

# BLOG: WORLD ENVIRONMENT DAY TURNS 50, BUT EARTH IS CODE RED

Venita Januarie, 5 June 2022

## INTRODUCTION

In 2019, the UN Secretary-General appealed to three levels of governance to mobilise for a so-called “decade of action”. These levels encompassed: National governments to secure greater leadership and more resources to achieve the SDGs; Local authorities to embed the needed transitions into policies, budgets, and regulatory frameworks of governments; and Self-governance, which relates to how individuals, communities, businesses, public organisations, and other stakeholders push for the required structural transformations<sup>1</sup>.

While all of these actions are crucial to effect tangible and sustainable change, and although research shows that individual action is invaluable, it cannot significantly reduce the widespread pollutants and waste produced by multinational corporations. Only national governments can implement large-scale cross-sectoral transformative change. Despite the environmental stress that anthropogenic activities are causing the planet on a global scale, environmental policies and interventions have been largely ineffectual<sup>2</sup>.

Consider the fact that today is World Environment Day<sup>3</sup>. The theme “**#Only one earth**” is almost painful in its redundancy. “Only One Earth” was the slogan for the first United Nations Conference on the Human Environment, held in Stockholm in 1972. Fifty years later, we still have only one earth, however, the Intergovernmental Panel on Climate Change<sup>4</sup> (IPCC), warned that, optimistically, there is a 50% chance of limiting global warming to a 1.5°C temperature rise this century, as aspired to in the Paris Agreement.

The Paris agreement<sup>5</sup>, was signed on 12 December 2015, where 193 Parties to the United Nations Framework Convention on Climate Change (UNFCCC) reached a landmark agreement to combat climate change by accelerating the actions and investments needed for a sustainable low carbon future. The United Nations Environment Programme (UNEP) determined that to limit global warming to the 1.5 °C, while at the same time conserving and restoring biodiversity and minimizing pollution and waste, society needs to reduce carbon dioxide emissions by 45% by 2030, compared to 2010 levels, and reach net-zero emissions by 2050<sup>6</sup>.

<sup>1</sup> United Nations, *Decade of Action* at <https://www.un.org/sustainabledevelopment/decade-of-action/>

<sup>2</sup> United Nations, *World leaders stress shared responsibility, immediate action, as high-level segment of Johannesburg Summit continues* (2002) at <https://www.un.org/press/en/2002/envdev690.doc.htm>

<sup>3</sup> UNEP, *World Environment Day 2022* at <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>

<sup>4</sup> Intergovernmental Panel on Climate Change, *Special report: Global warming of 1.5 °: Summary for policymakers* at <https://www.ipcc.ch/sr15/chapter/spm/>

<sup>5</sup> United Nations, *The Paris Agreement*, <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>

<sup>6</sup> UNEP, *Making peace with nature* (2021) at <https://wedocs.unep.org/xmlui/bitstream/handle/20.500.11822/34948/MPN.pdf>.

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To contextualise the above numbers; in order to reduce greenhouse gas (GHG) emissions by 45% within the next 8 years, the world needs to take an additional 28 gigatons of carbon dioxide equivalent (GtCO<sub>2</sub>e) off annual emissions by 2030<sup>7</sup>. In 2011, the United Nation's Food and Agricultural Organization (FAO) quantified the food waste footprint on natural resources. It is notable that the estimated total carbon footprint of food wastage 10 years ago was around **4.4 GtCO<sub>2</sub>e per year**<sup>8</sup>. If the world has an estimated total carbon footprint of 4.4 GtCO<sub>2</sub>e per year due to food waste alone, moving towards a cyclical food system and eradicating this waste could reduce the 28 GtCO<sub>2</sub>e by at least 15%.

On the 50<sup>th</sup> anniversary commemorating the urgency of protecting our planet, this blog reflects on the absence of actionable policies to meaningfully combat climate change and proposes individual action that can mitigate its harmful effects, especially when taken in collective.

## THE DISPARITY BETWEEN POLICY AND ACTION: ENVIRONMENTAL PROTECTION IN SOUTH AFRICA

The next section focuses on South Africa's environmental policies, and its lack of implementation in context. South Africa has ratified excellent environmental legislation such as the Carbon Tax Act, 2008; the Draft Climate Change Bill, 2018; and the Aquaculture Development Bill, 2018 amongst several others<sup>9</sup>. However, non-compliance with, poor implementation, and enforcement of legislation often result in hard to reverse environmental stressors.

Eskom stated in its 2021 Sustainability report<sup>10</sup> that South Africa is vulnerable to the adverse impacts of climate change, which is caused by the substantial environmental footprint of their high reliance on coal. The company's total GHG emissions of 0.02GtCO<sub>2</sub>e in 2020, makes it the country's largest CO<sub>2</sub> emitter, and South Africa the world's 12th-biggest GHG producer<sup>11</sup>. Despite these numbers, all latest reports indicate that Eskom is investing in an additional coal power station<sup>12</sup>. The reported 4.8GW Kusile power station is expected to be one of the world's largest coal-fired power plants upon completion.

With World Oceans' Day approaching within the next week, it would be remiss if I discussed the effects of climate change and omitted the importance of protecting the marine ecosystem. The oceans cover approximately 70% of the Earth's surface and comprise of the single largest habitat on our planet, which houses approximately 1 million species. Moreover, the Oceans produce half

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<sup>7</sup> UNEP, *Emissions Gap Report 2021: The Heat Is On – A World of Climate Promises Not Yet Delivered* (2021) at <https://wedocs.unep.org/bitstream/handle/20.500.11822/36990/EGR21.pdf>

<sup>8</sup> FAO, *Food wastage footprint & Climate Change* (2011) at <https://www.fao.org/3/bb144e/bb144e.pdf>

<sup>9</sup> Centre for Environmental Rights, *Legislation* at <https://cer.org.za/virtual-library/legislation/national>

<sup>10</sup> Eskom, Sustainability Report (2021) at <https://www.eskom.co.za/wp-content/uploads/2021/11/2021sustainabilityReport.pdf>

<sup>11</sup> Sguazzin A, *South Africa's power giant lays out plan to move away from coal* (2021) at <https://www.bloomberg.com/news/articles/2021-07-30/eskom-proposes-multi-lender-facility-to-fund-energy-transition>

<sup>12</sup> *The Kusile Power Station Project, South Africa* (2021) at <https://www.power-technology.com/projects/kusilepowerstation/>

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of all our oxygen and regulate the Earth's climate and temperature by absorbing 93% of the heat produced by GHG<sup>13</sup>.

Despite the crucial role of the Oceans in the global ecosystem, a 2021 occurrence and risk-assessment study of the offshore around False Bay, Cape Town<sup>14</sup> found levels of pharmaceuticals such as *Diclofenaca*, a widely prescribed anti-inflammatory drug, and the antibiotic *sulfamethoxazole*, which can promote antibiotic resistance in the many faecal microorganisms. The presence of these foreign compounds was ascribed to the increasing human-led pressure on the marine environment, as a result of population growth, resident lifestyle, as well as poorly treated sewage effluent from surrounding wastewater-treatment plants.

A more recent failure of inaction happened on 29 November 2021, when Greenpeace Africa, Natural Justice, Kei Mouth Ski Boat Club, and Border Deep Sea Angling Association, filed an urgent interim interdict application against Shell's proposed seismic survey off the Wild Coast via seismic blasting activities. The application was rejected as the judge was not convinced of the irreparable harm that would come from the seismic blasting activities planned. It took a second urgent interdict application by All Rise Attorneys for Climate and Environmental Justice, Sustaining the Wild Coast (SWC), Dwesa-Cwebe Communal Property Association, Ntsindiso Nongcavu (Port St Johns), Sazise Maxwell Pekayo and Cameron Thorpe (Kei Mouth) (fishermen), and Amadiba traditional leader and healer Mashona Wetu Dlamini, for Shell to be ordered to immediately cease all seismic blasting activity off the Wild Coast, as the company neglected to consult with local communities<sup>15</sup>.

## THE ECOLOGICAL TROLLEY PROBLEM: WHAT CAN I DO?

Considering the alarming timeframe within which we can realistically act against the effects of climate change, it is no surprise that there has been a sharp increase in climate change-related mental health issues. A longitudinal study conducted across multiple decades for both the United States and Mexico, found that suicide rates increased 0.7% in US counties and 2.1% in Mexican municipalities for a 1 °C increase in monthly average temperature<sup>16</sup>. The authors attributed their findings to the fact that mental well-being deteriorates during warmer periods, which they based on an analysis of depressive language in >600 million social media posts. It is therefore relevant that the IPCC has determined that human activities have caused approximately 1.0°C of global warming above pre-industrial levels, with a likely range of 0.8°C to 1.2°C. This offers substantive evidence that the climate crisis also has direct health implications.

Against the stark reality of the global climate crisis, and the dooming sense that not much is being done about it, the individual might ask what difference they can make. I call this the **ecological**

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<sup>13</sup> Lövin, I, 'Climate Change Poses a Threat to Our Oceans' 2017 at

<https://www.un.org/en/chronicle/article/climate-change-poses-threat-our-oceans/>

<sup>14</sup> Ojemaye CY, Petrik, L, 'Pharmaceuticals and personal care products in the marine environment around False Bay, Cape Town, South Africa: Occurrence and risk-assessment' 2021 (41) *Environmental Toxicity and Chemistry*.

<sup>15</sup> Greenpeace, *Stop Shell's seismic blasting – News and ways to get involved* at

<https://www.greenpeace.org/africa/en/act/stop-shells-seismic-survey/>

<sup>16</sup> Burke M, González F, Baylis P et al, 'Higher temperatures increase suicide rates in the United States and Mexico' 2018 (8) *Nature Clim Change*, 723–729

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**trolley problem.** The trolley problem is a thought experiment in ethics posing a fictional scenario in which an onlooker has the choice to save five people in danger of being hit by a trolley, by diverting the trolley towards a track with only one person in its way. Although critics of the trolley problem argue against its lack of external validity<sup>17</sup>, the experiment raises the importance of positioning the self in an impossible situation, and thus has application to the discussion of climate change.

In a 2018 study<sup>18</sup> by the Institute for Agriculture and Trade Policy (IATP) and GRAIN, an international non-profit organisation, researchers tracked greenhouse gas emissions for 35 of the largest producers of beef, pork, poultry, and dairy. The researchers found that the combined emissions of the top five meat and dairy companies (Fonterra, DFA, Cargill, Tyson, JBS) are on par with those of Exxon, and significantly higher than those of Shell or BP, and if production remains unregulated, by 2050, meat and dairy farms will account for 80% of the budgeted greenhouse gas emissions.

In the IPCC's sixth assessment report, entitled *Mitigation of Climate Change*<sup>19</sup>, an extensive review of literature revealed that several studies support a shift to vegan diets (rich in pulses, nuts, fruits, and vegetables, and devoid of any animal-derived product); as it could reduce food-related GHG emissions by 29% (estimated at 6.5 GtCO<sub>2</sub>e). Vegan diets can further reduce non-food environmental impacts by 5–9% compared with the baseline in 2050, including reducing land use by 3.1 billion ha, acidification by 50%, eutrophication by 49%, and freshwater withdrawals by 19% for a 2010 reference year. The carbon footprint is even lower if you forgo processing and packaging in favour of homegrown food and community gardens.

These numbers are reflected in numerous other studies. A 2021 study by Xu et al<sup>20</sup> found that global greenhouse gas emissions from animal-based foods are twice those of plant-based foods. A 2019 *Lancet* study<sup>21</sup>, further found that as current food production systems have left much of the world's population malnourished, and have pushed environmental systems and processes beyond safe restrictions, a global transformation of the food system is urgently needed.

According to the official website, the call to action for the 2022 World Environment Day is to participate in the Earth action number<sup>22</sup> campaign. As far as I could find, this is the only call to action, or official awareness campaign created by UNEP. However, considering the staggering amounts of GHG caused the dairy- and animal agriculture industries, and the drastic offset of GHG emissions by vegan diets, if posed as an ecological trolley problem, inaction can only be complicit to the problem of climate change.

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<sup>17</sup>Bauman CW, McGraw AP, Bartels DM and Warren C, 'Revisiting External Validity: Concerns about Trolley Problems and Other Sacrificial Dilemmas in Moral Psychology' *Social and Personality Psychology Compass* 2014 (8/9): 536–554

<sup>18</sup> GRAIN, *Emissions impossible: How big meat and dairy are heating up the planet* (2018) at

<https://grain.org/article/entries/5976-emissions-impossible-how-big-meat-and-dairy-are-heating-up-the-planet#>

<sup>19</sup> Nabuurs G-J, Rachid M, 'Chapter 7: Agriculture, Forestry and Other Land Uses (AFOLU)' 2022, in *IPCC Sixth Assessment Report: Mitigation of Climate Change* at

[https://report.ipcc.ch/ar6wg3/pdf/IPCC\\_AR6\\_WGIII\\_FinalDraft\\_FullReport.pdf](https://report.ipcc.ch/ar6wg3/pdf/IPCC_AR6_WGIII_FinalDraft_FullReport.pdf)

<sup>20</sup> Xu X, Sharma P, Shu S, et al 'Global greenhouse gas emissions from animal-based foods are twice those of plant-based foods' *Nat Food* 2021 (2): 724–732

<sup>21</sup> Willet W, Rockström J, Loken B, et al 'Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems' *The Lancet Commissions* (393): 447–492

<sup>22</sup> <https://www.worldenvironmentday.global/>