Editorial

The Oil is Dead. Long Live the Oil!

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doi:10.18472/SustDeb.v15n3.2024.56395

The climate on planet Earth is changing—and far more rapidly than predicted just a few years ago. Even before its ending, 2024 is already marked as the hottest year on record, according to a report by the Copernicus Institute. Global temperatures have exceeded 1.5 degrees Celsius above the pre-industrial baseline (1850–1900) for the first time[1].

Severe and successive disasters bear witness to this transformation. Floods in Valencia, Spain, and southern Brazil and a historic drought in the Amazon illustrate a climate veering towards extremes. The causes are well-known: the vast and escalating atmospheric concentration of greenhouse gases (GHG). The primary drivers of this imbalance are equally clear: the combustion of fossil fuels (coal, oil, and natural gas) and the destruction of forests through fires, deforestation, and degradation.

While extreme weather events directly cause material, economic, and human losses, emerging indicators point to less direct impacts, particularly on human health: respiratory and cardiovascular issues caused by extreme heat and wildfire smoke; waterborne diseases (leptospirosis, diarrhoea, gastroenteritis) following floods; and interruptions in treatment for conditions like hypertension, diabetes, and dialysis during disasters that overwhelm entire cities.

These issues were already under debate at the 1992 United Nations Conference on Environment and Development in Rio de Janeiro. The principle of "common but differentiated responsibilities" established then stipulated that industrialised nations - the primary emitters of GHGs - should lead mitigation efforts and bear the costs of reversing this trend. Meanwhile, less industrialised nations (including Brazil and India) were to contribute to this global effort without compromising their developmental goals. More than three decades later, the situation has worsened alarmingly. Irrespective of historical culpability, it is imperative today for all nations to commit to averting the most catastrophic climate scenarios.

Successive Conferences of the Parties (COPs) to the UNFCCC (United Nations Framework Convention on Climate Change) have seen countries pledge their Nationally Determined Contributions (NDCs). However, progress towards meeting these targets has been minimal, illustrating a tragic dynamic akin to Hardin's (1968) "Tragedy of the Commons." He described individual actors overexploiting shared resources under the assumption that others will not do the same - leading to collective ruin.

As nations delay decisive action, the climate crisis reveals its consequences. These effects often transcend geographic boundaries, sparing no distinction between those who generate the problem and those who endure its worst impacts.

Several developments underscore the socio-political and economic complexities of addressing the climate crisis:

- Donald Trump's return to the U.S. presidency has renewed his "Make America Great Again" agenda, which includes expanding fossil fuel exploitation through fracking—a process that destabilises land and emits substantial methane and carbon. This approach relegates the transition to clean energy to a secondary concern.

- The oil lobby remains strong. COP 28 (2023) was held in Dubai, UAE—a major oil producer—while COP 29 (2024) convened in Baku, Azerbaijan, where 90% of the economy depends on oil and gas exports. While the involvement of hydrocarbon-producing nations in climate summits highlights their responsibilities, it also creates opportunities for greenwashing. Notably, the presence of 1,773 oil and gas lobbyists at COP 29 surpassed the combined delegations of the ten countries most vulnerable to climate change (1,033 participants). Fossil fuel representatives constituted the fourth-largest delegation, following Azerbaijan (2,229), Brazil (1,914), and Turkey (1,862)[2]. It is worth noting that, on the same day the President of Azerbaijan declared at the opening of COP 29 that oil and gas are "gifts from God," the UNHCR (2024) released a report revealing that 220 million people have been forced to migrate over the past decade. Of these, three-quarters reside in countries highly affected by climate change. Half of this number represents individuals doubly impacted by conflicts and climate-related disasters, predominantly in Ethiopia, Haiti, Myanmar, Somalia, Sudan, and Syria.

- Global carbon emissions, primarily from fossil fuel combustion, are set to reach record levels in 2024. The Global Carbon Budget report[3], released during COP 29, makes an alarm concerning the consequences of a rise to 41.6 billion metric tonnes, up from 40.6 billion in 2023, with 37.4 billion tonnes stemming from coal, oil, and gas.

- The involvement of mafias linked to oil smuggling is becoming increasingly intense. With the international trade bans on oil production from Iran and Russia, illicit networks have emerged to facilitate its distribution, often tied to criminal organisations and terrorism. Groups such as Hezbollah in Lebanon and Boko Haram in Nigeria rely heavily on oil smuggling and trafficking as a critical financial pillar for their activities.

- In Brazil, host of COP 30 in 2025, Petrobras persists in exploring oil reserves off the Amazon River's mouth despite significant socio-environmental risks identified in scientific studies. Moreover, the Brazilian government's silence on a clean energy transition plan underscores a faltering and inconsistent policy approach.

Academic discourse on the "resource curse" (Sachs; Warner, 1995) highlights how resource-rich nations often suffer from weak institutions, authoritarian regimes, and economic stagnation dominated by resource exports. In the context of hydrocarbons, this "oil curse" now poses not just economic and political threats but environmental and existential ones. Norway serves as an example of a country that has successfully managed its oil wealth without falling into the trap of the resource curse. This is in stark contrast to Nigeria, which faces the expansion of oil extraction alongside the deterioration of its political, institutional, social, and economic fabric, compounded by severe environmental impacts (Ross, 2012).

Since the oil shocks of 1973 and 1979, the pursuit of alternative energy sources has mobilised scientists, environmentalists, policymakers, and public opinion. There was an awareness that fossil fuel reserves would be depleted within a few decades, necessitating the search for alternatives. Biofuels experienced a boom, alongside technologies enabling the replacement of combustion engines with electric ones. Photovoltaic and wind turbine electricity generation transitioned from a distant concept to an economically viable and cleaner option. Yet, none of this has curbed the insatiable appetite of the oil industry. New technologies have enabled deep-sea extraction and the exploitation of shale from previously unprofitable reserves. The age of oil has been prolonged, and this is not good news for life on the planet.

Nonetheless, a glimmer of hope emerges from the UK: in September 2024, the nation decommissioned its last coal-fired power plant, a vestige of the industrial revolution. While symbolic, this milestone demonstrates that technological paradigms have life cycles, eventually becoming obsolete and replaced by innovations attuned to modern needs.

In this issue (v. 15, no 3), SiD publishes 11 articles and extends its gratitude to the reviewers whose contributions shaped this year's publication efforts.

This edition of Sustainability in Debate delves into critical global and local challenges at the nexus of environmental sustainability, governance, and societal adaptation. Capri and Baptista examine the tensions in Bolivia's neo-extractivist policies, where resource nationalisation under Evo Morales brought social improvements but entrenched economic dependency and environmental conflicts. Similarly, Ronquim *et al*. highlight the environmental trade-offs of sugarcane expansion in São Paulo, Brazil, showing the urgent need for sustainable land management to balance economic growth with ecological preservation.

Food systems emerge as a central theme. Triches *et al*. explore the behavioural and sociodemographic factors influencing meat consumption among Brazilian university students, uncovering motivations for reduced-meat diets as a pathway to sustainability. This theme is extended by Strasburg's analysis of the environmental footprints of hospital food in Uruguay, which underscores the ecological costs of animal-based diets and the potential for more sustainable choices. Wolstenholme *et al*. further contribute to this discussion by comparing cultural and economic drivers of meat consumption and vegetarianism in Brazil and the UK, highlighting how local contexts shape dietary shifts.

The role of agriculture in fostering resilience is explored by Sousa *et al*., who document agroecological practices in Brazil's Cerrado-Caatinga ecotone, identifying their importance in safeguarding biodiversity and food security amid the threats posed by monocultures. Similarly, Pauletto *et al*. examine agroforestry adoption in Pará, Brazil, emphasising its potential to enhance resilience and sustainability for family farmers, despite structural challenges like insufficient technical support.

Human and institutional responses to environmental and social crises form another key focus. Correia analyses migration during the 2011–2016 drought in Seridó Potiguar, Brazil, positioning it as a critical adaptation strategy for climate-vulnerable populations. Soma examines the ecological and health impacts of artisanal gold mining in Burkina Faso, highlighting the pressing need for regulatory oversight to mitigate socio-environmental harms. In a unique methodological contribution, the application of "social cartography" is presented by Bernal *et al*. Focusing on the Jacaré-Curituba agrarian settlement in Sergipe, Brazil, they demonstrate how participatory mapping, and the Nexus+ approach (addressing food, water, energy, and socio-ecological security), can reveal vulnerabilities and adaptive capacities within complex socio-environmental systems.

Finally, Sanches builds on these themes of governance and adaptation by proposing enhancements to Oran Young's model for evaluating international institutions, introducing variables that address states' capacity to internalise norms and their vulnerability to global challenges.

We hope you enjoy the reading of this issue.

NOTES

1|Available at: https://abrir.link/STTiW

2|Available at: https://kickbigpollutersout.org/COP29FossilFuelLobbyists (15/Nov/2024)

3|Available at: https://globalcarbonbudget.org/fossil-fuel-co2-emissions-increase-again-in-2024/ (18/Nov/2024)

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