INDEPENDENT

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INFLUENCE

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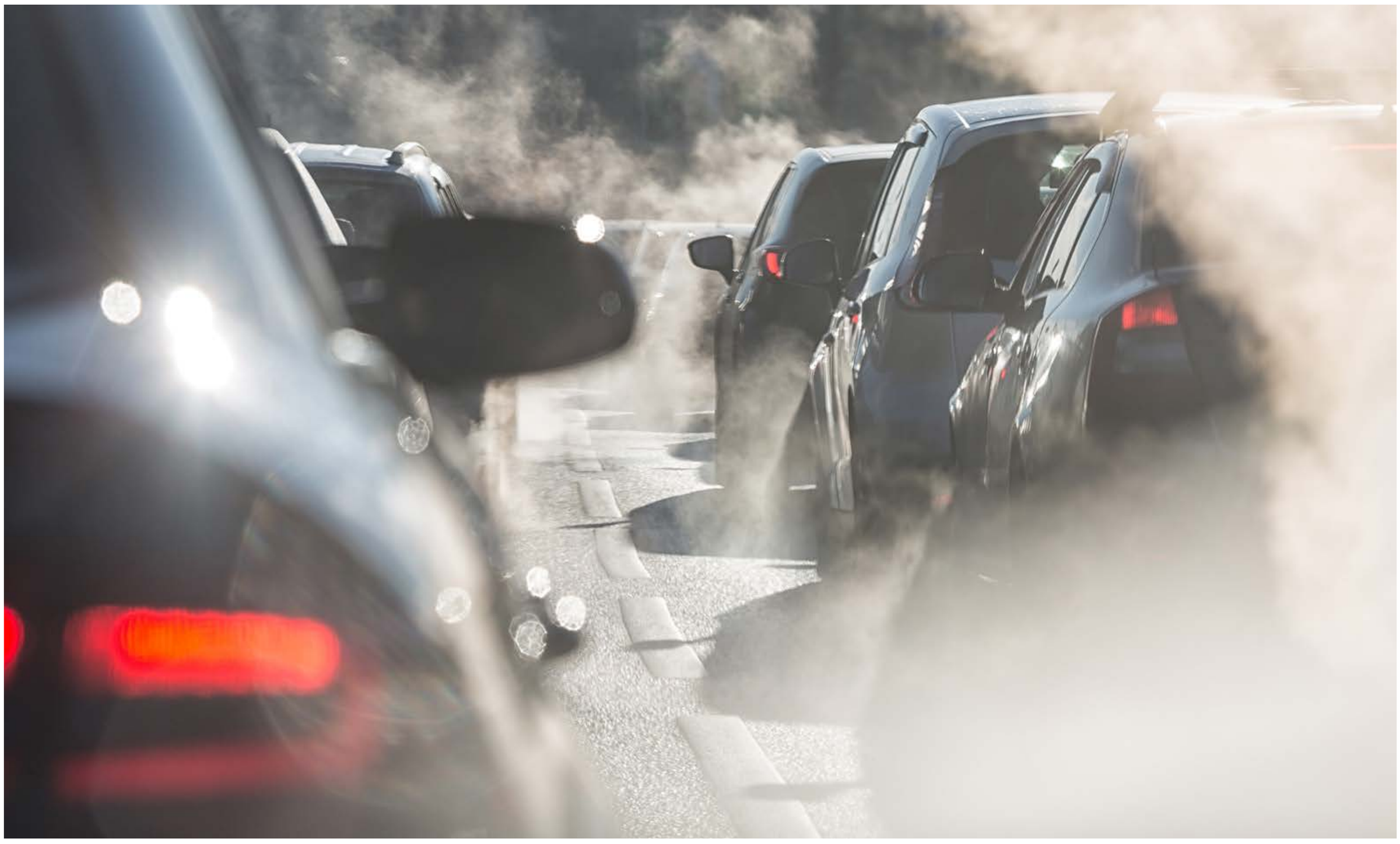


LOCKDOWN travel restrictions have drastically reduced the number of vehicles on the road, leading to a drop in CO2 emissions.

CLIMATE CHANGE

Covid-19 has provided a model, **now we need to build it**

We're travelling less and using less energy – good news for our efforts to rein in climate change – but we still have far to go. Embracing nature may get us there quicker, writes ***Dr Andrew Venter***

COVID-19 has achieved what decades of climate change talks couldn't – a significant decrease in our global emissions of carbon dioxide.

We're looking at a decrease of up to 8% in 2020, or around 3 billion tons of CO2. This is significantly more than the decreases that followed other global recessions in the past half century or so. The 1973 and 1979 recession were responsible for a reduction of about 1 billion tons of CO2 a year; the 2009 recession trimmed 0.5 billion tons.

This is not likely to be permanent. Emissions will rise once the global economy starts to recover.

However, the Covid-19 decrease does follow a flattening in global energy emissions in 2019, which, according to the International Energy Agency, reflects the expanding role of alternative energy sources.

It may mean we've reached the peak point of global emissions – good news indeed.

The Covid-19 emissions decrease is largely thanks to us using less fossil fuel-based energy and transport.

Hypergiant, the artificial intelligence technology company, has produced a CO2 emissions simulator for the US that draws on lessons from the effects of Covid-19 on the economy.

In addition to reduced energy and transport activity, the simulator models how the switch to alternative energy, electric vehicles, changing meat consumption, regenerative agriculture and carbon capture is changing things.

Clearly, a combination of interventions is needed to achieve a carbon neutral 2050, which would minimise the destructive effects of climate change.

The shift to alternative energy and electric vehicles has started. Market forces will probably maintain this momentum, as policy shifts direct investment, innovation funding and subsidies towards these sectors.

Working from home and less travel is likely to be a significant legacy of Covid-19, as businesses and individuals come to recognise the cost and time savings made possible by digital communication tools.

The question is then, what will be required to reduce the amount of meat we eat, encourage our adoption of regenerative agriculture and mainstream carbon capture technology?

A growing appetite for red meat is emerging as one of society's greatest challenges.

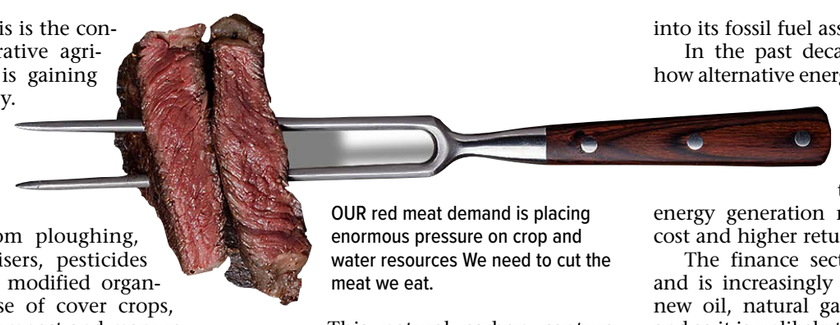
Livestock, especially beef cattle, is responsible for 14.5% of global greenhouse gas emissions, according to the UN Food and Agriculture Organisation.

Global meat production grew almost five-fold in the second half of the 20th century and the amount of meat eaten per person doubled.

Our red meat demand is placing enormous pressure on crop and water resources. It takes, for example, a global area seven times the size of the EU to produce food for the cattle and other livestock in Europe.

This is unsustainable. We need to eat less meat.

Linked to this is the concept of regenerative agriculture, which is gaining ground globally. At the heart of regenerative agriculture is a focus on soil health, with a move away from ploughing, synthetic fertilisers, pesticides and genetically modified organisms, to the use of cover crops, compost teas, compost and manure.



OUR red meat demand is placing enormous pressure on crop and water resources We need to cut the meat we eat.

Not only does this improve soil fertility but it improves soil structure and – critically – increases the amount of carbon stored in agricultural soils, effectively a natural form of carbon capture.

According to the Regenerative Farming Association of South Africa, the depletion of soil carbon through large-scale, input-focused agriculture contributes about 24% of our annual greenhouse gas emissions.

South Africa is a pioneer and leader in the world of regenerative agriculture – not easy given the vested interests of large agriculture businesses in maintaining a business-as-usual approach to farming.

Woolworths' Farming for the Future initiative has demonstrated an increase in soil carbon linked to their holistic farming support, which helps farmers grow quality produce while protecting the environment, preserving natural resources and reducing dependence on chemical fertilisers, herbicides and pesticides.

This natural carbon capture revolution is a world away from the carbon capture and storage model touted by the fossil fuel-based energy sector. They want to offset their climate change impact by capturing carbon emissions, compressing it and injecting it underground for storage.

They present this as a "silver bullet" solution for a sector increasingly under siege, given society's growing intolerance of their climate change impact.

The Centre for Climate and Energy Solutions estimates carbon capture technologies can capture more than 90% of CO2 emissions from power plants and industrial facilities, potentially achieving 14% of the global greenhouse gas reduction needed by 2050.

The sticking point for now is the heavy upfront investment required for these plants, which would only be recovered over 20 to 30 years. This is a cost model inherent to the sector and a key reason it is resisting moving away from oil, natural gas and coal. It is trapped by legacy capital costs sunk into its fossil fuel assets.

In the past decade we've watched how alternative energy models have disturbed this investment model, demonstrating that it is possible to develop clean energy generation models at a lower cost and higher return.

The finance sector recognises this and is increasingly unwilling to fund new oil, natural gas or coal projects, and so it is unlikely there will be significant investment in new carbon capture projects.

Covid-19 has quickened the pace of a move to working from home, reducing the amount of transport we need. This is going to further disrupt the fossil fuel economy.

We need to focus on nurturing natural carbon storage.

We need to eat less red meat if we want to wean ourselves from fossil fuels forever. | roving reporters.co.za

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Dr Andrew Venter is the director of the Cambridge Institute for Sustainability Leadership's operations in South Africa. Venter joined CISL SA from WILDTRUST, where he was chief executive for 19 years. Over this period, he led the development of WILDTRUST into one of the region's largest and most influential environmental organisations. This story forms part of The Future We Want series launched by the CISL and Roving Reporters in response to the Covid-19 pandemic.