

POLICY ANALYSIS



WECAN
Women's Earth & Climate Action Network, International

The Need for Real Zero Not Net Zero: Shifting from False Solutions to Real Solutions and a Just Transition

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Introduction

With growing pressure to take action to address the climate crisis, governments, financial institutions, and corporations have made Net Zero commitments a primary response to adhere to the goals outlined in the Paris Climate Agreement, with the aim to limit warming temperatures to 1.5°C (2.7°F).¹ This policy analysis specifically aims to address concerns about, and better define Net Zero, and in doing so, begins to explore and define Real Zero initiatives that demonstrate alternative practices and pathways forward for a healthy and equitable approach to the climate crisis within principles of a Just Transition. Mitigating unrelenting wildfires, extreme heat, major flooding events, massive hurricanes, devastating droughts, and high sea surface temperatures will require a significant reduction (at least by half) in greenhouse gas emissions (GHG) by 2030.² Highlighting inequities within this escalating crisis is essential because extreme climate events have a negative asymmetric impact on the Global South and Indigenous, Black, Brown, and low-income communities in the Global North.³ Due to unequal gender norms globally, climate impacts are even more detrimental for women.⁴ Taking all of this into account, tackling the climate crisis requires an interdisciplinary approach based on scientific research, Traditional Ecological Knowledge, climate justice principles, and other fields of study including lived experiences of vulnerable communities. To bolster real solutions, there must be critical interrogation and accountability from governments, financial institutions, and corporations to support efforts and frameworks that lead to equitable and effective outcomes. These various actors have the responsibility and opportunity to decelerate existing exploitative socio-economic structures and instead, offer a healthy and just path forward. Frameworks and mechanisms that address the climate crisis must account for a Just Transition that best serves people and the planet.⁵

Background

Net Zero as a goal is central to the Paris Agreement. Article 4.1 underlines the goal to achieve a “balance between anthropogenic emissions by sources and removals by sinks into the second half of this century.”⁶ Despite an emergent governance landscape to manage and define what credible Net Zero looks like (e.g., through the International Standard Organisation’s Net Zero Guidelines, or the UN High-Level Expert Group), interpretations and implementations of Net Zero are not in alignment with environmental justice or on track to prevent even a 2°C increase in global temperatures.⁷

¹ Levin, Kelly, Taryn Fransen, Clea Schumer, Chantal Davis, et al. “What Does ‘Net-Zero Emissions’ Mean? 8 Common Questions, Answered.” World Resources Institute, March 20, 2023. [\[LINK\]](#)

² Fox, Karen, et al. “NASA Announces Summer 2023 Hottest on Record – Climate Change: Vital Signs of the Planet.” NASA, 14 September. 2023. [\[LINK\]](#)

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³ “Climate Change and Inequality.” Oxfam America, November 6, 2023. [\[LINK\]](#)

⁴ IBID

⁵ Cha, J. Mijin. Fordham Environmental Law Review - Fordham University, 2017. [\[LINK\]](#)

⁶ “Paris Agreement.” United Nations Framework Convention on Climate Change, 2015. [\[LINK\]](#)

⁷ Khosla, Radhika, Javier Lezaun, Alexis McGivern, and Jessica Omukuti. Can “Net Zero” still be an instrument of climate justice? Environmental Research Letters, 2023. [\[LINK\]](#)

Net Zero as a framework for climate action has been heavily criticized, particularly from the climate justice community, for being an instrument to greenwash enabled actors to shift and delay action with the promise of technological or land-based carbon removals.⁸

There are serious concerns about whether or not technological and nature-based carbon removal methods can address the crisis with speed, scale, equity, safety, and effectiveness.⁹ To mitigate the worst effects of the climate crisis, the root causes must be addressed from a social and technical perspective. Root causes such as colonialism have been noted to be a driving force in perpetuating harmful climate outcomes for already vulnerable people and places, according to the Intergovernmental Panel on Climate Change (IPCC).¹⁰ Alleged solutions that are the primary focus of governments, corporations, and financial institutions frequently do not address the root causes of emissions and instead perpetuate business as usual while furthering interlocking crises.¹¹ For example, studies have found that relying primarily on planting trees to offset carbon emissions would require more land than all of the world's existing farmland— to put this in perspective, this would mean reforesting land that equates to five times the size of India.¹² These so-called solutions can be referred to as false solutions, which are technological or market-based schemes that fail to address emissions at the source.¹³ Examples of false solutions include hydrogen power, geoengineering, bioenergy, waste-to-energy, hydroelectricity, and carbon capture among others.¹⁴ False solutions can contribute to human and Indigenous rights violations, land theft, health implications, and food insecurity.¹⁵

It is essential to emphasize that alternatives to false solutions already exist and have been demonstrated by Indigenous communities, scientists, labor groups, women and feminist movements, climate and environmental justice organizations, and many others. These communities and groups have referenced climate justice solutions as a Just Transition away from fossil fuels and exploitative practices.¹⁶ The International Labour Organization has defined a Just Transition as “greening the economy in a way that is as fair and inclusive as possible to everyone concerned, creating decent work opportunities and leaving no one behind.”¹⁷

⁸ Khosla, Radhika, Javier Lezaun, Alexis McGivern, and Jessica Omukuti. Can “Net Zero” still be an instrument of climate justice? *Environmental Research Letters*, 2023. [\[LINK\]](#)

⁹ Lindwall, Courtney. “The Promise and Pitfalls of Net-Zero Pledges.” NRDC, February 3, 2022. [\[LINK\]](#)

¹⁰ Shukla, Priyadarshi R., and Jim Skea. “Climate Change 2022: Mitigation of Climate Change.” IPCC Intergovernmental Panel on Climate Change, 2022. [\[LINK\]](#)

¹¹ “‘Net Zero’ Carbon Targets Are Dangerous Distractions from the Priority of Cutting Emissions, Says New Oxfam Report.” Oxfam International, May 25, 2022. [\[LINK\]](#)

¹² IBID

¹³ Amorelli, Lucia, Dylan Gibson, and Tamra Gilbertson. “Hoodwinked in the Hothouse.” *Climate False Solutions*, April 2021. [\[LINK\]](#)

¹⁴ IBID

¹⁵ IBID

¹⁶ “Frontlines Briefing March 2015 Climate Justice: There Are No ... - ITUC.” International Trade Union Confederation, 2015. [\[LINK\]](#)

¹⁷ “Frequently Asked Questions on Just Transition.” International Labour Organization, 22 Oct. 2021. [\[LINK\]](#)

Furthermore, aligning with Just Transition principles will also mean prioritizing investments in a Care Economy, which refers to women’s paid and unpaid labor in the education, healthcare, and social and domestic industries.¹⁸ A Just Transition also uplifts the vital knowledge systems of Indigenous Peoples along with their rights and sovereignty. Additionally, in outlining a Just Transition, this analysis emphasizes climate justice principles and alternative economic frameworks such as circular economics, Gross National Happiness (GNH), Indigenous Economies, Buen Vivir, Post-Growth Economy, and others. Within this context, the analysis examines Net Zero and market-based carbon schemes in contrast to Real Zero and Just Transition frameworks.

The Problem with Net Zero

For years, governments, corporations, and global financial institutions have expanded fossil fuel infrastructure, extraction, and financing while ignoring the devastating impacts of increasing dirty fossil fuel-based energy. A rise in Net Zero by 2050 announcements and pledges from financial institutions, major corporations, and governments has given the impression that a shift towards a greener future has occurred.¹⁹ Net Zero approaches seek to balance out produced greenhouse gasses with carbon removal via land and market-based methods (e.g., bioengineering, Carbon Capture and Storage (CCS), Nature-based Solutions (NbS), carbon offsets, and carbon pricing, among others).²⁰

Net Zero goals allow industries to continue polluting in the current moment by promising to remove released carbon at a later date.²¹ Additionally, there is no standardized method of calculating emissions, leaving what is considered a “reduction in emissions” to the discretion of heads of state and company leaders, which often vary widely without standardization.²² Net Zero pledges are also generally not legally binding, providing little accountability that these pledges will be upheld, and many countries do not have detailed annual schedules describing their path to Net Zero.²³ Due to colonial and racist social structures, land and market-based mechanisms that attempt to achieve Net Zero goals are disproportionately located in poor, low-emitting countries in the Global South and Indigenous, Black, and Brown communities in the Global North.²⁴ These communities are burdened with harmful CCS infrastructure, continued fossil fuel extraction, land theft, and

¹⁸ Carpenter, Chantel Line, Silke Staab, and Nicole Bidegain. “New Economics for Sustainable Development Purple Economy (Care Economy+).” United Nations Economist Network, March 14, 2023. [\[LINK\]](#)

¹⁹ “Net-Zero Pledges Grow; Ambition Falls Short.” United Nations, 2023. [\[LINK\]](#)

²⁰ Fankhauser, Sam, Stephen M. Smith, Myles Allen, M. et al. “The Meaning of Net Zero and how to get it right.” Nature Climate Change, 2022. [\[LINK\]](#)

²¹ Lindwall, Courtney. The Promise and Pitfalls of Net-Zero Pledges, National Resource Defense Council, 3 Feb. 2022. [\[LINK\]](#)

²² IBID

²³ IBID

²⁴ Tongia, Rahul. “Net Zero Carbon Pledges Have Good Intentions. but They Are Not Enough.” Brookings, March 9, 2022. [\[LINK\]](#)

health implications, consequently becoming further disenfranchised.²⁵ In Satartia, Mississippi, a predominantly Black community in the United States, a CCS pipeline explosion caused many residents to lose consciousness, have convulsions, and suffer other serious health complications.²⁶

It needs to be noted that the original formulation of Net Zero was not necessarily flawed as a scientific concept, but rather has become unsound through trends that reduce climate action to numerical target setting, focus on mid-century timelines, reliance on Carbon Dioxide Removal, and overall abstraction from the local social/ecological contexts.²⁷ Potentially, there could be a role for Net Zero through the “radical repurposing of the concept, using it to weave together the scientific and ethical dimensions of our predicament;” however to date, this restructuring of the Net Zero framework has not been formulated, and therefore not developed into policies.²⁸

Further probing the issues with Net Zero targets has revealed that corporate and government entities are also using these goals to advance thinly veiled greenwashed marketing techniques to take the spotlight off any climate wrongdoings and maintain unambitious timelines to reduce GHG emissions by 2050.²⁹ Below is a further exploration into market-based carbon solutions that have shown to be ineffective and/or unjust in reducing GHG emissions.

Net Zero and Market-Based Carbon Schemes

Carbon capture, carbon offsets, and Nature-based Solutions are widely used by financial, governmental, and corporate entities to achieve Net Zero goals. However, these methods of balancing carbon emissions in the atmosphere fail to address ambient pollution from fossil fuels and other polluting industries.³⁰ Techniques such as CCS, carbon offsets, and NbS are false solutions because all of these approaches fail to reduce emissions at the source, are not scientifically backed, and often harm Black, Brown, Indigenous, and low-income communities through land theft and environmental degradation.³¹ The following are descriptions of categories of market-based carbon schemes and how they fail to prevent the escalating climate crisis:

²⁵ Timothy Q. Donaghy, Noel Healy, et al. “Fossil fuel racism in the United States: How phasing out coal, oil, and gas can protect communities.” *Energy Research & Social Science*, Volume 100, 2023. [\[LINK\]](#)

²⁶ Simon, Julia. “The U.S. Is Expanding CO2 Pipelines. One Poisoned Town Wants You to Know Its Story.” NPR, 2023. [\[LINK\]](#)

²⁷ Khosla, Radhika, et al. Can “net zero” still be an instrument of climate justice? *Environmental Research Letters*, 2023. [\[LINK\]](#)

²⁸ IBID

²⁹ Dyke, James, Robert Watson, Wolfgang, Knorr. “Climate Scientists: Concept of Net Zero Is a Dangerous Trap.” *The Conversation*, November 2, 2023. [\[LINK\]](#)

³⁰ Timothy Q. Donaghy, Noel Healy, et al. “Fossil fuel racism in the United States: How phasing out coal, oil, and gas can protect communities.” *Energy Research & Social Science*, Volume 100, 2023. [\[LINK\]](#)

³¹ IBID

1. Carbon Offsets: These include hydroelectric projects, biomass plants, mine methane capture, fuel switching or efficiency projects, "forest management," agriculture methane digesters, and Nature-based offsets.³² Carbon offsets, intended to create a marketplace mechanism to mitigate climate change, are ineffective and lack credibility.³³ For example, in 2023, new research revealed more than 90% of Verra's (the world's leading carbon standard) rainforest offset credits are "phantom credits," or carbon offsets that can be bought, but do not reflect genuine carbon reductions.³⁴ Corporations have also been weaponizing carbon offsets to acquire land for tree planting. In one instance, the Indigenous Kichwa People in Peru were not only forcibly displaced from their land to establish a National Park for carbon credits, but were also denied the right to hunt on their ancestral land.³⁵ Biomass plants are another ineffective carbon offset scheme, claiming to emit less pollution than coal or other fossil fuel sources.³⁶ However, a Southern Environmental Law Center study showed a major biomass plant project in North Carolina and Virginia cut down 71,000 acres of forest for bioenergy, destroying a crucial carbon sink.³⁷ Carbon offsets should not be used to delay emission reductions and have enabled corporations to pollute at source and beyond.³⁸

2. Nature-based Solutions (NbS): Land-based offsets are based on a false pretext or the belief that fossil fuel emissions can be balanced out with emission reductions from land use practices, ecosystem restoration, or forest management.³⁹ There is strong scientific evidence that fossil fuel carbon and land-based carbon cannot be treated as the same.⁴⁰ NbS, as currently defined and implemented, most often has detrimental impacts on local communities and ecological systems. For example, using vast amounts of water results in famine for local populations and more deforestation.⁴¹ Additionally, current examples of NbS do not align with the successful forest management practices of Indigenous Peoples, and can also result in land grabs, in which Indigenous People are forcibly removed from their territories.⁴² Despite this, fossil fuel and other extractive corporations have included NbS as a central component of their Net Zero Commitments.⁴³ One major oil company has

³² Amorelli, Lucia, Dylan Gibson, and Tamra Gilbertson. "Hoodwinked in the Hothouse." Climate False Solutions, April 2021. [\[LINK\]](#)

³³ Rochon, Emily. "False Hope: Why Carbon Capture and Storage Won't Save the Climate." Greenpeace International, 2008. [\[LINK\]](#)

³⁴ Greenfield, Patrick. "Revealed: More than 90% of Rainforest Carbon Offsets by Biggest Certifier Are Worthless, Analysis Shows." The Guardian, January 18, 2023. [\[LINK\]](#)

³⁵ Davey, Ed. "In Peru, Kichwa Tribe Wants Compensation for Carbon Credits." AP News, December 22, 2022. [\[LINK\]](#)

³⁶ "New Study Confirms Harmful Impacts of Biomass Industry." Southern Environmental Law Center, November 14, 2022. [\[LINK\]](#)

³⁷ IBID

³⁸ Axelsson, Kaya, Richard Black, Peter Chalkley, Thomas Hale, et al. "Net Zero Stocktake 2023." NewClimate Institute, Oxford Net Zero, Energy and Climate Intelligence Unit and Data-Driven EnviroLab, June, 2023. [\[LINK\]](#)

³⁹ Mackey, Brendan, I. Colin Prentice, Will Steffen, Joanna I. House, et al. "Untangling the confusion around land carbon science and climate change mitigation policy." Nature Climate Change, 2013 [\[LINK\]](#)

⁴⁰ Alva, Aleix. "A Critical Perspective on the European Commission's Publications 'Evaluating the Impact of Nature-Based Solutions.'" Nature-Based Solutions, July 10, 2022. [\[LINK\]](#)

⁴¹ Sen, Aditi and Nafkote Dabi. "Tightening the Net." Oxfam International, August 34, 2021. [\[LINK\]](#)

⁴² Marina Stavroula Melanidis, Shannon Hagerman, Competing narratives of nature-based solutions: Leveraging the power of nature or dangerous distraction?, Environmental Science & Policy, Volume 132, 2022. [\[LINK\]](#)

⁴³ Chandrasekaran, Kirtana. "Bogus 'Nature Based Solutions' Won't Solve the Climate Crisis. It's Just Corporate Greenwashing." Friends of the Earth International, March 4, 2022. [\[LINK\]](#)

already forcibly uprooted several small fishing communities in Mozambique to extract gas, claiming it will offset its emissions with reforestation across Africa.⁴⁴ Nature-based Solutions are a concern due to corporations' broad interpretation of NbS and taking advantage of this inconsistency by claiming ownership over land for the sake of tree planting or ecosystem management to offset emissions.⁴⁵

3. Carbon Capture and Storage (CCS): Carbon dioxide is collected from industrial smokestacks, compressed into a liquid, and transported via pipeline to a site where it can be pumped underground into oil and gas reservoirs, saline aquifers, or the ocean.⁴⁶ There is no scientific evidence that carbon dioxide will remain underground permanently.⁴⁷ In fact, 95% of CCS capacity in the United States is for a practice known as "enhanced oil recovery," which involves injecting carbon into oil fields to facilitate increased oil drilling, resulting in increased emissions.⁴⁸ Economic research also reveals that there "are no significant market ends" for CCS and that scaling CCS technology is not economically viable.⁴⁹ Carbon farming, carbon removal, and Direct Air Capture for Carbon Storage (DACCS) are other names for Carbon Capture and Storage. Ultimately, the same harmful patterns in the fossil fuel industry will continue with Carbon Capture and Storage (CCS) technology because it is based on furthering fossil fuel expansion.⁵⁰ Additionally, frontline, Indigenous, Black, Brown, and low-income communities will continue to experience the disproportionate burden of extraction in their communities.⁵¹ Industries are investing in CCS facilities because they can continue business as usual while profiting from harmful extraction.⁵²

Steps towards Real Solutions, Real Zero and a Just Transition

Given the concerns of Net Zero frameworks and outcomes, coupled with the urgent time frames of the escalating climate crisis, it is vital to examine Real Zero. A definition of Real Zero is the complete discontinuation of greenhouse emissions produced.⁵³ That being said, there needs to be acknowledgment that achieving Real Zero in our current economic, political, and societal constructs is significantly difficult, yet it is essential to examine and aim to do everything possible to achieve near zero emissions. Goals and targets that strive

⁴⁴ Chandrasekaran, Kirtana. "Bogus 'Nature Based Solutions' Won't Solve the Climate Crisis. It's Just Corporate Greenwashing." Friends of the Earth International, March 4, 2022. [\[LINK\]](#)

⁴⁵ IBID

⁴⁶ "Carbon Capture, Utilisation and Storage - Energy System." International Energy Agency, 2023. [\[LINK\]](#)

⁴⁷ Rochon, Emily, Jo Kuper, Erika Bjureby, Paul Johnston, et al. "False hope. why carbon capture and storage won't save the climate." Greenpeace, May 15, 2008. [\[LINK\]](#)

⁴⁸ Douglas, Leah. "U.S. Lawmaker Introduces Bill to Eliminate Carbon Credits for Oil Recovery." Reuters, December 13, 2021. [\[LINK\]](#)

⁴⁹ "Too Many (Loop)Holes in the Net: 'Net-Zero' Promises Ring Hollow without 'Zero Fossil Fuel' Pledges (Aug 2021)." Center for International Environmental Law, January 10, 2022. [\[LINK\]](#)

⁵⁰ Timothy Q. Donaghy, Noel Healy, Charles Y. Jiang, and Colette Pichon Battle. "Fossil fuel racism in the United States: How phasing out coal, oil, and gas can protect communities." Energy Research & Social Science, Volume 100, 2023. [\[LINK\]](#)

⁵¹ IBID

⁵² Simon, Julia. "The U.S. Is Expanding CO2 Pipelines. One Poisoned Town Wants You to Know Its Story." NPR, September 25, 2023. [\[LINK\]](#)

⁵³ Zahn, Max. "Fed up with Net-Zero Climate Goals, Activists Call for 'Real Zero.'" ABC News, July 17, 2022. [\[LINK\]](#)

for Real Zero necessitate actions such as a moratorium on fossil fuel expansion, immediate divestment from fossil fuels, elimination of the reliance on market-based carbon offsets, stopping pollution at the source, and a Just Transition to renewable energy, amongst other measures and policies.⁵⁴

In contrast, Net Zero attempts to reduce emissions and balance the remaining greenhouse gasses with carbon removal methods.⁵⁵ As noted, Net Zero goals often rely heavily on market-based schemes and unproven technological methods.⁵⁶ The grave concern is that this enables government, corporate, and financial institution actors to “pollute now and pay later.”⁵⁷ Since Net Zero frameworks are currently the central mechanism for addressing emission reductions, it is a necessity for Net Zero approaches to be as productive as possible while simultaneously pushing global discussions and actions toward Real Zero goals. In other words, Real Zero provides a paradigm shift that advocates for bold and transformative approaches and policies that truly address the climate crisis, as well as a phase out of fossil fuels within a climate justice framework that is healthy for people and the planet.

Due to the lack of critical and equitable outcomes of Net Zero, it is essential to discuss, advocate for, and work to implement Real Zero as a viable and required approach. Real Zero applications provide a framework to effectively reduce emissions and mitigate pollution at the source, while not relying on industrial scale technology and CCS to prevent further global warming.⁵⁸ Unfortunately, there has not been adequate research or reporting on Real Zero which needs to be remedied, and this policy analysis aims to help address this gap.

In short, a Real Zero approach demonstrates a just and rapid phase-out of fossil fuels, a fair and democratic renewable energy transition, a shift to both agroecology and small-scale farmers, Indigenous and community-led forest protection, an end to all fossil fuel subsidies, policies that halt fossil fuel expansion, and prioritization of women's leadership.⁵⁹

⁵⁴ Real Zero Europe, May 16, 2023. [\[LINK\]](#)

⁵⁵ “Net Zero Coalition.” United Nations, 2022. [\[LINK\]](#)

⁵⁶ Fankhauser, Sam, Stephen M. Smith, Myles Allen, M. et al. “The Meaning of Net Zero and how to get it right.” Nature Climate Change, 2022. [\[LINK\]](#)

⁵⁷ Dyke, James, Robert Watson, Wolfgang, Knorr. “Climate Scientists: Concept of Net Zero Is a Dangerous Trap.” The Conversation, November 2, 2023. [\[LINK\]](#)

⁵⁸ Real Zero Europe, May 16, 2023. [\[LINK\]](#)

⁵⁹ IBID

The following are examples of Real Zero applications and practices:

1. Rapid and Just Transition off of Fossil Fuels

A just and prompt transition away from fossil fuels will be achieved by stopping all pollution at the source, discontinuing new fossil projects, rapidly phasing out existing fossil fuel projects, and avoiding false climate solutions and techno-fixes (including carbon capture, carbon removal, carbon farming, carbon offsets, geoengineering, and NbS).⁶⁰

2. A Just Transition to Renewables

To facilitate a Just Transition towards renewable energy there must be a guarantee that everyone currently engaged in jobs in the fossil fuel energy sector has adequate job transfer training to the renewable energy sector.⁶¹ In the effort to shift to renewable energy, there must be consideration for materials and resources needed in the transition. Extractive industries such as mineral mining must be continuously scrutinized, as these practices can lead to the same environmental degradation/harm and economic problems associated with the fossil fuel industry.⁶² Continuing unjust economic and ecological practices should not be duplicated in the Just Transition process. Thus, all transitions to renewable energy need to provide people with fair and democratic input, including adherence to Free, Prior, and Informed Consent (FPIC) and prohibition of land grabs and displacement.⁶³

3. Democratize, Decentralize, Diversify Energy

A Just Transition supports democratic participation in decentralized energy grids, and diversified economic systems.⁶⁴ Investments in local energy production as opposed to large renewable infrastructure will ensure deep democracy is involved in the planning and implementation process, job creation, and will boost resilience by localizing energy systems.⁶⁵

4. Energy Efficiency

There must be energy efficiency standards that are affordable and accessible to all people. Lowering emissions through energy efficiency is highly effective and should be robustly

⁶⁰ Real Zero Europe, May 16, 2023. [\[LINK\]](#)

⁶¹ Cha, J Mijin. "A Just Transition: Why Transitioning Workers into a New Clean Energy Economy Should Be at the Center of Climate Change Policies." *Fordham Environmental Law Review*, 2017. [\[LINK\]](#)

⁶² Alarcón, Pedro, Nadia Combariza, Julia Schwab, Stefan Peters. "Rethinking 'Just Transition': Critical Reflections for the Global South." *TRAJECTS Editorial Team*, 2022. [\[LINK\]](#)

⁶³ Knight, Rachael, Galina Angarova, Kate R. Finn, Edson Krenak, Et al. "Securing Indigenous Peoples' Right to Self-Determination: A Guide on Free, Prior, and Informed Consent." *Cultural Survival*, September, 2023. [\[LINK\]](#)

⁶⁴ "Just Transition." *Movement Generation*, 2022. [\[LINK\]](#)

⁶⁵ IBID

conducted through public funds that provide resources to retrofit and weatherize inefficient buildings and homes.⁶⁶

5. Transportation

Transportation accounts for one-fifth of global carbon emissions.⁶⁷ There must be investments in mass public transit with free or heavily subsidized fares. Cities need to transition away from car centric infrastructure toward walkable and bikeable infrastructure with major investments in electric trains.⁶⁸

6. Supporting Small-Scale Farmers to promote Agroecology

Promoting a more equitable food system requires empowering small-scale farmers to implement a Just Transition away from large-scale monoculture and commercial food systems towards agroecological systems.⁶⁹ Several United Nations studies demonstrate that small organic farming is the most crucial track forward in feeding the world.⁷⁰ Small-scale organic farming can increase crop productivity, reduce rural poverty, boost nutrition, and mitigate climate change through carbon sequestration.⁷¹

7. Forest Protection/Reforestation led by Indigenous Peoples and Local Communities

Numerous studies have found that the world's healthiest forests are located in protected Indigenous lands and are areas of highest biodiversity.⁷² Indigenous Peoples and local communities must lead the protection of forests and reforestation. Nearly 80% of all the world's biodiversity is in the management of Indigenous Peoples.⁷³

8. End all Public Subsidies to Fossil Fuels

Currently, there are publicly funded subsidies for fossil fuels to offset the real cost of petroleum and crude oil. Removing these subsidies will decrease the amount of fossil fuels consumed, thus lowering emissions. Fossil fuel subsidies were worth \$1 trillion globally in 2022.⁷⁴ According to one study, eliminating fossil fuel subsidies globally would reduce the world's emissions by 37 Gigatons by 2050.⁷⁵

⁶⁶ "Not Zero: How 'Net Zero' Targets Disguise Climate Inaction." ActionAid International, October 26, 2020. [\[LINK\]](#)

⁶⁷ Ritchie, Hannah, and Max Roser. "Cars, Planes, Trains: Where Do CO2 Emissions from Transport Come From?" Our World in Data, September 27, 2023. [\[LINK\]](#)

⁶⁸ "Not Zero: How 'Net Zero' Targets Disguise Climate Inaction." ActionAid International, October 26, 2020. [\[LINK\]](#)

⁶⁹ De Schutter, Olivier. "Report submitted by the Special Rapporteur on the right to food." United Nations, December 10, 2010. [\[LINK\]](#)

⁷⁰ IBID

⁷¹ IBID

⁷² Sze, Jocelyne S, Dylan Childs, Roman Carassco, and David Edwards. "Indigenous Lands in Protected Areas Have High Forest Integrity across the Tropics." Current Biology, October 26, 2022. [\[LINK\]](#)

⁷³ "Indigenous Peoples Rights Are Human Rights." Amnesty International, September 18, 2023. [\[LINK\]](#)

⁷⁴ "Fossil Fuels Consumption Subsidies." International Energy Agency, 2022. [\[LINK\]](#)

⁷⁵ Gerasimchuk, Dr. Ivetta. "Ending Fossil Fuel Production Subsidies Cuts Greenhouse Gas Emissions by 37 GT over 2017-2050; Study." International Institute for Sustainable Development, February 12, 2017. [\[LINK\]](#)

9. Implement Policies that Stop Fossil Fuel Expansion

There are a variety of mechanisms across different countries that could achieve the goal of discontinuing more fossil fuel extraction and expansion. An important global initiative is the Fossil Fuel Non-Proliferation Treaty (FFNPT), which outlines three main principles: ending the expansion of fossil fuel production, phasing down existing production in line with 1.5°C, and enabling a global Just Transition for every worker, community, and country.⁷⁶ There has been a great deal of momentum for the FFNPT led by Pacific Island nations, and it can serve as a vital international mechanism to compliment the Paris Climate Agreement.

10. Women’s Leadership

Numerous studies have demonstrated the crucial role of women’s leadership in successfully addressing the climate crisis and specifically lowering carbon emissions.⁷⁷ An in-depth study shows that a one-unit increase in a country’s score on the Women’s Political Empowerment Index demonstrates an 11.51% decrease in a country’s carbon emissions.⁷⁸ Additionally, addressing women’s unpaid and undervalued labor in the care sector will further efforts to decarbonize the economy and help move society toward Real Zero.⁷⁹ Studies have revealed that communities and ecological systems significantly improve when women hold leadership positions at all levels.⁸⁰

11. Rights of Nature

In the *Harmony with Nature, Report of the Secretary-General 16* of 2019, United Nations Secretary-General António Guterres stated, “Over the last decade, Earth jurisprudence can be seen as the fastest growing legal movement of the twenty-first century” which includes the Rights of Nature movement as a key contributor.⁸¹ Rights of Nature is rooted in longstanding Indigenous knowledge systems, and the Rights of Nature movement is often led by Indigenous Peoples. Rights of Nature recognizes that ecosystems— including trees, oceans, animals, rivers, and mountains— have rights just as human beings have rights and that human communities are embedded within ecosystems.⁸² It is the holistic recognition that all life— all ecosystems— on our planet are deeply intertwined. Rather than treating nature as property under the law, Rights of Nature acknowledges that nature in all its life forms has the right to exist, persist, maintain, and regenerate its vital

⁷⁶ “Why We Need a Fossil Fuel Non-Proliferation Treaty.” Fossil Fuel Treaty, May 2023. [\[LINK\]](#)

⁷⁷ “Why Women.” WECAN International, 2023. [\[LINK\]](#)

⁷⁸ Lv, Zhike, and Chao Deng. “Does women’s political empowerment matter for improving the environment” Wiley, January 3, 2019. [\[LINK\]](#)

⁷⁹ Lake, Osprey Orielle, and Katherine Quaid. “Prioritizing Care Work Can Unlock a Just Transition for All.” Women’s Earth and Climate Action Network (WECAN) International, 2023. [\[LINK\]](#)

⁸⁰ “WomenWatch: Women, Gender Equality and Climate Change.” United Nations, 2009. [\[LINK\]](#)

⁸¹ “Harmony with Nature Report of the Secretary-General.” United Nations, 2019. [\[LINK\]](#)

⁸² IBID

cycles.⁸³ The ecosystem itself can be named as the injured party, with its own legal standing rights, in cases alleging infringements on rights.⁸⁴ Rights of Nature is being implemented in countries worldwide and is a legal framework that aligns human law with the laws of nature.

Real Zero inherently calls for a restructuring of extractive economies. There are economic models that can begin to demonstrate this pathway forward. Here are several examples:

- **Indigenous Economies**

Indigenous knowledge is often overlooked and underappreciated, yet it holds essential information in many arenas, including economies and values that preserve biodiversity and restore key habitats that sustain life.⁸⁵ Indigenous economies often incorporate reciprocity, redistribution of resources, harmony with nature, and communal sufficiency, as opposed to over-consumption, hyper-individualism, and boundless material economic growth.⁸⁶ This can be seen in the prioritization of local markets over global trade markets and the accompanying socio-environmentally harmful global supply chains. The Biocultural Heritage Territory, in the Potato Park in Peru, is led by six Quechua communities that built collective micro-enterprises relating to traditional food, agro-ecotourism, handcrafted art, herbal teas, and others, that apply Andean principles of holism and wellbeing.⁸⁷ Approximately 10% of revenues from the micro-enterprise are reinvested into a community fund which is distributed to biocultural heritage stewards and provides assistance for local residents in need.⁸⁸

- **Buen Vivir**

Buen Vivir or *Sumak Kawsay*, which roughly translates to “good living,” comes from the Quechua Peoples of the Andes.⁸⁹ Some principles of Buen Vivir include small-scale production, reduced consumption, a sharing economy, and symbiosis between people and the planet, all of which must be incorporated into a renewable energy transition.⁹⁰ Buen Vivir is community-centric, and while honoring traditional

⁸³ “Harmony with Nature Report of the Secretary-General.” United Nations, 2019. [\[LINK\]](#)

⁸⁴ IBID

⁸⁵ Swiderska, Krystyna. “Here’s Why Indigenous Economics Is the Key to Saving Nature.” International Institute for Environment and Development, April 12, 2021. [\[LINK\]](#)

⁸⁶ IBID

⁸⁷ IBID

⁸⁸ IBID

⁸⁹ Villalba, Unai. “Buen Vivir Vs Development: A Paradigm Shift in the Andes?” Routledge Taylor and Francis Group, 2013. [\[LINK\]](#)

⁹⁰ IBID

Indigenous knowledge does not aim to return to the “ancestral Indigenous past,” but rather seeks to create a “common ancestral future.”⁹¹

- **Care Economy**

As previously mentioned, care work, is the paid and unpaid labor often performed by women that supports day-to-day societal welfare.⁹² Jobs in the care sector typically include nurses, child caregivers, housekeepers, health care workers, cooks, eldercare workers, and other roles that support the well-being and functioning of society.⁹³ The care economy can be considered a low-carbon sector central to addressing the climate crisis.⁹⁴ Reduction and redistribution of care work has been shown to increase women’s participation in renewable energy-related affairs.⁹⁵ Investments in care as a public good, as opposed to other high-emitting industries, can also significantly contribute to a shift away from a production-based society reliant on resource extraction and over-consumption.⁹⁶

- **Gross National Happiness (GNH)**

Gross Domestic Product or GDP is the current economic indicator of success for much of the Western world. In contrast, Gross National Happiness (GNH) recognizes numerous measurements to determine the well-being and happiness of a country.⁹⁷ GNH analyzes 33 indicators that are divided into various pillars, such as good governance, socio-economic development, health, education, cultural preservation, and environmental resilience, to measure and improve the well-being of all people.⁹⁸ Bhutan is currently the only country that calculates their GNH index and incorporates GNH principles into all new policies implemented in the country.⁹⁹ GNH provides a holistic perspective while also giving policymakers data from various indicators that can be studied and improved upon.¹⁰⁰

⁹¹ Salazar, Juan Francisco. “Buen Vivir: South America’s Rethinking of the Future We Want.” The Conversation, August 10, 2023. [\[LINK\]](#)

⁹² Carpenter, Chantel Line, Silke Staab, and Nicole Bidegain. “New Economics for Sustainable Development Purple Economy (Care Economy+).” United Nations Economist Network, March 14, 2023. [\[LINK\]](#)

⁹³ IBID

⁹⁴ IBID

⁹⁵ IBID

⁹⁶ Diski, Rebekah. “A Green and Caring Economy.” Women’s Budget Group, November 2022. [\[LINK\]](#)

⁹⁷ “Bhutan’s Gross National Happiness Index.” Oxford Poverty and Human Development Initiative. Accessed November, 2023. [\[LINK\]](#)

⁹⁸ IBID

⁹⁹ Sharma, Lynonpo Loknath, and Ratnakar Adhikari. “What Bhutan Got Right about Happiness - and What Other Countries Can Learn.” World Economic Forum, October 25, 2021. [\[LINK\]](#)

¹⁰⁰ IBID

- **Circular Economy**

The purpose of a circular economy is to minimize material extraction, redesign products, and services to be less resource intensive, and upcycle “waste” as a resource to create new materials and products.¹⁰¹ The circular economy has the potential to create thousands of new and meaningful jobs, minimize overexploitation of resources, and reduce toxic waste in landfills.¹⁰² Current business models rely on planned obsolescence for continued profit, but within a circular economy, items are built to last and are easy to repair.¹⁰³ Examples of waste that can be upcycled include clothing, scrap metal, glass, and even food scraps.¹⁰⁴ Historically, underserved and low-income communities are often burdened with health and environmental implications from landfills and toxic facilities.¹⁰⁵ Cooperation Jackson, located in Jackson, Mississippi, has plans to use all waste generated by the co-op towards developing new materials and products that create high-quality, well-paying jobs.¹⁰⁶ This sector has the potential to improve health, create good-paying jobs, and minimize reliance on resource extraction.

- **Doughnut Economics**

Economist Kate Raeworth coined the term “Doughnut Economics” to bring a new economic perspective that balances ensuring everyone has their basic needs met while also avoiding exploitation of planetary boundaries to stay within ecological limits.¹⁰⁷ The Doughnut Economy has two rings: the inner ring symbolizes a social foundation ensuring food, shelter, water, and human rights are guaranteed, while the outer ring represents the water, air, biodiversity, and other ecological systems needed to sustain life.¹⁰⁸ Doughnut Economics seeks to evenly distribute wealth, restore resources, and provide conditions for living beings to thrive.¹⁰⁹ This model emphasizes that a flourishing economy should not rely on endless exponential growth and that overall consumption must be reduced.

¹⁰¹ “Circular Economy: Definition, Importance and Benefits: News: European Parliament.” News European Parliament, May 24, 2023.

[[LINK](#)]

¹⁰² IBID

¹⁰³ IBID

¹⁰⁴ IBID

¹⁰⁵ Erickson, Jim. “Targeting Minority, Low-Income Neighborhoods for Hazardous Waste Sites.” University of Michigan News, January 19, 2016. [[LINK](#)]

¹⁰⁶ “Sustainable Communities Initiative.” Cooperation Jackson. Accessed November 20, 2023. [[LINK](#)]

¹⁰⁷ Raworth, Kate. *Doughnut economics: Seven ways to think like a 21st-century economist*. London: Penguin, 2022. [[LINK](#)]

¹⁰⁸ IBID

¹⁰⁹ IBID

- **Degrowth**

Degrowth is the immediate and equitable downscaling of production and consumption to diminish the use of resources and energy.¹¹⁰ The global primary economic model is based on exponential growth with finite resources. The human and environmental impacts of current systems manifest through longer work hours, collapsing ecosystems, and low quality of life.¹¹¹ Instead, investments must center on resource optimization, renewable energy, climate mitigation and adaptation, and ecosystem regeneration.¹¹² Other key components of degrowth are redistributing wealth through community currencies and fair distribution of resources based on income.¹¹³ Degrowth economics has the potential to truly decarbonize supply chains that are a primary contributor to climate change.

Conclusion:

While Net Zero is the current standard approach to balancing out produced greenhouse gasses and keeping temperatures below 1.5°C, it does not mean it is the best or most credible solution. This policy analysis outlines the need to critically assess the problems of the Net Zero pathway and examine Real Zero approaches to shift from false solutions to a Just Transition that centers on interdisciplinary research, community-led solutions and a climate justice framework. This policy analysis demonstrates that Real Zero and a Just Transition present best practices and pathways forward for a healthy and equitable approach to addressing the climate crisis.

Who We Are: The Women’s Earth and Climate Action Network (WECAN) is a solutions-based, multifaceted 501c3 non-profit organization that engages women worldwide in policy advocacy, on-the-ground projects, trainings, and movement building for global climate justice.

¹¹⁰ Kallis, Giorgos. “In Defence of Degrowth.” *Ecological Economics*, February 15, 2011. [\[LINK\]](#)

¹¹¹ IBID

¹¹² IBID

¹¹³ IBID