**Intervention:**

**Special Rapporteur’s thematic report on the toxic impacts of some climate change solutions**

6 March 2023

**To:** Marcos Orellana, Special Rapporteur on toxics and human rights,

**By email:** hrc-sr-toxicshr@un.org

Tēnā koe/ greetings,

**INTRODUCTION**

1. Thank You for organizing the virtual consultation NZT 1 March 2023 on this matter. My interventions below elaborate on My contributions made (orally, and in the chat box) during that consultation.[[1]](#endnote-1)

**INTERNATIONAL ORGANIZATIONS, FORUMS, MECHANISMS AND AGREEMENTS – CLIMATE CRISIS “SOLUTIONS” BARRIERS**

1. Indigenous efforts to mitigate the worst impacts of climate crisis face many systemic and systematic barriers, including the persistent challenges of colonialism (including now well-entrenched corporate colonization[[2]](#endnote-2)‌), patriarchy, capitalism, discrimination and racism.‌ Below are but a few examples of some international barriers to Indigenous Peoples’ efforts to protect against toxins in the climate crisis “solutions” context. However, there are innumerable instances of UN system incoherence and contradictory decision-making regarding climate crisis policy. This must be urgently rectified:
	1. *The International Seabed Authority:* The ISA enables deep sea mining (**DSM**) for materials that would help create and maintain renewables technology and infrastructure. However, this is very problematic in the Pacific.[[3]](#endnote-3) Among the many health and potential harm uncertainties, many concerns exist about “the potential impact of increased ambient metal concentrations on marine ecosystems” with scientists anticipating that DSM will “release metal deposits—including copper, lead, zinc, cadmium and rare earth metals—into the surrounding environment through destruction of mineral deposits during the mining process.”[[4]](#endnote-4) Growing numbers of Indigenous Peoples, NGOs and scientists are calling for more studies to plug the significant “scientific gaps”[[5]](#endnote-5) regarding the toxic implications of DSM for environmental and human health.[[6]](#endnote-6) The ISA DSM negotiations are alleged to lack social legitimacy[[7]](#endnote-7) or legal authority,[[8]](#endnote-8) and lack meaningful involvement and the free, prior and informed consent[[9]](#endnote-9) of Indigenous Peoples impacted. There is a strong Māori campaign against DSM locally,[[10]](#endnote-10) but We also support other Palau, Fiji[[11]](#endnote-11) and other Indigenous Peoples who seek to protect their marine environments,[[12]](#endnote-12) especially in the context of DSM as another (and potentially the biggest yet) colonialist form of land and territory-grabbing.[[13]](#endnote-13)
	2. *Advocating False tech solutions like geoengineering*[[14]](#endnote-14): Indigenous Peoples have been raising concerns and denouncing false geoengineering “solutions” as early as 2009,[[15]](#endnote-15) and most recently at COP27 regarding geoengineering as among a number of propositions being advocated by the public and private sector.[[16]](#endnote-16) UN mechanisms – such as the Convention on Biological Diversity (CBD) and the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter – have voiced strong precautionary calls, including geoengineering moratoria.[[17]](#endnote-17) This indicates a dire lack of social mandate for geoengineering.[[18]](#endnote-18) At the same time, the UN has (as early as 2017,[[19]](#endnote-19) if not earlier) been encouraging exploration of geoengineering. The very act of advocating investigation into geoengineering pros and cons implies there is legitimacy and merit in the idea, which a growing movement of Indigenous Peoples, scientific experts and civil society groups strenuously dispute and warn against. Even UN ‘neutrality’ (e.g. making “no recommendations on whether to use” geoengineering, but not explicitly recommending against it either[[20]](#endnote-20)) is damaging, as UN silence can be taken to mean support for the status quo[[21]](#endnote-21) (in this case, undemocratic philanthropic,[[22]](#endnote-22) corporate[[23]](#endnote-23) and military industrial complex[[24]](#endnote-24) influence over UN dialogues, such as the UNFCCC COP meetings).
	3. Alarmingly however, just this February 2023, the UN Environment Programme “convened a multidisciplinary expert panel to undertake a rapid review of the state of scientific research on Solar Radiation Modification (SRM)”.[[25]](#endnote-25) In its associated report,[[26]](#endnote-26) the UNEP panel of climate experts “unanimously” called for “international [SRM] regulations to extend into the stratosphere [and for]…support [for] additional research of SRM”, despite admitting that "Even as a temporary response option, large-scale SRM deployment is fraught with scientific uncertainties and ethical issues. The evidence base is simply not there to make informed decisions”.[[27]](#endnote-27) Actions like this have given rise to criticisms of UN schitzophrenia and hypocrisy, deepening already critical levels of mistrust in the UN System. Meanwhile, Indigenous Peoples and other experts are calling for a “non-use agreement”,[[28]](#endnote-28) and continue to warn that, as another technological fix, geoengineering is “speculative”, and poses “significant risks” to indigenous human rights, including environmental human rights and rights to food sovereignty (for example, from the dangers of toxic pollution from SRM materials used). These threats exist in the broader context of corporate greenwashing,[[29]](#endnote-29) already demonstrably failed carbon markets, the potential to escalate inter-state conflicts,[[30]](#endnote-30) and land, ocean and resource grabbing (corporate colonialism) agendas. In response, Indigenous Peoples are mobilizing resistance[[31]](#endnote-31), [[32]](#endnote-32) - like the Saami who joined forces with scientists, Government and international climate movements to oppose geoengineering over their traditional territories.[[33]](#endnote-33), [[34]](#endnote-34)
	4. *UNFCCC COP meetings*:
		1. While renewable energy is promoted at COP meetings as being a major climate crisis solution, this is a disingenuous conversation, as there are many ways in which renewables and the supporting infrastructure routinely contribute to or directly violates Indigenous Peoples’ human rights.[[35]](#endnote-35) Indeed, it the optics are that chronically treating Indigenous Peoples and their traditional territories as “sacrifice zones” to progress renewable energy agendas seems to be the acceptable business model:[[36]](#endnote-36)
			1. *Solar panels and wind turbines:* As these near the end of their working lives, they are being disposed of as waste in landfills or incinerated, creating toxic environmental land, water and air pollution. This “ticking time bomb”,[[37]](#endnote-37) which is expected to worsen as the renewable energy industry expands, will have catastrophic effects for Indigenous Peoples who are disproportionately impacted by pollution – including the situating of landfills in their traditional territories.[[38]](#endnote-38), [[39]](#endnote-39) Indigenous Peoples are often located near renewable energy production and infrastructure, such as solar and wind farms. These communities can be adversely affected by the waste from these industries.
			2. *Nuclear energy*: While enjoying wide support as supposedly “clean”, this is a highly problematic false solution. Many Indigenous Peoples are already experiencing a legacy of nuclear energy production environmental contamination, destruction of culturally significant sites and health problems, include the Diné (of Arizona, United States),[[40]](#endnote-40) the Kebaowek (of Quebec, Canada),[[41]](#endnote-41) several distinct Aboriginal groups (in the Northern Territory, Australia),[[42]](#endnote-42) and various Indigenous Peoples in the Pacific.[[43]](#endnote-43) Indigenous Peoples are often located near nuclear facilities or in areas where uranium mining takes place or is proposed to take place. Uranium mining toxifies the air and water, posing deadly health risks from exposure to ionizing radiation. Populations living near nuclear facilities also have higher rates of certain cancers and other health problems. These and other factors have resulted in increasing numbers of indigenous groups seeking compensation for harm suffered due to nuclear energy production-related catastrophes.
			3. Moreover, nuclear power plants are notorious for the ever-present and long-lasting threat of environmental disaster caused by failed decommissioning of facilities and leaking radioactive materials. 439 nuclear power plants exist on the planet,[[44]](#endnote-44) and all are threatened by the increased incidence and intensity of hurricanes, floods and other severe weather events, as well as rising sea levels. This means Indigenous Peoples are particularly vulnerable to the double impact of climate crisis and nuclear disaster, especially those who lack effective political agency to prevent or halt nuclear development in their traditional territories. This makes it all the more vital that their free, prior and informed consent is obtained for every new nuclear facility construction project that will affect their communities. These communities must also be included in civil defence and emergency planning so that they can be safely evacuated and/or “quarantined” in the event of an incident or disaster (a “safety” outcome which many experts argue is, in reality, an extremely difficult if not impossible proposition).
		2. *Exclusion from climate crisis talks:* Perhaps the greatest hypocrisy is that war-profiteering, environmental polluting industries are given trillions of dollars each year, but exempt from climate protocols. Many Indigenous Peoples continue to suffer from a legacy of military activities, as well as continuing and increasing harms from deployment of armed forces and State and corporate conflict-driven agendas.[[45]](#endnote-45) The far-reaching harm caused by military infrastructure and activities, and the critical intersectionality with colonization and colonialism, exacerbates Indigenous Peoples’ vulnerability to the effects of climate crisis. For example, weapons training is known to contaminate Indigenous Peoples’ water supplies, and devastate the environment and wildlife which are already under severe climate stress, and upon which Indigenous Peoples rely on for their livelihoods. Indigenous peoples (especially those living near military bases or testing sites) are also exposed to toxic chemicals and pollutants from military activities which can cause a range of health problems including cancer, birth defects, and respiratory illnesses. Exposure to military violence and resulting diminished access to or displacement from traditional lands (e.g. regarding one Alaskan Indigenous group[[46]](#endnote-46) opposing the US Navy’s Northern Edge[[47]](#endnote-47) exercises) can lead to anxiety, a sense of loss and isolation from their homelands and other mental health issues.
			1. Ending war is imperative to curb climate catastrophe,[[48]](#endnote-48) yet struggles led by military-impacted frontline communities continue as a critical element of the climate justice movement: “from [New Mexico](https://www.nmvoices.org/archives/13941) to [Texas](https://www.sacurrent.com/news/lasting-harm-the-contamination-around-the-south-sides-air-force-facilities-remains-and-residents-say-its-still-taking-a-toll-22052746), [Alaska](https://docs.google.com/document/d/1G5b-MSKyV5cI96lyBV140jhyfE-SaPTEt85aVZC5TjM/edit) to [Guam](https://www.guampdn.com/news/residents-urge-more-review-of-potential-contamination-from-firing-ranges/article_bdf7d88a-6709-11ed-bd70-47a7b95458e7.html), [Hawai’i](https://www.civilbeat.org/2022/03/how-hawaii-activists-helped-force-the-militarys-hand-on-red-hill/), [Puerto Rico](https://donorbox.org/centro-solidario-de-puerto-rico), long-term campaigns are being waged to defend land, air, and water from military contamination…[and] to demilitarize, decolonize, and detoxify.”[[49]](#endnote-49) Shockingly, these issues are largely avoided in international spaces.[[50]](#endnote-50) This, despite the military as a major greenhouse gas polluter (including for transportation, weapons and munitions manufacturing and sales, and all affiliated supply chains), the lack of accounting for which seriously weakens the credibility and utility of UNFCCC emissions monitoring mechanisms. Moreover, war and military conflict diverts crucial finance and attention away from tackling the climate emergency: “the richest and most polluting countries today spends 30 times as much on Military as they do on climate finance for the world's most climate affected people”.[[51]](#endnote-51) The lack of attention to military spending at COP27 is a grave missed opportunity to address one of the root causes of climate breakdown. Moreover, the substantive omission perpetuates a serious and disturbing distortion of critical emissions data upon which the world’s climate mitigation and adaptation policies are based, rendering the world’s climate response woefully off-target.

**GOOD PRACTICES AND LESSONS LEARNED (FROM INDIGENOUS PERSPECTIVES)**

1. The laws of physics must be observed, primarily the fact that it’s a finite planet We live on – including a finite capacity of people and the planet to absorb and metabolize anthropological harm by Life-destroying forces.
2. Indigenous Peoples argue that the most fundamental sickness among humanity is metaphysical.[[52]](#endnote-52) People have lost their connection to one another and to the natural world of which humans are a part of (as opposed to separate from). “Separate-ness” is a false (toxic) concept in the mind of Humanity.[[53]](#endnote-53) All other crises are in reality just symptomatic of this meta crisis. The URGENT remedy required for meaningful climate crisis action is therefore a de-tox of people’s hearts and mind – a metaphysical de-tox.
3. Wetlands (like the liver and kidneys of the body) help metabolize pollutants in the environment.[[54]](#endnote-54) After generations of wetland destruction,[[55]](#endnote-55) there are now many efforts world-wide to restore wetlands.[[56]](#endnote-56) Planting of natives along riverbanks, lakesides and such is also effective at filtering toxins before they contaminate water sources.
4. Strengthening waka (or canoe) culture encourages the use of solar and wind energy transportation, as well as supports environmental defence.[[57]](#endnote-57)
5. Legislating legal personality – as We’ve done here in Aotearoa for The Whanganui River, The Te Urewera National Park and such – this might help protect areas, because to us as Māori they are Our relations and kin. ☺
6. Lastly (linked to many Indigenous Peoples’ prophecies), State intelligence and defence institutions (including the Pentagon[[58]](#endnote-58)) are finally admitting knowledge of advanced technologies (some speculated to be free-energy technologies[[59]](#endnote-59)) which allegedly are associated with UFOs (alien craft). REAL “clean” (non-toxifying) energy? That should be made transparent to the world.[[60]](#endnote-60)
1. Apologies for going over the word limit. [↑](#endnote-ref-1)
2. Lakhani, Nina. ““Corporate Colonization”: Small Producers Boycott UN Food Summit.” *The Guardian*, 23 Sept. 2021, [www.theguardian.com/environment/2021/sep/23/small-producers-boycott-un-food-summit-corporate-interests](http://www.theguardian.com/environment/2021/sep/23/small-producers-boycott-un-food-summit-corporate-interests). [↑](#endnote-ref-2)
3. Jessup, Natalie. “Pacific Representatives Call on New Zealand to Support Global Moratorium on Deep Seabed Mining.” *KASM*, 1 June 2022, <https://www.kasm.org.nz/post/pacific-representatives-call-on-new-zealand-to-support-global-moratorium-on-deep-seabed-mining>. See also the chapter, “The International Seabed Authority Faces Pressure to Authorize Deep Seabed Mining Despite Potential Conflicts
with its Legal Authority”, and other references to toxic harm, in Berglan, Laura, et al. *The Clean Energy Dilemma: How the Push for Clean Energy Could Threaten Indigenous Communities and an Exploration of Potential Alternatives*. 2022, <https://www.colorado.edu/law/sites/default/files/attached-files/berglan_online.pdf>. [↑](#endnote-ref-3)
4. Hamley, Graham J. “The Implications of Seabed Mining in the Area for the Human Right to Health.” *Review of European, Comparative & International Environmental Law*, vol. 31, no. 3, 18 Oct. 2022, pp. 389–398, <https://doi.org/10.1111/reel.12471>. [↑](#endnote-ref-4)
5. Amon, Diva J., et al. “Assessment of Scientific Gaps Related to the Effective Environmental Management of Deep-Seabed Mining.” *Marine Policy*, vol. 138, 1 Apr. 2022, p. 105006, www.sciencedirect.com/science/article/pii/S0308597X22000537?pes=vor, <https://doi.org/10.1016/j.marpol.2022.105006>. [↑](#endnote-ref-5)
6. Carlson, Colin J., et al. “Solar Geoengineering Could Redistribute Malaria Risk in Developing Countries.” *Nature Communications*, vol. 13, no. 1, 20 Apr. 2022, p. 2150, www.nature.com/articles/s41467-022-29613-w, <https://doi.org/10.1038/s41467-022-29613-w>. [↑](#endnote-ref-6)
7. Jaeckel, Aline, et al. “Deep Seabed Mining Lacks Social Legitimacy.” *Npj Ocean Sustainability*, vol. 2, no. 1, 9 Feb. 2023, <https://doi.org/10.1038/s44183-023-00009-7>. [↑](#endnote-ref-7)
8. See chapter, “The International Seabed Authority Faces Pressure to Authorize Deep Seabed Mining Despite Potential Conflicts with its Legal Authority” in Berglan, Laura, et al. *The Clean Energy Dilemma: How the Push for Clean Energy Could Threaten Indigenous Communities and an Exploration of Potential Alternatives*. 2022, <https://www.colorado.edu/law/sites/default/files/attached-files/berglan_online.pdf>. [↑](#endnote-ref-8)
9. Ref comment by Joey Tau, Deputy Coordinator of the Pacific Network on Globalization (PANG), at “Key Countries Oppose Deep Sea Mining as Regulations Advance to Open the Industry.” *Greenpeace USA*, 5 Aug. 2022, <https://www.greenpeace.org/usa/news/key-countries-oppose-deep-sea-mining-as-regulations-advance-to-open-the-industry/>. [↑](#endnote-ref-9)
10. Alberts, Elizabeth Claire. ““The Sea Means Everything”: Q&a with Deep-Sea Mining Opponent Debbie Ngarewa-Packer.” *Mongabay Environmental News*, 21 July 2022, <https://news.mongabay.com/2022/07/the-sea-means-everything-qa-with-deep-sea-mining-opponent-debbie-ngawera-packer/>. [↑](#endnote-ref-10)
11. Palatino, Mong. “The Tide Is Rising against Deep Sea Mining.” *Global Voices*, 5 July 2022, <https://globalvoices.org/2022/07/05/the-tide-is-rising-against-deep-sea-mining/>. [↑](#endnote-ref-11)
12. E.g. see Raqauqau, Jone Tuiipelehaki. “Ratu Epenisa Cakobau Joins Indigenous Leaders and Allies from across the Pacific to Take a Stand against Deep Sea Mining, in Protection of the Ocean.” *Pasifika Environews*, 28 Feb. 2023, <https://pasifika.news/2023/02/ratu-epenisa-cakobau-joins-indigenous-leaders-and-allies-from-across-the-pacific-to-take-a-stand-against-deep-sea-mining-in-protection-of-the-ocean/>. [↑](#endnote-ref-12)
13. See for example “Pacific: For Indigenous Communities, New Seabed Mining Technologies Could Begin “the Biggest Land Grab in History.”” *Minority Rights Group*, 29 Sept. 2020, <https://minorityrights.org/programmes/library/trends2020/pacific/>. Māori (and quite likely other Indigenous Peoples as well) believe all is whenua (land) regardless of it being above or below the water. We recognise that some of Our largest mountains, for instance, are located under water. [↑](#endnote-ref-13)
14. Geoengineering is a set of technologies that include interventions on land (e.g. carbon dioxide removal), in the oceans, or in the atmosphere (solar radiation management, or SRM). See also *Geoengineering Map*. ETC Group and Heinrich-Böll-Stiftung, <https://map.geoengineeringmonitor.org/> [↑](#endnote-ref-14)
15. *The Anchorage Declaration*. Indigenous Peoples Global Summit on Climate Change, 24 Apr. 2009. <https://unfccc.int/resource/docs/2009/smsn/ngo/168.pdf> [↑](#endnote-ref-15)
16. “Indigenous Environmental Network denounces lack of progress for Indigenous peoples and climate justice at COP27”, 2022 November 29, <https://indiancountrytoday.com/the-press-pool/indigenous-environmental-network-denounces-lack-of-progress-for-indigenous-peoples-and-climate-justice-at-cop27>. [↑](#endnote-ref-16)
17. ETC Group, “False solutions alert: Geoengineering in climate negotiations” (Nov 2022), downloadable at <https://www.etcgroup.org/content/false-solutions-alert-geoengineering-climate-negotiations>. [↑](#endnote-ref-17)
18. Carvalho, António, and Mariana Riquito. ““It’s Just a Band-Aid!”: Public Engagement with Geoengineering and the Politics of the Climate Crisis.” *Public Understanding of Science*, vol. 31, no. 7, 13 May 2022, pp. 903–920, <https://doi.org/10.1177/09636625221095353>. [↑](#endnote-ref-18)
19. UN News Centre. “Climate Engineering Is Risky, but Should Be Explored, Experts Say at UN Conference.” *United Nations Sustainable Development*, 16 Nov. 2017, [www.un.org/sustainabledevelopment/blog/2017/11/climate-engineering-risky-explored-experts-say-un-conference/](http://www.un.org/sustainabledevelopment/blog/2017/11/climate-engineering-risky-explored-experts-say-un-conference/). [↑](#endnote-ref-19)
20. E.g., the media stated in 2021 that, in its [sixth assessment report](https://www.ipcc.ch/report/ar6/wg1/), the IPCC addressed solar radiation management, but made no recommendations on whether to use the method. The media suggested that the IPCC “could give guidance on how decisions on geoengineering should be made in another report due in 2022.”: Spring, Jake. “Geoengineering Marks Scientific Gains in U.N. Report on Dire Climate Future.” *Reuters*, 10 Aug. 2021, [www.reuters.com/business/environment/geoengineering-marks-scientific-gains-un-report-dire-climate-future-2021-08-10/](http://www.reuters.com/business/environment/geoengineering-marks-scientific-gains-un-report-dire-climate-future-2021-08-10/). [↑](#endnote-ref-20)
21. Which includes the fact that geoengineering has already been undertaken in Our skies for decades. [↑](#endnote-ref-21)
22. “There is growing interest from…philanthropists in researching stratospheric aerosol injection”: Hiar, Corbin, and John Fialka. “Solar Geoengineering Should Be Regulated, U.N. Report Says.” *Scientific American*, 28 Feb. 2023, [www.scientificamerican.com/article/solar-geoengineering-should-be-regulated-u-n-report-says/#](http://www.scientificamerican.com/article/solar-geoengineering-should-be-regulated-u-n-report-says/). [↑](#endnote-ref-22)
23. E.g. in one public consultation, some participants “mentioned the risk of the capitalist co-option of these [geoengineering] techniques, that is, turning them into a business instead of being used to tackle climate change: I think this [geoengineering] will easily become another business, overpowering the common good…The system itself can take advantage from its [geoengineering’s] benefits, turning it into a business. That is capitalism...It’s the economy, it’s money. They [the big corporations] will never stop profiting from the money that the sale of these technologies can generate”: Carvalho, António, and Mariana Riquito. ““It’s Just a Band-Aid!”: Public Engagement with Geoengineering and the Politics of the Climate Crisis.” *Public Understanding of Science*, vol. 31, no. 7, 13 May 2022, pp. 903–920, <https://doi.org/10.1177/09636625221095353>. [↑](#endnote-ref-23)
24. Panganga Pungowiyi, climate geoengineering organizer with the [Indigenous Environmental Network](https://www.ienearth.org/), connects the “colonial history of military violence” to “false solutions to climate change” that are being tested on Indigenous Peoples through operations like the [Arctic Ice Project](https://www.ienearth.org/alaska-natives-excluded-from-fundraiser-event-for-risky-science-experiment-in-arctic/) which was implemented using a naval base: Feffer, John. “Opposing War, Addressing Climate Change.” *Foreign Policy in Focus*, 13 Dec. 2022, <https://fpif.org/opposing-war-addressing-climate-change/>. [↑](#endnote-ref-24)
25. United Nations Environment Programme. *One Atmosphere: An Independent Expert Review on Solar Radiation Modification Research and Deployment*. Feb. 2023, <https://wedocs.unep.org/handle/20.500.11822/41903>. [↑](#endnote-ref-25)
26. United Nations Environment Programme. *One Atmosphere: An Independent Expert Review on Solar Radiation Modification Research and Deployment*. 27 Feb. 2023. Downloadable at <https://wedocs.unep.org/handle/20.500.11822/41903>. [↑](#endnote-ref-26)
27. Hiar, Corbin, and John Fialka. “Solar Geoengineering Should Be Regulated, U.N. Report Says.” *Scientific American*, 28 Feb. 2023, [www.scientificamerican.com/article/solar-geoengineering-should-be-regulated-u-n-report-says/#](http://www.scientificamerican.com/article/solar-geoengineering-should-be-regulated-u-n-report-says/). [↑](#endnote-ref-27)
28. “Experts Call on the UN for a Solar Geoengineering Non-Use Agreement.” Geoengineering Monitor, 21 Jan. 2022, [www.geoengineeringmonitor.org/2022/01/experts-call-on-the-un-for-a-solar-geoengineering-non-use-agreement/](http://www.geoengineeringmonitor.org/2022/01/experts-call-on-the-un-for-a-solar-geoengineering-non-use-agreement/). [↑](#endnote-ref-28)
29. E.g. one campaign explains, “A Cap and Trade Carbon Market that allows for “offsets” also equates to greenwashed disaster capitalism, such as dangerous theoretical geoengineering techno fixes that are tested on Indigenous Lands.”: “Arctic Ice Project – Indigenous Environmental Network.” *Www.ienearth.org*, [www.ienearth.org/arctic-ice-project/](http://www.ienearth.org/arctic-ice-project/). [↑](#endnote-ref-29)
30. Birnbaum, Michael. “A “Climate Solution” That Spies Worry Could Trigger War.” *The Washington Post*, 27 Feb. 2023, [www.washingtonpost.com/climate-environment/2023/02/27/geoengineering-security-war/](http://www.washingtonpost.com/climate-environment/2023/02/27/geoengineering-security-war/). [↑](#endnote-ref-30)
31. <https://globalforestcoalition.org/event/press-conference-home-alliance-says-no-to-removals-and-geoengineering/>. [↑](#endnote-ref-31)
32. Geoengineering Monitor, “UNFCCC Article 6.4: No to legitimizing geoengineering and land-based offsets”, 2022 November 8, <https://www.geoengineeringmonitor.org/2022/11/unfccc-article-6-4-no-to-legitimizing-geoengineering-and-land-based-offsets/>. [↑](#endnote-ref-32)
33. Hætta, Kristoffer. *Support the Indigenous Voices Call on Harvard to Shut down the SCoPEx Project*. Sámiráđđi, 9 June 2021, [www.saamicouncil.net/news-archive/support-the-indigenous-voices-call-on-harvard-to-shut-down-the-scopex-project?rq=geoengineering](http://www.saamicouncil.net/news-archive/support-the-indigenous-voices-call-on-harvard-to-shut-down-the-scopex-project?rq=geoengineering); Chamblee, Rebecca. “Why Did the Saami Council Oppose Harvard’s SCoPEx Experiment?” *C2G*, 12 Dec. 2022, [www.c2g2.net/asa-larsson-blind/](http://www.c2g2.net/asa-larsson-blind/). [↑](#endnote-ref-33)
34. Oksanen, Aslak-Antti. “Dimming the Midnight Sun? Implications of the Sámi Council’s Intervention against the SCoPEx Project.” *Frontiers in Climate*, vol. 5, 21 Feb. 2023, <https://doi.org/10.3389/fclim.2023.994193>. [↑](#endnote-ref-34)
35. “Tracking Human Rights Violations & Environmental Impacts in Lithium Batteries Supply Chains in China, DRC & So. America.” *Business & Human Rights Resource Centre*, 9 Jan. 2017, [www.business-humanrights.org/en/latest-news/tracking-human-rights-violations-environmental-impacts-in-lithium-batteries-supply-chains-in-china-drc-so-america/](http://www.business-humanrights.org/en/latest-news/tracking-human-rights-violations-environmental-impacts-in-lithium-batteries-supply-chains-in-china-drc-so-america/). [↑](#endnote-ref-35)
36. “COP27 Report Back.” *Pueblo Action Alliance*, 9 Dec. 2022, [www.youtube.com/watch?v=arJA1eCX7Xo&list=PLyaWCGWaXTWslj0OfJ\_sIzGC2goZii0\_n&index=2&t=3195s](http://www.youtube.com/watch?v=arJA1eCX7Xo&list=PLyaWCGWaXTWslj0OfJ_sIzGC2goZii0_n&index=2&t=3195s). [↑](#endnote-ref-36)
37. Peplow, Mark. “Solar Panels Face Recycling Challenge.” *C&En*, 22 May 2022, <https://cen.acs.org/environment/recycling/Solar-panels-face-recycling-challenge-photovoltaic-waste/100/i18>. [↑](#endnote-ref-37)
38. Fernández‐Llamazares, Álvaro, et al. “A State‐Of‐The‐Art Review of Indigenous Peoples and Environmental Pollution.” *Integrated Environmental Assessment and Management*, vol. 16, no. 3, 1 May 2020, pp. 324–341, [www.ncbi.nlm.nih.gov/pmc/articles/PMC7187223/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC7187223/), 10.1002/ieam.4239. [↑](#endnote-ref-38)
39. Sugla, Rishi. “A Study of Nearly 700 Studies Makes It Clear: Environmental Injustice Is Rampant around the World.” *Ensia*, 30 July 2020, <https://ensia.com/notable/environmental-injustice-global-indigenous-pollution/>. [↑](#endnote-ref-39)
40. Thompson, Darren. “Diné Organization Files Petition against United States, Cites Human Rights Violations.” *PopularResistance.org*, 22 Oct. 2021, <https://popularresistance.org/dine-organization-files-petition-against-united-states-citing-human-rights-violations/>; Becenti, Arlyssa D. *Navajo Residents Say They Won’t Let the Government Forget about Poisoned Uranium Mines*. AZCentral, 22 July 2022, [www.azcentral.com/story/news/local/arizona/2022/07/22/navajos-press-action-government-clean-up-uranium-sites/10105989002/](http://www.azcentral.com/story/news/local/arizona/2022/07/22/navajos-press-action-government-clean-up-uranium-sites/10105989002/). [↑](#endnote-ref-40)
41. Haymond, Lance, et al. “Decolonizing Energy and the Nuclear Narrative of Small Modular Reactors.” *Policy Options*, 7 Feb. 2022, <https://policyoptions.irpp.org/magazines/february-2022/decolonizing-energy-and-the-nuclear-narrative-of-small-modular-reactors/>. [↑](#endnote-ref-41)
42. “Uranium Mining.” *The Gundjeihmi Aboriginal Corporation,* [www.mirarr.net/pages/uranium-mining](http://www.mirarr.net/pages/uranium-mining). [↑](#endnote-ref-42)
43. Taylor, Dame Meg. [*Regarding the Japan Decision to Release ALPS Treated Water into the Pacific Ocean*](https://www.forumsec.org/2021/04/13/statement-by-dame-meg-taylor-secretary-general-of-the-pacific-islands-forum-regarding-the-japan-decision-to-release-alps-treated-water-into-the-pacific-ocean/). 13 April 2021, Pacific Islands Forum. [↑](#endnote-ref-43)
44. “Number of Operable Nuclear Power Reactors Worldwide as of May 2022, by Country.” *Statista*, 1 Aug. 2022, [www.statista.com/statistics/267158/number-of-nuclear-reactors-in-operation-by-country/](http://www.statista.com/statistics/267158/number-of-nuclear-reactors-in-operation-by-country/). [↑](#endnote-ref-44)
45. “COP27 Report Back.” Pueblo Action Alliance, 9 Dec. 2022, [www.youtube.com/watch?v=arJA1eCX7Xo&list=PLyaWCGWaXTWslj0OfJ\_sIzGC2goZii0\_n&index=2&t=3195s](http://www.youtube.com/watch?v=arJA1eCX7Xo&list=PLyaWCGWaXTWslj0OfJ_sIzGC2goZii0_n&index=2&t=3195s). [↑](#endnote-ref-45)
46. Grove, Casey. “Alaska Military Exercise Seeks More Ocean; Public Comment Ends Soon.” *Alaska Public Media*, 30 Apr. 2022, <https://alaskapublic.org/2022/04/29/alaska-military-exercise-seeks-more-ocean-public-comment-ends-soon/>. [↑](#endnote-ref-46)
47. Bauman, Margaret. “Navy Releases Latest Plans for Northern Edge 2023.” *Www.thecordovatimes.com*, 9 Sept. 2022, [www.thecordovatimes.com/2022/09/09/navy-releases-latest-plans-for-northern-edge-2023/](http://www.thecordovatimes.com/2022/09/09/navy-releases-latest-plans-for-northern-edge-2023/). [↑](#endnote-ref-47)
48. Feffer, John. “Opposing War, Addressing Climate Change.” *Foreign Policy in Focus*, 13 Dec. 2022, <https://fpif.org/opposing-war-addressing-climate-change/>. An earlier article states it this way, “Any talk of climate change which does not include the military is nothing but hot air”: H Patricia Hynes. “The Military Assault on Global Climate.” *Truthout*, 8 Sept. 2011, <https://truthout.org/articles/the-military-assault-on-global-climate/>. [↑](#endnote-ref-48)
49. Feffer, John. “Opposing War, Addressing Climate Change.” *Foreign Policy in Focus*, 13 Dec. 2022, <https://fpif.org/opposing-war-addressing-climate-change/>. [↑](#endnote-ref-49)
50. “COP27 Report Back.” Pueblo Action Alliance, 9 Dec. 2022, [www.youtube.com/watch?v=arJA1eCX7Xo&list=PLyaWCGWaXTWslj0OfJ\_sIzGC2goZii0\_n&index=2&t=3195s](http://www.youtube.com/watch?v=arJA1eCX7Xo&list=PLyaWCGWaXTWslj0OfJ_sIzGC2goZii0_n&index=2&t=3195s). [↑](#endnote-ref-50)
51. Hughes, Rebecca Ann. “These Wealthy Nations Are Spending 30 Times More on Arms than Climate.” *Euronews*, 18 Nov. 2022, [www.euronews.com/green/2022/11/18/worlds-richest-nations-spend-30-times-more-on-armed-forces-than-climate-finance](http://www.euronews.com/green/2022/11/18/worlds-richest-nations-spend-30-times-more-on-armed-forces-than-climate-finance). [↑](#endnote-ref-51)
52. Some might think of this as spiritual, but it is distinct from “religious”. For more on Indigenous Peoples’ metaphysical perspectives, including in the context of climate crisis, see The Special Rapporteur on freedom of religion or belief, Ahmed Shaheed. *Indigenous Peoples and the Right to Freedom of Religion or Belief*. A/77/514. United Nations Office of the High Commissioner for Human Rights, 10 Oct. 2022, downloadable at <https://www.ohchr.org/en/documents/thematic-reports/a77514-interim-report-special-rapporteur-freedom-religion-or-belief>. [↑](#endnote-ref-52)
53. It is too common now for elected leaders and decision-makers, as well as people generally, to see the natural world as expendable rather than as The Superstructure which provides endless processes (some refer to as “services”) required for Life…at no cost: keeping Our water clean, keeping Our air clean, pollinating plants, providing healthy soils – Nature needs to be valued, not held in contempt and violated (which is suicidal thinking). [↑](#endnote-ref-53)
54. “Waitī – Freshwater.” *Ministry for the Environment*, 14 Apr. 2022, <https://environment.govt.nz/publications/environment-aotearoa-2022/waiti-freshwater/>. [↑](#endnote-ref-54)
55. Wetlands are near extinction level, as they’ve been drained for industrial agricultural and horticultural food production, and other reasons. See “Wetlands.” Forest & Bird, [www.forestandbird.org.nz/campaigns/wetlands](http://www.forestandbird.org.nz/campaigns/wetlands); and Denyer, Karen, and Monica Peters. *THE ROOT CAUSES of WETLAND LOSS in NEW ZEALAND: AN ANALYSIS of PUBLIC POLICIES & PROCESSES*. 2020. <https://www.wetlandtrust.org.nz/wp-content/uploads/2021/02/ROOT-CAUSES-OF-WETLAND-LOSS-IN-NZ_Jan-2021.pdf>. [↑](#endnote-ref-55)
56. Madgwick, Jane. “Why Wetlands Are Our Best Climate-Change Hack.” *World Economic Forum*, 24 Mar. 2022, [www.weforum.org/agenda/2022/03/wetlands-climate-change/](http://www.weforum.org/agenda/2022/03/wetlands-climate-change/); *Wetlands and Climate Change Climate Change*. Department of the Environment and Energy, Australian Government, 2019, <https://www.dcceew.gov.au/sites/default/files/documents/wetlands-climate-change.pdf>; “Te Reo O Te Repo: The Voice of the Wetland.” *Manaaki Whenua, Landcare Research*, [www.landcareresearch.co.nz/publications/te-reo-o-te-repo/](http://www.landcareresearch.co.nz/publications/te-reo-o-te-repo/). Accessed 6 Mar. 2023. [↑](#endnote-ref-56)
57. “Samoa Voyaging Society Signed on to Manaaki Project.” *Www.conservation.org*, 30 Nov. 2022, [www.conservation.org/samoa/blog/samoa-voyaging-society-signed-on-to-manaaki-project](http://www.conservation.org/samoa/blog/samoa-voyaging-society-signed-on-to-manaaki-project); Yates, Olivia E. T., et al. ““There’s so Much More to That Sinking Island!”—Restorying Migration from Kiribati and Tuvalu to Aotearoa New Zealand.” *Journal of Community Psychology*, 24 Aug. 2022, <https://doi.org/10.1002/jcop.22928>; “How Ancestral Voyaging Mobilizes Knowledge of Biodiversity & Climate Change | Institute for the Oceans and Fisheries.” *Oceans.ubc.ca*, 2 Feb. 2023, <https://oceans.ubc.ca/how-ancestral-voyaging-mobilizes-knowledge-of-biodiversity-climate-change/>; “Te Mana O Te Vaka.” *Cook Islands Voyaging Society*, [www.cookislandsvoyaging.org/temanaotevaka/](http://www.cookislandsvoyaging.org/temanaotevaka/). Accessed 6 Mar. 2023. [↑](#endnote-ref-57)
58. A. B. C. News. “Group Calls for Disclosure of UFO Info.” *ABC News*, 10 May 2001, <https://abcnews.go.com/Technology/story?id=98572&page=1>; Greer, Dr. Steven. “2001 National Press Club Event (Presented by Dr. Steven Greer).” *Www.youtube.com*, 25 Apr. 2017, [www.youtube.com/watch?v=4DrcG7VGgQU](http://www.youtube.com/watch?v=4DrcG7VGgQU); Collins, Tim. “Ex Pentagon Boss: Yes, Aliens Have Visited Earth.” *NZ Herald*, 20 Dec. 2017, [www.nzherald.co.nz/world/former-pentagon-official-part-of-secret-project-claims-aliens-visited-earth/YVYGB7TKNUEMCU4OMIGZQBXTXQ/](http://www.nzherald.co.nz/world/former-pentagon-official-part-of-secret-project-claims-aliens-visited-earth/YVYGB7TKNUEMCU4OMIGZQBXTXQ/); 60 Minutes. “Navy Pilots Describe Encounters with UFOs.” *Www.youtube.com*, 17 May 2021, [www.youtube.com/watch?v=ZBtMbBPzqHY&list=PLyaWCGWaXTWvdXPZ4mpwMGU8baaTlRvLE&index=51&t=3s](http://www.youtube.com/watch?v=ZBtMbBPzqHY&list=PLyaWCGWaXTWvdXPZ4mpwMGU8baaTlRvLE&index=51&t=3s); Lewis-Kraus, Gideon. “How the Pentagon Started Taking U.F.O.s Seriously.” *The New Yorker*, 10 May 2021, [www.newyorker.com/magazine/2021/05/10/how-the-pentagon-started-taking-ufos-seriously](http://www.newyorker.com/magazine/2021/05/10/how-the-pentagon-started-taking-ufos-seriously); Associated Press, Washington. ““Several Hundred” UFO Reports Received by Pentagon’s New Tracking Office.” *The Guardian*, 16 Dec. 2022, [www.theguardian.com/world/2022/dec/16/several-hundred-ufo-reports-received-by-pentagon-new-tracking-office](http://www.theguardian.com/world/2022/dec/16/several-hundred-ufo-reports-received-by-pentagon-new-tracking-office). [↑](#endnote-ref-58)
59. Cohen, Ariel. “What Is behind the U.S. Navy’s “UFO” Fusion Energy Patent?” *Forbes*, 8 Feb. 2021, [www.forbes.com/sites/arielcohen/2021/02/08/what-is-behind-the-us-navys-ufo-fusion-energy-patent/?sh=3a4fe65d4733](http://www.forbes.com/sites/arielcohen/2021/02/08/what-is-behind-the-us-navys-ufo-fusion-energy-patent/?sh=3a4fe65d4733). [↑](#endnote-ref-59)
60. Loeb, Avi. “What We Can Learn from Studying UFOs.” *Scientific American*, 24 June 2021, [www.scientificamerican.com/article/what-we-can-learn-from-studying-ufos/](http://www.scientificamerican.com/article/what-we-can-learn-from-studying-ufos/). [↑](#endnote-ref-60)