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President Petro is Right

COP16 must and can act on Artificial Intelligence threats to biodiversity.

Jim Thomas - Friends of the Earth US

At the COP16 opening ceremony on Sunday night, Colombian President Gustavo Petro launched a clear series of warnings on the growing threat posed by the Artificial Intelligence (AI) industry to biodiversity, climate and society. He warned that fossil fuel -powered expansion of the sector and technological elites driving the technology could propel the world towards “armageddon”. He called on the international community to take urgent measures to regulate the development and use of artificial intelligence, stressing that without concerted global action, the effects of AI and climate change could be irreversible. *“It is necessary to build public, rational and collective regulation to avoid collapse,”* he said.

President Petro has bravely opened the door to a conversation that parties at COP16 urgently need to engage in. A global rush is underway to build AI hyper-scale data-centers whose heavy computation gobbles up catastrophic amounts of electricity, water (for cooling) and extracted minerals. The climate footprint of data center energy use now outweighs the aviation sector - leading to reopening of coal plants and nuclear facilities. The trade of minerals for AI is driving a disastrous mining boom on indigenous and biodiverse lands. Every chatGPT or similar AI query is equivalent to pouring away half a liter of fresh water - far exceeding water-take of most nations. As Indigenous Dine activist Janene Yazzie of NDN Collective reminds, *“Indigenous rights are a safeguard to prevent further environmental exploitation and destruction to support*

the data centers and energy needs for AI. Yet, threats to our lands, territories, and ecosystems are increasing as a result of the drive to build this infrastructure.”

Yet the next phase of AI expansion (beyond manipulating text and images to using AI for environmental management, agriculture and genetic engineering) stands to dwarf these already heavy impacts. Unsurprisingly AI is now appearing in the negotiation text.

Synthetic Biology and “Generative Biology”: The multidisciplinary expert group (MAHTEG) on Synthetic Biology have clearly signaled how the next phase of biotech uses massive AI models, powered by digital genomic sequences to design novel DNA, proteins and lifeforms. Despite biosafety concerns, this ‘generative biology’ industry (also dubbed ‘black box biology’) is just getting going. It is led by the world’s largest companies (Google, Microsoft, AliBaba, Nvidia and Amazon). Language in the Annex to the Synthetic Biology draft decision would authorize the MAHTEG to do a deeper assessment of how the integration of AI into Synthetic Biology affects the goals of the Convention. But at SBSTTA, even such sensible and urgent knowledge-gathering and analysis was being blocked by Brazil, Argentina, Canada, Japan and Australia. Those brackets have to go.

Digital Sequence Information: The new regime and fund being negotiated on DSI mentions (but mostly

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appears blind to) the massive change underway from AI-driven biotechnology. While the text concerns itself with public DSI databases, it doesn't recognize that the world's existing DSI is already incorporated into private AI training sets intended to generate new commercial proteins or molecules. The world's richest data companies are already boosting their valuation as a result of this - long before consumer products. The need for more DSI data to train AI models is also reigniting a digital bioprospecting rush. The DSI fund has to explicitly include Artificial Intelligence and private digital bioprospecting companies among those who must

already pay into the fund while tracing the source of their DSI use.

In the years to come AI will move to the center of many biodiversity debates as AI titans aim to reshape landscapes, oceans, fields and forests and to capture, extract and industrialize genomes, cultures and ecosystems. President Petro is starting a discussion that we will likely reckon with for decades. The sooner and more seriously we start to engage in this topic the better.

Read more in the report

'Black Box' Biotechnology – Integration of artificial intelligence with synthetic biology



Time for Action: Finance, biodiversity and the risks of deep sea mining

Andy Whitmore, Deep Sea Mining Campaign

The Deep Sea Mining Campaign has published a [briefing paper for financiers](#) on deep sea mining's (DSM) biodiversity risks and the potential impacts that investing in the sector could bring.

The COP agenda is increasingly recognising how central the question of finance is, both in terms of the 2022 framework having called for \$700 billion per year for nature protection and restoration, alongside attempts to increasingly involve private finance in nature-based solutions. While this is a controversial area, one relatively easy decision that financiers and insurers can make is to avoid those sectors which carry the greatest risks for biodiversity.

The proposed new extractive industry of deep sea mining is a great example of a sector which can easily be avoided. DSM would result in a [loss of biodiversity](#) that would be irreversible on multi-generational timescales. The [consequences for ocean ecosystem function, planetary systems, and for humanity](#), could be vast. Yet the level of risk associated with DSM cannot be fully understood yet thanks to a lack of research, which could take decades to [close the scientific gaps](#).

Deep sea miners argue they need to push forward rapidly, despite the knowledge gap, in order to satisfy the

world's demand for minerals, particularly for the energy transition from fossil fuels. However, that is an assertion that is refuted by an evidence review from the [European Academies Science Advisory Council](#).

The UNEP FI [published an opinion](#) that there is no foreseeable way in which the financing of DSM activities can be viewed as consistent with the Sustainable Blue Economy Finance Principles.

As a new industry current financial exposure is likely to be limited, so it is easy for financiers to exclude it from their portfolios. The finance sector is [increasingly acknowledging DSM's biodiversity risks](#), with to date [15 financial institutions](#) – including some of the world's largest banks and insurance companies – having published policies which explicitly exclude DSM activities. Yet more have signed up to the '[Business statement supporting a moratorium on deep sea mining](#).'

It is clear that DSM represents an unnecessary threat to ocean biodiversity. It can be avoided before it starts, which is a decision that responsible financiers with a concern for biodiversity can easily make.

Check the online version for links to the reports



“Green Paradox”: subsidising biomass to destroy biodiversity

Souparna Lahiri

Indonesia, under their Just Energy Transition Plan (JETP) proposes and has already initiated transforming coal power plants (CPPs) to co-firing with biomass comprising around 5%–10% of annual generation from coal power plants over 2030–2050, acting as a complementary strategy to reduce emissions from existing plants.

Biomass co-firing results in more greenhouse gas (GHG) emissions than fossil fuels per unit of energy produced. Co-firing prolongs the time required to phase out the coal plants and are artificially prolonging their life cycle. Without subsidies in different forms, either for biomass for electricity generation or biofuels production, biomass would not be a feasible economic choice.

The projected demand for biomass, supported by governmental subsidies, is likely to exceed the supply of residues and waste biomass, which leads to a high risk of processing valuable wood for biomass and additional deforestation. The projected demand for biomass connected with deforestation will likely have negative impacts on the biodiversity of forests. Extensive logging for wood pellet plants results in increased levels of deforestation, carbon loss, GHG emissions, and decreased forest carbon stock with resultant loss of biodiversity at a very large scale.

Indonesian conglomerate, Medco Group constructed a biomass power plant in the ancestral territory of Marind people living in Zanegi villagem in Papua, that makes electricity from burning wood. Medco has

already cleared large tracts of rainforest, establishing timber plantations in its place. In 2017, the Indonesian government provided \$4.5 million in “project financing” for the power plant. As of 2024, the total funding has reached more than \$9 million. And that’s one plant only.

Trend Asia, an Indonesian NGO, calculated the land area to fulfil wood pellet material needed for 107 Steam Power Plant units. The need of plantation has potential of deforestation of 1,048,344 hectares by 2024. Meeting the demand for both biomass fired energy and co-firing with coal would require at least 2.3 million hectares of land to be converted to plantations – an area half the size of Denmark.

Total co-firing biomass emission of 107 Steam Power Plant units from upstream to downstream, start from deforestation to wood pellet production is 13,224,680 tonnes CO₂e. The co-firing biomass coal policy, instead of reducing carbon emission in energy sector, will add carbon emission in forestry sector, while extending Steam Power Plant operational age.

Such a JETP policy could lead to the so-called “Green Paradox,” where subsidizing biomass causes the increased use of fossil fuels, especially coal, resulting in continuing deforestation and loss of biodiversity in tropical Indonesia.

Such harmful subsidies which destroy biodiversity, therefore, have to be eliminated immediately and should be part of the country commitments in NBSAP.

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Northern forests need protection too

Wendel Trio, Northern Forests and Climate Change Project

Forests host over 80% of terrestrial biodiversity, store over 850 gigatonne of carbon - equal to almost a century of fossil fuel emissions - and are home to 300 million people, many belonging to vulnerable communities and indigenous nations. While overall the rate of forest loss has been reduced, we are still losing approximately 10 million ha of forests each year. Similarly the amount of carbon stored in forests is going down and recent studies indicate that trees and lands nowadays emit as much carbon as they absorb.

Contrary to popular belief, while the carbon stored in tropical forests is growing, the decline is mainly in what we call northern forests, the boreal and temperate forests of North America (Canada and the US) and Europe (including Russia and the former Soviet Union member states). These northern forests make up a large part of the world's global forests as they represent over 40% of global tree cover. Russia, Canada, the US and the EU make up 95% of all northern forests. Thus preserving northern forests is mostly a responsibility of industrialised countries. And a responsibility they must urgently take up.

Northern forests hold among the last large stretches of primary, old-growth, and mature forests. These forests have never been industrially logged or otherwise disturbed and have a unique and irreplaceable value for global biodiversity. These forests also hold nearly half of the global carbon stock. Furthermore, numerous indigenous peoples depend on and survive in northern forests and multiple studies have indicated that forests controlled by indigenous peoples are better protected and have more carbon stored, with the level of protection increasing when forest ownership gets legally recognised.

Northern forests are experiencing some of the world's fastest degradation, due in large part to industrial log-

ging in primary, old-growth, and mature forests. Logging in northern forests is the world's single largest industrial driver of gross tree cover loss. As a result, northern forests are more vulnerable to the impacts of climate change, such as increased forest fires and insect outbreaks. This in turn is reducing the amount of carbon stored in northern forests. While northern forests accounted for 40% of forest carbon removals in 1990, this has dropped to 24% today. Even more, some countries, such as Canada, Finland and Germany have seen their forests turn from being a carbon sink (absorbing more carbon than they emit) into a source (emitting more carbon than they absorb).

Protecting and restoring forests, and in particular the remaining old-growth and primary forests, must be a priority for northern forest countries. Protecting and restoring forest ecosystem integrity is the fastest and most cost-effective way to deliver win-win outcomes for climate, biodiversity, and indigenous peoples. Protected areas, and in particular those managed by indigenous peoples have proven to be highly effective and provide complementary approaches for protecting and restoring ecosystem integrity.

Despite all this, northern forests are poorly protected. While on average, more than 25% of forests in Africa, Asia and South America fall under one or the other protected status, only 11% of North American and only 6% of European forest are protected. This is far from the world average and even further away from the commitments made in the Global Biodiversity Framework.

