ISSUE BRIEF

False Solutions

WOMEN & GENDER CONSTITUENCY

Background

The gravity and intensity of the climate emergency highlights the urgent need for profound changes in production, distribution and consumption to realize deep emissions reductions. But rich countries and corporations have tried to avoid this, and instead promote 'solutions' that seemingly reduce emissions and promote 'clean and green' ways of doing business, but in reality are 'false climate solutions'.

The COP26 programme is heavily promoting such **false climate solutions**. These can be characterized as unproven techno-fixes, risky technologies, negative emissions technologies and offsetting mechanisms as part of net-zero climate emission strategies. These include:

- carbon capture and storage (CCS)
- bio-energy
- geo-engineering
- nuclear energy
- plastic waste and other waste-to-energy approaches
- blue hydrogen and natural gas
- unsustainable renewable energy such as large hydro and geothermal.

'Net Zero Emissions' is now a global rallying call as a growing number of countries pledged to significantly cut down their carbon emissions and be carbon neutral in the long term. The 'Net Zero Emissions' fever has even caught hold of low-emission countries.

Note: *Interestingly, **Bhutan**, the world's first carbon-negative country, promised to remain carbon neutral for all time.*

The Women and Gender Constituency is one of the nine stakeholder groups of the United Nations Framework Convention on Climate Change (UNFCCC), consisting currently of 33 women's and environmental civil society organizations and a network of more than 600 individuals and feminist organizations or movements focusing on gender equality and women's human rights to achieve climate justice.

Net Zero strategies are particularly being pushed by countries representing more than 65% of global carbon dioxide emissions and more than 70% of the world economy made bold pronouncements in support of 'carbon neutrality'. What Net Zero really means is that emissions will still continue, but these will be balanced out by removing GHG emissions in the atmosphere through carbon removal by restoring forests or through the use of technologies that capture carbon.

Net Zero protects 'business as usual' rather than protecting the climate, the environment and biodiversity. The concept of Net Zero covers and includes many of these solutions. It has licensed a **"burn now, pay later"** approach that sees carbon emissions continue soaring. It has also hastened the destruction of the natural world by increasing deforestation today, and greatly increases the risk of further devastation in the future.

If we want to keep people safe then large and **sustained cuts to carbon emissions need to happen now**, and we should not lock in/invest scarce resources into these false solutions. The excellent publication '**Hoodwinked in the Hothouse – Resist False Solutions to Climate Change**' 2021 gives a detailed overview of these false solutions, some of which we also explain in this brief.

Demystifying 'Net Zero'

Definition: To achieve net–zero emissions, all emitted carbon must be offset by (permanent) carbon storage. Net-zero emissions is a concept akin to carbon neutrality.

Nature-based solutions, negative emissions technologies and offsetting schemes are often touted as means of achieving net-zero emissions—thus, they are inextricably entangled. In itself net-zero seems inoffensive, but civil society groups warn that the term is being used to disguise climate inaction and is diverting attention away from immediate and drastic emissions reductions. For the planning and implementation of false solutions, women, girls and non-binary persons in all their diversity as well as local communities and other marginalized right-holders (e.g. farmers, Indigenous peoples) are mostly excluded from decision making or access to information, which facilitates further corporate capture of climate finance, negotiating space, and tax benefits. In these ways, the concepts of net-zero and the following technologies and other solutions have been subjected to corporate co-option and greenwashing.

The main critiques of the net-zero framework are:

- One of the main problems with Net Zero is that its strategies often translate into **carbon offsets** and postpones what we need, to stop burning fossil fuels and drastically cut emissions.

- Net Zero pledges are increasing **carbon-colonialism**. Net Zero pledges are being implemented largely in the Global South to offset emissions mainly from the Global North, often with human rights violations including displacing local communities and Indigenous Peoples off of their native land (cf. Global Forest Coalition).
- Most Net Zero commitments are often centred on a **2050 timeline** which is far too many years ahead for credible plans to ensure global temperature is kept below 1.5°C. Most Net Zero strategies lack a clear roadmap, targets or action plan of how it will be achieved in the shorter term.
- Net Zero strategies also assume in most cases that all tonnes or units of CO2 emitted can be treated equally and that they are **interchangeable**.
- Net Zero strategies often rely on unproven and dangerous **techno-fixes**, including geoengineering and Bioenergy with Carbon Capture and Storage (BECCS), direct air capture, and more.

Critique of proposed Net Zero strategies/technologies

1. Nature-based Solutions (NbS):

The term NbS was introduced in the early 2000s as an umbrella concept for approaches to mitigate climate change and biodiversity loss. IUCN, International Union for Conservation of Nature, a union of governments, corporations, NGOs and IPOs, defines NbS as "*actions to protect, sustainably manage and restore natural and modified ecosystems in ways that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits*". Yet, the term NbS is mainly used in the context of mitigation and must be distinguished from "ecosystem-based approaches" used in the context of adaptation strategies.

- The concept has been twisted by vested interests to falsely brand highly questionable practices as "green". Very often carbon offset projects based on large scale tree planting are included under the NbS umbrella.
- Offsetting emission from fossil fuels with tree planting is highly questionable, as emitting GHGs from fossil fuels is an irreversible process, while the permanence of carbon sequestration with the help of trees and other plants cannot be ensured.
- The tree planting and/or restoration of 'natural' habitats NbS are often linked to land-grabbing and competition with food sovereignty.
- Many NbS projects are being implemented by large corporations, whilst developing countries and communities on the frontline of the climate crisis are excluded.
- Most of these tree planting initiatives rely heavily on monoculture, non-native and

commercial tree plantations which have a lot of negative impacts on women, girls, non-binary persons in all their diversity, local communities and Indigenous Peoples

- There is a limited amount of land and thus, overreliance on NbS will most likely exacerbate conflicts over the land rights and land tenure system, resulting in land grabbing and displacement of communities.

2. Carbon capture and storage (CCS)

Permanent, or even extremely long-term carbon storage is an illusion.

- Carbon capture and storage, a technology that is suggested to remove the carbon dioxide from coal-fired power stations and other fossil fuel installations, and then store the captured carbon deep underground indefinitely, only exists as a small number of pilots, e.g. **in Canada** and a project in Germany, that was abandoned because, according to the **investor**, its costs and the energy it requires make the technology unviable. There has never been any capture of carbon dioxide from a coal fired power station chimney and then stored underground. It is too expensive. (See **climate scientists brief**)

- Furthermore, there are not likely to be enough suitable geological sites (along with all necessary technical data) and the character of the risks inherent to CCS are too severe for carbon storage to be a reasonable approach at the magnitude and caliber needed to mitigate climate change. (See **IPCC Special Report on CCS, Chapter 5 and Section 9.4**)

3. Bio Energy, and Carbon Capture and Storage (BECCS)

- Bioenergy, and Bioenergy and Carbon Capture and Storage, or BECCS, is based on the false assumption that burning biomass is carbon neutral and it is supposed to burn "replaceable" biomass such as wood, crops, and agricultural waste instead of coal in power stations, and then capture the carbon dioxide from the power station chimney and storing it underground.

- In order to work, BECCS would need to remove 12 billion tonnes of carbon dioxide each year, requiring massive planting schemes for trees and bioenergy crops (IPPC). This would demand between 0.4 and 1.2 billion hectares of land. That's 25% to 80% of all the land currently under cultivation for food crops. The focus is on Global South countries, where already vast plantations are driving Indigenous peoples off their lands and contributing to biodiversity loss.

- Trees and the land in general already soak up and temporarily store away vast amounts of carbon through what is called the natural terrestrial carbon sink. Interfering with it, by tree plantations, could both disrupt the sink and lead to double accounting.

- Carbon-offset programs overestimate carbon reductions actually achieved and do not take into account displacement. For example, in the case of forests being protected from timber harvesting, much of this protection can be countered by increased harvesting elsewhere.

Critique of other 'false solution' technologies

1. Geo-Engineering

Geo-engineering are non-proven techno-fixes that are risky, often even at global scale, and provide no guarantee that they will reduce GHG emissions permanently or provide real solutions for adaptation. Proposals include ocean fertilization as a mitigation strategy and solar radiation management with giant mirrors in the sky for adaptation. These approaches have already proven to be harmful (disrupting natural ecosystems) or too expensive and too slow to produce results. They are the dirty industry's strategy to distract from what is needed, immediate and real reduction of GHG emissions from fossil fuels, industry and industrial agriculture. (see ETC Group: **etcgroup.org/content/solar-geoengineering**)

2. Nuclear energy

Nuclear industry is not a climate solution, despite the hundreds of billions in subsidies it has received when it was created as a by-product from the nuclear arms industry some 70 years ago. It has proven that it is too slow, too expensive, too polluting and nuclear energy makes climate change worse.

The nuclear industry pretends that their energy is 'clean', as the nuclear reactors emit less carbon than coal or oil-fired power plants. But throughout its life-cycle, the nuclear industry produces a large amount of GHG emissions, from mining uranium, milling and enriching uranium, and the construction and deconstruction of the power plants with huge amounts of concrete, cement[1] and steel, and continue to emit GHG emissions for thousands of years into the future. As nuclear reactors need to be dismantled and all the radioactive cement and waste needs to be stored in permanent and safe underground storage places, the inherent risks require continued long-term control and maintenance to avoid any containment breach, including leakage into groundwater and oceans.

Nuclear energy is not renewable, it depends on uranium mining, often on Indigenous Peoples territories. Uranium reserves are found in highly biodiversity rich areas. Destroying that biodiversity, contaminating these lands and hereby severely harming its peoples for hundreds and thousands of years, is unsustainable and unethical.

1 The cement industry contributes to 7% of global Greenhouse Gas Emissions

Nuclear energy is too expensive, even when the costs of future decommissioning of radioactive power plants and waste are not included in the current price. Some of the largest nuclear corporations in the world have gone bankrupt, including Westinghouse and Areva. Areva's nuclear activities were 'saved' by French taxpayer's money through the energy company EDF. The only two reactors being built in the U.S. (Vogtle 3 and 4 in Georgia) are now US$14 billion over budget, and over five years behind schedule, and the French-built plant in Finland has tripled its budget and has a 10 years delay. The cost of building a nuclear power plant puts a country in debt for 30 years, and makes it dependent both economically and politically on the country providing the technology and loan, e.g. Russia, China or France, putting a strain on the next generations.

Nuclear waste: there is no safe solution. The 80,000 tons of irradiated fuel at reactors in the U.S. contains enough radioactivity to make every drop of drinking water on Earth too dangerous to consume. That is only 25% of the world's total and does not include the immense volumes of uranium waste rock and mill tailings, **depleted uranium**, and "low-level" radioactive waste. There is still no "solution" for the waste, which will remain hazardous for over one million years. This is an unjust burden on future generations, a danger to ecology and health we have no right to impose. Furthermore, there remains risk of radioactive materials being used by violent actors for military purposes. And as long as we have nuclear energy, we will have the **risk of nuclear war.**

There is **evidence** that female bodies are at significantly greater risk of suffering and dying from radiation-induced cancer than make bodies if exposed to the same dose of radiation.

3. (Plastic) Waste to Energy

Waste-to-fuels (WTF) schemes are now called "waste conversion technologies". WTF technologies often start with pyrolysis or gasification. Instead of burning the "syngas" in a second stage, they use any of several methods to convert it to liquid fuels such as jet fuel, naphtha, and diesel, hydrogen and/or other chemicals. Solid residuals are often marketed as if they are desired as building materials or are burned on-site. Some WTF processes use acid hydrolysis, cellulosic ethanol or other fermentation processes aiming to make **biofuels**. With a growing public awareness of plastics pollution, including the proliferation of single-use plastics and the massive plastic gyres in all the world's oceans, we are witnessing a growing field of "chemical recycling" proposals, using these WTF processes. These technologies are still in experimental phase and ultimately involve burning (and air pollution), destroying recyclable and compostable materials, increasing toxicity and producing solid wastes, which would affect the health of women and girls, in particular their sexual and reproductive system.

4. Other false solutions

Large Hydroelectricity plants: Hydroelectric systems have displaced at least 40 to 80 million people and an estimated 472 million people living downstream have been impacted. Hydropower development frequently violates Indigenous sovereignty and often occurs without the consent of people with ancestral rights to the lands and waters. Methane from hydropower reservoirs accounts for more than 4% of all human-caused climate change. At least 3,700 new hydroelectricity facilities (greater than 1 megawatt) are planned or under construction across the world Electricity production from hydropower is expected to grow by 45 to 70% by 2040. New hydropower is of negligible benefit in transitioning to a low emission future.

Hydrogen: Due to large energy losses in conversion, more energy goes into the process than you get back. There may be some applications where hydrogen could make sense as a stationary, grid-tied energy storage strategy for when there is extra wind and solar to electrolyze water. However, producing hydrogen from fossil fuels, and using hydrogen for private transport are false solutions, cementing existing structures and consumption habits and thereby impeding real solutions such as reducing mobility demand and shifting to public transport modes.

Gender Perspectives

Research shows that whenever forests become more commercially attractive, for example through forest carbon offset markets and plantations, there has been a tendency for forest tenure and access rights to shift from women to men.

Evidence has shown that attention to gender in REDD+ is insufficient for addressing gender equality, women's empowerment and safeguarding their rights.[2] The review of the REDD+ projects and programmes funded by the Green Climate Fund has shown the domino effect of what gender inequality did to women in REDD+ projects. For example they do not have the rights to land ownership, and thus are not qualified to receive the payment from Payments for Ecosystem Services (PES) schemes. Gendered forest use analysis is missing in the projects/programmes.

As for risky technologies, there is plenty of evidence, e.g. from surveys in different countries, that women are rejecting these technologies much stronger than men, probably due to their societal caring roles. As for risk perception in general, the 'white male effect' plays a significant role, with white men, in particular men in power, accepting

2 A.M. Larson, et al, 2018. *Gender lessons for climate initiatives: A comparative study of REDD+ impacts on subjective well-being.* World Development 108 (2018): 86-102

much higher risks than female or BIPOC parts of societies. Existing evidence on this revolves mainly around climate concerns or scepticism[3].

Alternative pathways forward

The Women and Gender Constituency opposes large tree plantations and similar 'Nature-based' strategies. Their consequences such as land grabbing and increasing food insecurity have particularly negative impacts on women. Instead, we support the "**ecosystem-based approach**" to adaptation as defined by the Convention on Biological Diversity in 2009: *"the conservation, sustainable management, and restoration of ecosystems to help people adapt to the impacts of climate change."* Examples of EbA approaches are coastal habitat restoration, agroforestry, integrated water resource management, livelihood diversification, and community-based sustainable forest management interventions. Furthermore:

- We demand the immediate end of support to unproven and high-risk technologies such as geo-engineering, BECCS, nuclear, large hydro and geothermal, waste-to-energy and other false solutions. In particular, these false solutions must not be eligible under any climate finance mechanism.
- We demand that rules developed for the implementation of Article 6 of the Paris Agreement ensure genuine emission cuts and do not allow these false solutions to be included.
- Civil society groups should first and foremost promote the protection of healthy ecosystems from unsustainable development, and support Indigenous Peoples and local communities to manage land in sustainable ways.
- There is a continued urgent need and obligation for developed countries to provide climate finance to developing countries. Governments currently provide hundreds of millions of dollars of public money in subsidies to fossil fuel companies. To achieve the 1.5 degree target agreed by all signatories to the Paris Agreement, these perverse incentives must be abolished. This public money must be redirected to a just transition, including support for effective and inclusive ecosystem based approaches in highly vulnerable and degraded habitats in countries on the frontline of the climate crisis.
- We demand that approaches, in order to be considered as real climate solutions, are gender-just and human-rights based, minimising risks, putting people over markets, protecting ecological food systems and global ecosystems.

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3 See, e.g. Whitmarsh, L. (2011). Scepticism and uncertainty about climate change: Dimensions, determinants and change over time. Global Environmental Change, 21(2), 690–700; Tranter, B., & Booth, K. (2015). Scepticism in a changing climate: A cross-national study. *Global Environmental Change*, *33*, 154–164.

Resources:

- Not Zero: How 'net zero' targets disguise climate inaction (joint technical briefing by 6 climate justice organizations)
- Nature-based solutions or nature-based seductions? Unpacking the dangerous myth that nature-based solutions can successfully mitigate climate change (Third World Network)
- How Amazon's offsets could exaggerate its progress toward "net zero" emissions (James Temple, MIT Technology Review)
- Nature based solutions to address global societal challenges (Cohen-Shacham et al, IUCN)
- Framing biodiversity policy for post-2020: W4B reflections on Nature-based solutions (Mrinalini Rai, reflection blog)
- CBD/NBS Briefing Session on Nature-Based Solutions (Convention on Biological Diversity, streamed August 2019)
- Convention on Biological Diversity Annotations for Terms and Concepts (CBD 2020, provides working definitions of nature-based solutions, ecosystem-based approaches, and more)
- State of play of the post-2020 global biodiversity framework (Lim Li Lin, Third World Network)
- Real Solutions, Real Zero: How Article 6.8 of the Paris Agreement Can Help Pave the Way to 1.5° (Working group for real solutions, Corporate Accountability)
- Problems of Carbon offset programmes/projects.
- Net zero policies will not keep warming to within 1.5°C because they were never intended to. They were and still are driven by a need to protect business as usual, not the climate. If we want to keep people safe then large and sustained cuts to carbon emissions need to happen now.
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- Forest Cover 61: Our Nature Is Not Your Solution.
- The Net Zero Files.
- The Big Con: How Big Polluters are advancing a "net zero" climate agenda to delay, deceive, and deny.
- IPCC Special Report on Carbon Dioxide Capture and Storage.
- Large Hydro and Geothermal, CEDAW shadow report Indonesia submitted on behalf of Aksi! In 2020
- World Commission on Dams. (2000). Dams and development: A new framework for decision-making: The report of the world commission on dams. Earthscan.Richter, B. D., Postel, S., Revenga, C., Scudder, T., Lehner, B., Churchill, A., & Chow, M. (2010). Lost in development's shadow: The downstream human consequences of dams. Water alternatives, 3(2), 14.
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