribution to the climate problem – and they are growing. You make a difference when you use public transport, minibus taxis or other low-emissions vehicles, ride-share, cycle or walk (zero emissions and you get fit without any gym fees), and combine different trips into one.

Economic development

Besides curbing climate change, there are many other benefits to making these shifts:

- improved productivity and wellbeing due to less traffic congestion
- health benefits
- fewer road accidents
- lower transport infrastructure costs over the medium term
- some road expenditure can be redirected to other social needs
- public transport hubs lead to local economic development and increase property values around them
- social cohesion – getting to interact with our fellow residents.

Lifestyles

Transport is not important for its own sake, it is the access to education, work, opportunities, services like clinics, shops, leisure activities and friends that matters. If our destinations were closer to where we are, we would spend less money and time on transport.

We all spend too much of our money on transport, except for the people who can only afford to walk and they are paying with their time. Unemployed people give up looking for work because they don't have money for transport.

With the congestion in our major cities, everyone is spending too much time getting somewhere instead of being there.

Public transport is a big part of the solution. More people in one vehicle or train, rather than one-person-one-car, means less traffic and less emissions. The more people use public transport, the more viable and affordable it can become, giving more people access to work, education, services and leisure activities.

Let's extend access for all in a way that keeps our emissions as low as possible and gives us a better quality of life.

Thank you to these organisations for being part of the low-carbon transport challenges we've run, where teams with the lowest carbon footprint win the race:

Partners: City of Tshwane, City of Joburg, City of Cape Town, ICLEI, Open Streets

Transport solutions: *rail* Metrorail, Gautrain *BRT* A Re Yeng, Rea Vaya, MyCiti, *buses* Metrobus, PUTCO, Golden Arrow Bus Services, *minibus taxis, apps* WhereIsMyTransport, GoMetro, Findalift, UGoMyWay *bicycles* Upcycles, Johannesburg Urban Cyclists Association, Qhubeka Bicycles, Camissa Bicycles, Cycology, *alternatives* Nissan Leaf, eWizz, eTukTuk, GridCars, Mellowcabs, SANEDI

Contributors: Accelerate Cape Town, Adventure Inc., Boland Promotions, Cape Talk, City Sightseeing Cape Town, DoubleTree by Hilton, Ernest & Young, Holiday Inn, Hollard, Hotel Verde, KFM, Nedbank, Ocean Basket, Park Inn by Radisson, SA Institute for Drug-Free Sport, Sanlam, Segway Tours, Soweto Backpackers, Sun International, The Green House, Tshwane University of Technology, Tsogo Sun, Vivreau Advanced Water Systems, Volvo, Zando

VOLVO

Volvo funds WWF's global City Challenge programme.

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www.wwf.org.za/what_we_do/transport/

We are all aware of the weird weather patterns happening around the world, signs of the climate changing. Human activity has released more of the gases that cause climate change than nature can absorb. These 'carbon emissions' come from using coal, oil, tar sands and shale gas, cow burps, some industrial processes, and various land practices.

Climate change affects our freshwater supply, health, agriculture and fisheries, infrastructure, and natural systems. We need to accelerate solutions that don't cause carbon emissions and which build economic and social resilience to climate impacts, to deliver water, food and energy security for all.

CLIMATE CHANGE AND ENERGY SECURITY

Energy is essential for poverty reduction, yet the means by which we have been producing energy is one of the biggest contributors to climate change.

We have an obligation to provide energy to those who need it, but burning more fossil fuels in the form of coal, oil and gas is going to worsen global warming and threaten food and water security further. Changing the way we produce energy is an important way for us to tackle climate change.

To curb and control global warming, we need to keep the Earth below a 2°C increase in global average temperatures compared to pre-industrial times.

There are a multitude of technologies already available which can help us achieve this. By 2050, we could get all the energy we need from renewable sources, such as the sun, wind and water. This will solve most of the problems of climate change and dwindling fossil fuel resources. We also need to increase measures to conserve energy in all sectors, and at home.

Such a transition is not only possible but also cost-effective, providing energy that is affordable for all and producing it in ways that can be sustained by the global economy and the planet. It opens up the possibilities for developing a green economy in which more employment opportunities will be created.

However, technologies form just one part of the jigsaw. As important is the political framework – to ensure that the relevant technologies can really thrive. Similarly, it is crucial that businesses and investors are sufficiently informed and prepared to drive forward necessary change rather than wait until it is too late. We need to make a drastic switch from the current reliance on fossil fuel energy to a super-efficient system with new low- and zero-carbon technologies that harness the energy of the sun, wind and water.

We need a revolution in public demand to achieve this. We need everyone to exercise their voice and actions to encourage the necessary political will and investor action to make the switch to renewable energy.

15 facts about energy

1. The terms 'energy' and 'electricity' are sometimes used interchangeably, but they should not be confused. While energy is the broad term given to the potential to do work, electricity is one form of energy.

2. About 77% of South Africa's energy needs are directly derived from coal, largely to generate electricity but also for synthetic fuel and petrochemical operations.

3. The energy sector is responsible for about 85% of South Africa's greenhouse gas emissions.

4. South Africa's transport sector consumes 28% of final energy. By buying locally produced goods instead of goods that have travelled far to get to you, you can dramatically reduce your energy footprint.

5. According to the State of Energy in South African Cities Report, organisations and people in South African cities consume 44% of the country's electricity, making cities responsible for nearly half of the country's greenhouse gas emissions from electricity.

6. In South Africa, access to electricity has increased from 34% in 1994, to 84% in 2011. Between 1994 and 2010 over 5.2 million households and more than 12 000 schools were connected to the grid, and over 46 000 households, 3 000 schools and 345 clinics were supplied with non-grid electricity.

7. Poor households in South Africa bear a heavy energy cost burden. SA households spend on average 14% of their total monthly household income on energy needs, which is higher than the international benchmark of 10% for energy poverty. Some 43% of all South African households are classified as energy poor.

8. Renewable energy comes from resources that are constantly replenished, or infinite, such as sunlight, wind, waves, tides and geothermal heat. South Africa's current integrated resource plan has committed to only 9% of our energy supply to come from renewable energy sources by 2030.

9. South Africa has one of the highest solar resources in the world. South Africa receives more than twice as much sunshine as Germany, where more than 15% of the national electricity supply comes from renewable sources.

10. Currently renewable energy sources account for only 13% of the world's energy provision.

11. Solar photovoltaics could account for 5% of global power demand by 2020, and up to 9% by 2030.

12. Solar energy is now working at night on a commercial scale. A plant in Spain has seven hours of heat storage.

13. The food sector accounts for around 30% of the world's total energy consumption and accounts for around 22% of total greenhouse gas emissions.

14. Electric geysers are usually the highest electricity consuming appliance in our homes accounting for about 30-40% of all the electricity used in a household.

15. Despite the rapid global depletion of fossil fuel resources, as many as 1.4 billion people have no access to reliable electricity. Some 2.7 billion depend on traditional fuels such as wood, charcoal or manure for cooking and heating – often harvested in ways highly damaging to the environment and used in ways highly damaging to health.

We need to consider the choices we make around our food, water and energy use, and understand how these choices impact us and the environment.

5 energy tips

- **Buy energy-efficient appliances and unplug when not in use**. Appliances left on standby may still draw as much as 20% of normal electricity use. If you're buying a washing machine, refrigerator, dishwasher or oven, buy the most eco-friendly and energy-efficient model you can afford. They might be a little more expensive but they pay for themselves through lower energy bills. The same is true for office equipment such as computers, copiers and printers.

- **Change to energy-efficient lightbulbs**. Old-fashioned incandescent lightbulbs use 75% more power and perish quicker than Compact Fluorescent Lamps (CFLs). Light-emitting diodes (LEDs) are even more efficient than CFLs.

- **Consider how you heat your water**. Set the thermostat to no more than 50°C and fit a geyser blanket (available at hardware stores) to reduce lost heat. Replace your electric geyser with a solar water heater as this could reduce your electricity bill figure by half.

- **Insulate your home**. This is a good way to reduce electrical heating needs, the associated costs and emissions. Proper ceiling and roof insulation can warm a home by 5°C in winter.

- **Use less fuel**. Walk, cycle, share lifts, use public transport, drive more efficiently, or drive smaller, more efficient vehicles.