

# NATURE-BASED SOLUTIONS

Indigenous Environmental Network  
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The Indigenous Environmental Network Climate Justice Program Briefing Series is a result of IEN's Internship Program. This year, IEN is pleased to work with three masters students from the Environmental Policy and Sustainability Management (EPSM) program of The New School, based in Manhattan, New York City, NY: Elisa Soto-Dansecó, Nam Pham and Joshua Witchger.

Authors: Nam Pham, Tamra Gilbertson, Joshua Witchger, Elisa Soto-Dansecó, and Tom BK Goldtooth

Cover Design: Nam Pham

Layout Design: Brian Skeet Design LLC.

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# KEY TAKEAWAYS

1

**Climate change will not be solved by nature-based solutions (NBS) – they will make it worse. Real solutions are led by Indigenous Peoples, not co-opted with more greenwash.**

Nature-based solutions (NBS) is a greenwashing tool that does not address the root causes of climate change. Nature-based solutions coopt effective ecological practices based on Traditional Indigenous Knowledge. The narrative and framework of nature-based solutions transforms effective ecological practices into financialized instruments that exacerbate the climate and biodiversity crises.

2

**Nature-based solutions commodify the Sacred.**

Branding nature-based solutions as a climate “solution” is a public-relations scheme. The mainstream approach to NBS monetizes and financializes nature by generating carbon offset credits for polluters to purchase so that they can make dubious net zero emissions claims. However, NBS projects include much of what Indigenous Peoples have been fighting for years: Reducing Emissions from Deforestation and Degradation (REDD+), industrial tree plantations, enclosure as “protected areas,” climate-smart agriculture, as well as forest, soil, coastal and marine ecosystems and other biodiversity offsets.

3

**The exploitative power dynamics of colonialism and economic development are entrenched in nature-based solutions.**

The legacy of colonial power continues through nature-based solutions. Conservation NGOs, large development institutions, international financial institutions, (colonial) governments, and the private sector are all pushing for nature-based solutions. Projects included under the NBS framework are often implemented without the full recognition of the rights of Indigenous Peoples to be consulted under the standards of Free, Prior, and Informed Consent (FPIC), as recognized in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). Nature-based solutions are a continuation of colonialism and extractivism through: stolen lands, removal of Indigenous Peoples, nation-state resistance to demarcation of ancestral Indigenous lands and territories, the privatization and commodification of Nature and Mother Earth, and with banks continuing to invest in fossil fuel expansion.

4

**The hidden agenda behind nature-based solutions is to facilitate the absorption of climate change policy further into the private sector.**

Nature-based solutions is a term used to justify large-scale land and resource grabs. Behind the push for nature-based solutions are governments working with the private sector to position themselves as necessary players in fighting climate change. In an attempt to avoid accountability for their role in creating climate change, these institutions and governments rebrand themselves to maintain their power and hoard wealth.

5

**There is no exchange for the violence of CO<sub>2</sub> colonialism. YES to Indigenous Sovereignty, Indigenous Jurisprudence and Climate Reparations, NO to nature-based solutions!**

Nature-based solutions cannot possibly result in securing Indigenous Peoples’ self-determination, territorial rights and jurisdictional authority, demarcation of ancestral lands, or Indigenous sovereignty because the violence of climate change far outweighs what can be measured in dollars. Nature-based solutions are not designed to directly support Indigenous Peoples. Instead, nature-based solutions aim to silence Indigenous communities and redirect crucial funding into an extractive economic system.



## WHAT ARE NATURE-BASED SOLUTIONS?

Nature-based solutions (NBS) is a vaguely defined term capturing a wide range of practices that revolve around the idea of using nature to solve climate change and biodiversity loss. Fundamental to the concept is the capacity of natural ecosystems to sequester atmospheric carbon dioxide and provide various other “services.” However, NBS are not actually nature-based, but are human-made through processes of modification, “enhancement,” and more recently, manipulation and exploitation. Increasingly, NBS are being used by corporations to justify continued fossil fuel extraction and business-as-usual.

The majority of NBS projects are intrinsically tied to the carbon market and various carbon offsetting schemes, which are necessary tactics for governments and corporations to meet their net-zero emissions targets. Despite its widespread adoption, definitions of NBS remain vague, making it extremely difficult to determine what exactly counts as a NBS, thereby providing space for greenwashing and impunity. Mainstream use of the term NBS can refer to anything from small-scale mangrove restoration and agroecology, which can be effective and equitable practices, to monoculture plantations and **climate-smart industrial agriculture**, which have detrimental impacts on Mother Earth. The lack of guidelines and safeguards around the NBS framework are extremely problematic because it allows governments and the private sector to commodify effective ecological practices and Traditional Indigenous Knowledge.

While NBS does not have a universally agreed upon or legal definition, the definition proposed by the International Union for the Conservation of Nature (IUCN), a major player in the conservation industrial complex, is the most commonly used and cited:

**“Nature-based solutions are actions to protect, sustainably manage and restore natural or modified ecosystems that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits.”<sup>1</sup>**

To make matters worse, the processes of design, development, and decision-making of NBS projects often actively exclude Indigenous Peoples and non-Indigenous local communities. Since entering mainstream climate policy, a handful of conservation NGOs and private entities have taken over the development and application of NBS. These

<sup>1</sup> IUCN's definition of NbS. Retrieved from: <https://www.iucn.org/theme/nature-based-solutions>

powerful actors coopt Traditional Indigenous Knowledge (TIK) and effective local practices to give the appearance of responding to what Indigenous Peoples have long been practicing. Existing NBS projects include much of what Indigenous Peoples and non-Indigenous frontline communities have been fighting against for years: industrial tree plantations, enclosure as “protected areas,” climate-smart agriculture, and carbon and biodiversity offsets. Adding insult to injury, NBS are commonly used as a weapon to justify the expansion of conservation regimes that expel, displace, and violate the rights of Indigenous Peoples, and human rights violations of peasants, forest, coastal, and local communities across the globe.

With the rising popularity of net-zero pledges in corporate marketing and reporting, there is an increased demand for carbon offsets generated from NBS projects. For this reason, the UN, large development institutions, corporations, governmental conservation agencies and NGOs are taking advantage of the lack of boundaries in NBS to confound, conflate, and proliferate a range of monetized and financialized actions to expand markets in carbon trading in order to capture more profits out of destructive practices. This report presents NBS as a greenwashing tool that allows polluters to profit from the financialization of nature, while continuing to burn fossil fuels and avoid accountability for the climate crisis. It is imperative to see through the greenwashed agenda of NBS and resist this false solution.

## WHO ARE THE DRIVERS OF NBS AND WHAT DO THEY WANT?

The framework of NBS was originally popularized by the conservation and **financial sectors to channel more finance** into enclosed “protected areas” and exclusionary conservation programs. The first major publication to introduce NBS as a climate “solution” was a report by the World Bank in 2008 highlighting the climate contributions of the Bank’s investment in biodiversity conservation.<sup>2</sup> Building on this narrative, the International Union for Conservation of Nature (IUCN), a leading player in the conservation industrial complex, submitted a position paper to the UNFCCC 15th Conference of Parties (COP15) in 2009 advocating for the proliferation and scaling up of destructive practices disguised as NBS. In IUCN’s paper, the organization claimed that REDD+<sup>3</sup> is a “rapidly implementable mitigation option” and the large-scale adoption of NBS is an “integral part of broader adaptation and mitigation plans and strategies.”<sup>4</sup> The IUCN went on to make NBS a major component in its 2013-2016 work programme, aiming to consolidate and expand

2 Hoodwinked in the Hothouse: Resist False Solutions to Climate Change. Third Edition. 2021

3 Dolan, M. 2018. Carbon Offsets for Urban Trees Are on the Horizon. Bloomberg [online]. Retrieved from: <https://www.bloomberg.com/news/articles/2018-08-28/why-cities-are-piloting-carbon-credits-for-urban-trees>

4 IUCN. 2009a. No time to lose – make full use of nature-based solutions in the post-2012 climate change regime.



upon its existing authority over REDD+ and ecosystem-based adaptation strategies.<sup>5</sup>

Around 2016, there was a significant push for NBS by US-based conservation organizations. In particular, The Nature Conservancy (TNC) became a major player in the development and advocacy of NBS.<sup>6</sup> As a strong proponent of market-based approaches to the climate crisis, TNC soon became deeply involved in the research and application of NBS taking advantage of the ill-defined term to seize more control and profits over land and waters. In 2017, TNC commissioned a paper titled "Natural Climate Solutions," claiming that NBS could provide up to 37% of cost-effective carbon dioxide mitigation needed up to the year 2030.<sup>7</sup> The paper advocated for the involvement of "the private sector in reforestation activities by establishing plantations for an initial commercial harvest." This push for the private sector's involvement aligns neatly with TNC's overall mission of nabbing vast amounts of land and establishing a global carbon market. However, after closer inspection, the paper based its conclusions and recommendations on a range of reckless assumptions that are technically problematic, highly undesirable, implausible, politically unrealistic, or have since been disproven.<sup>8</sup> Nevertheless, the paper continues to be one of the most commonly cited "scientific" sources in major publications, reports, and research agendas promoting the need to implement and scale-up NBS projects.

Since then, NBS has rapidly found its place in the interest of multinational corporations, business coalitions, investment banks, national governments and intergovernmental bodies. Developers of NBS are closely associated with the fossil fuel industry, agribusiness and forestry management. Some industrial players and business groups that have explicitly expressed support for NBS include, but are not limited to: BP, Chevron, Shell, Dow Chemical Company, Bayer-Boeing, Nestle, Coca-Cola, Unilever, Amazon, Delta Airlines, Microsoft, HSBC, Procter and Gamble, Novartis, Woodside Energy, International Paper, Olam, WBCSD, World Economic Forum, Business for Nature, World Business Council for Sustainable Development, the International Chamber of Commerce, We Mean Business Coalition, the Capitals Coalition and the International Emissions Trading Association.<sup>9</sup>

Aligning their interest with for-profit corporations, several national governments and intergovernmental bodies, including the European Union, have created policies and initiatives to foster the growth and weaponization of NBS. At COP 26 in November 2021, special attention was given to NBS as critical to "protecting, conserving, and restoring

5 IUCN. 2012. The IUCN programme 2013-2016.

6 TNC has a long history of back-door dealings with transnational corporations and major polluters, including Mobil in 1995 (now part of ExxonMobil) and Dow Chemical Company (the CEO, Andrew Liveris, currently sits on the board of TNC). See: [https://www.influencewatch.org/non-profit/nature-conservancy/#:~:text=Officer%20\(COO\),Funding,land%20sales%2Fgifts%209.3%20percent](https://www.influencewatch.org/non-profit/nature-conservancy/#:~:text=Officer%20(COO),Funding,land%20sales%2Fgifts%209.3%20percent).

7 Griscom et al., 2017. Natural Climate Solutions. Proceeding of the National Academy of Sciences of the United States of America, 114, 11645-11650.

8 Stabinsky, Doreen. 2021. "Nature-based Solutions" (NbS) and claims about their mitigation potential. Third World Network.

9 FOEI, 2021. "Nature Based Solutions: A Wolf in Sheep's Clothing."

nature and ecosystems to achieve the Paris Agreement temperature goal (limiting warming to 1.5 degrees Celsius).<sup>10</sup> However, instead of discussing the risks, rights and impacts of the NBS framework on Indigenous Peoples and non-Indigenous local communities, most of the negotiations around the concept remained fixated on the increased participation of the private sector to boost funding and the financialization of NBS into carbon markets.<sup>11</sup> After the conference, the WWF (World Wildlife Fund for Nature) estimated that 92% of countries' Nationally Determined Contributions (NDCs) included provisions to implement some form of NBS, while the high-level government targets and plans focus mainly on the forest sector.<sup>12,13</sup>

It is no coincidence that the private sector is increasing their investments in the development of and authority over NBS. The majority of NBS schemes, whether carried out by governments, NGOs, or the private sector, have already been incorporated into carbon markets and provide carbon credits for polluters to purchase.<sup>14</sup> This means that investments in NBS allow companies to claim their emissions are being absorbed, avoided, or reduced somewhere else so they can continue extractive and exploitative activities. For this reason, NBS has become a key vehicle for corporations and governments to deliver on their net-zero emissions pledges. In 2010, McKinsey & Company estimated that carbon credits from NBS projects only accounted for 5% of the offset market. However, this number increased eightfold to 40% in 2020.<sup>15</sup>

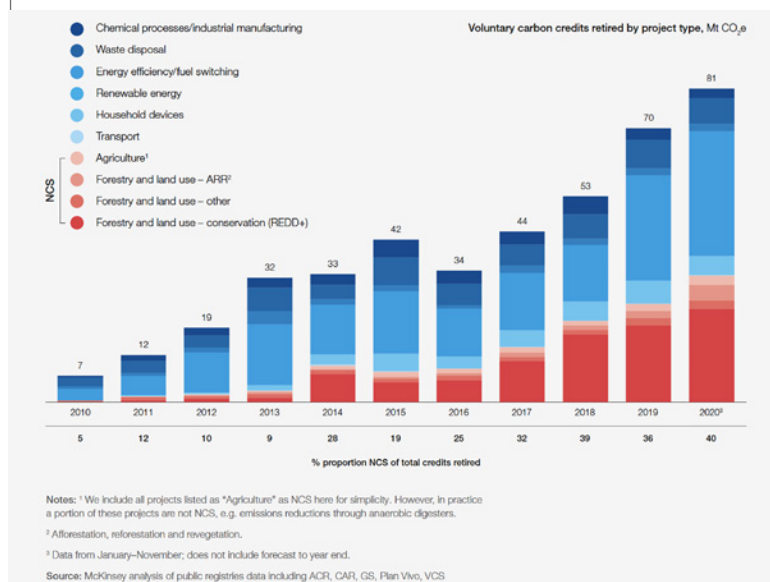


Image Source: World Economic Forum & McKinsey & Company. 2021. Consultation: Nature and Net Zero.

10 <https://www.un.org/en/climatechange/cop26-day-7-sticking-points-and-nature-based-solutions>  
 11 <https://www.spglobal.com/esg/insights/at-cop26-governments-and-businesses-turned-a-new-leaf-on-protecting-nature-to-halt-climate-change>  
 12 WWF. 2021. More Countries Including Nature in Their Climate Action Plans, but Step Change Still Needed to Secure 1.5°C Pathway- WWF Report.  
 13 Seddon et al. 2021. Getting the message right on nature-based solutions to climate change. Global Change Biology 2021; 27: 1518-1546  
 14 Goldberg, S, et al. 2021. COP 26 Series: Nature Based Solutions. Herbert Smith Freehills LLP  
 15 World Economic Forum & McKinsey & Company. 2021. Consultation: Nature and Net Zero



In addition to being a greenwashing machine, NBS projects can also work as a cash cow for corporations to accumulate even more power and profits. The most mature forms of NBS with the vast amounts of corporate funding are based in commodity markets, particularly timber, agriculture and water sectors.<sup>16</sup> These NBS projects provide “project owners” with the added benefit of generating commodities that can be sold, such as timber, and fish stocks to name a few. Therefore, when an ecosystem gets turned into an NBS project, it does not mean the “resources” from that ecosystem have escaped extraction and exploitation.

By the same token, carbon credits from NBS also serve as an additional income stream for polluters. Carbon credits can be used either in the compliance market (government regulation) or the voluntary market (set by industry “standards” to avoid more stringent regulations). The voluntary market, in particular, has become the main driver for testing and developing NBS project types in land use, forestry, and the ocean-based blue carbon sector.<sup>17</sup> The price of carbon in this market is highly unstable, providing opportunities for corporations to take advantage of financial speculation and trading. Despite the failure of NBS to address the root causes of the climate and biodiversity crises, financiers are doubling down on the concept by hyper-financializing the outcomes of NBS through the practice of “stacking” (see pg 13).

While companies are using NBS to boost their image and distract the public from direct regulations, NBS risks perpetuating injustices to people and nature. What they fail to mention in their corporate reporting on NBS is that the credits generated from such projects often come from large-scale conservation “protected areas,” climate-smart industrial agriculture, or monoculture plantations that take over and enclose Indigenous Peoples' lands as well as small farmers, fishers, and other non-Indigenous forest-dependent communities. Furthermore, mainstream approaches to NBS do not resolve or address problems associated with carbon offsetting that have existed for decades.

## Key Terms for Understanding Carbon Markets

**Additionality:** Would the ecosystem be absorbing greenhouse gasses without the project?

**Leakage:** The area around the region increases its GHG emissions because the credit area has decreased its footprint.

**Permanence:** What happens if a cattle ranch or wildfire destroys the forest?

**Double-counting:** How do we know that the credit is not just sold over and over again in the carbon market?

<sup>16</sup> Finance Earth. 2021. “A Market Review of Nature-Based Solutions.”

<sup>17</sup> Gehrig-Fasel et al. 2021. Nature-based Solutions in Carbon Markets.



**Integrity:** Does the ecosystem really absorb and lock in greenhouse gasses?<sup>18</sup>

**Lack of transparency:** Unclear rules, lack of information on accounting, or inability to obtain information about credit buyers.

## HOW DOES NBS IMPACT INDIGENOUS PEOPLES, AND NON-INDIGENOUS SMALL FARMERS, AND FOREST COMMUNITIES?

The implementation of NBS at any significant scale would require vast amounts of land. However, questions regarding ownership, tenure, livelihood, authority, and rights for Indigenous Peoples' sovereignty and jurisdictional authority over land remain unaddressed in NBS initiatives and investments. Instead, developers and investors of NBS are actively targeting the lands and territories of Indigenous and non-Indigenous communities to deem as "preferable" for NBS implementation. Even though the mission statements of various NBS initiatives proclaim the need to mobilize Indigenous Peoples' Knowledge, they carefully omit any critical language to adequately and legally recognize and uphold the self determination, sovereignty, rights and consent of Indigenous Peoples.

Indigenous Peoples have been working with, in, and as nature to cope with the impact of climate variability for millennia.<sup>19</sup> It is only recently that western scientific disciplines have funneled these practices into economic discussion surrounding climate change and coined a term such as NBS in order to give Traditional Indigenous Knowledge an economic value in a capitalist system – precisely the opposite of the values within Indigenous Peoples' cosmovisions.<sup>20</sup>

In 2021, a group of Oxford scientists conducted a study based on the model presented in TNC's 2017 influential paper on NBS to evaluate the potential annual contribution of NBS to avoid emissions and sequester

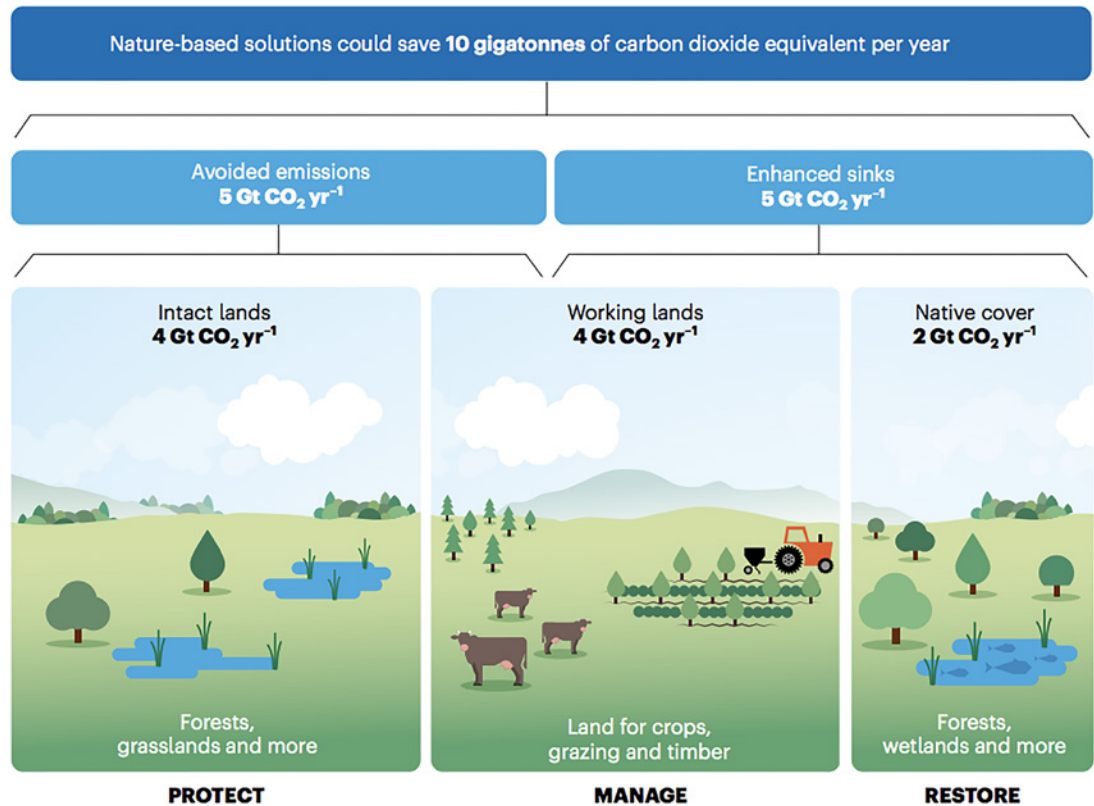
<sup>18</sup> FoEI. 2022. Fossil Futures: Built on A House of Cards- Report.

<sup>19</sup> For example, there is a long-documented history of small-scale interventions in East Africa such as the restoration of mangrove systems to boost local livelihoods and provide flood protection. See Kairo et al. 2001. "Restoration and management of mangrove systems – A lesson for and from the East African region."

<sup>20</sup> Although Indigenous cultures have different teachings and traditions grounded in different geographies, there are core values and shared insights on the profound understanding of the connection between the wellbeing of Earth and the wellbeing of humans. The Indigenous Peoples Earth Charter, drafted in 1992, offers a glimpse into this shared understanding: <https://trc.org.nz/sites/trc.org.nz/files/Indigenous%20Peoples%20Earth%20Charter.pdf>



carbon.<sup>21</sup> The results showed that a pool of all NBS could have a contribution of around 10 Gigatons of CO<sub>2</sub> per year (10 Gt CO<sub>2</sub> yr<sup>-1</sup>). Of that 10 Gt CO<sub>2</sub> yr<sup>-1</sup>, approximately 5 Gt is from avoided emissions and the other 5 Gt is from carbon removal, with 2 Gt of removal from practices of ecosystem “restoration.” However, the area of land required to sequester just 2 Gt CO<sub>2</sub> yr<sup>-1</sup> through restoration is estimated at 678 million hectares, nearly twice the size of India. The assumption that large amounts of land would automatically be available for “restoration,” as defined within the false framework of NBS, is technically implausible and dangerous.



**Image Source:** Girardin CAJ et al. 2021. "Nature-based Climate Solutions: contribution to peak warming and global cooling Nature." Retrieved from: <https://media.nature.com/original/magazine-assets/d41586-02101241-2/d41586-021-01241-2.pdf>

Despite warnings from Indigenous Peoples, civil societies and environmental justice activists, a wave of multinational corporations is racing to announce new commitments and plans to implement NBS on implausible scales to distract the public away from the flawed assumptions behind NBS. Shell, for example, pledged to offset 120 million tonnes a year by 2030 through the use of NBS.<sup>22</sup> Furthermore, the fossil fuel giant has recently released a “pathway” analysis showing that its commitment can keep global warming to 1.5°C under the Paris Agreement. At the end of the pathway report, however, Shell emphasized that its scenario relies heavily on the “extensive scale-up of nature-based solutions,” specifically reforestation over an “area approaching that of

<sup>21</sup> Girardin CAJ et al. 2021. "Nature-based Climate Solutions: contribution to peak warming and global cooling. Nature." Retrieved from: <https://media.nature.com/original/magazine-assets/d41586-021-01241-2/d41586-021-01241-2.pdf>

<sup>22</sup> "Shell accelerates drive for net-zero emissions with customer-first strategy." 2021. Retrieved from: <https://www.shell.com/media/news-and-media-releases/2021/shell-accelerates-drive-for-net-zero-emissions-with-customer-first-strategy.html>

Brazil" (up to some 700m hectares).<sup>23</sup> Unsurprisingly, nowhere in Shell's report is there an indication as to where this land might be, who the inhabitants are, or the costs of turning them into industrial monocultures and plantations. It is important to bear in mind that Shell's campaign is only one of the thousands of corporate net zero emissions pledges that aim to hide the fact that they plan on enclosing territories, especially on Indigenous Peoples lands in the global South.<sup>24</sup>

The enclosure, appropriation, and commodification of land and ecosystems in the name of "sustainability" not only violates the rights and well-being of Indigenous Peoples and non-Indigenous forest dependent communities, but also perpetuates a legacy of injustice. It is essential to examine the mainstream approach of NBS as a campaign originally developed by the conservation industry to mobilize more private funding for enclosure as "protected areas." Conservation NGOs based in the Global North often work off the colonial idea that "nature" is better off without people. Therefore, it is assumed that the best way to deal with climate change and biodiversity loss is to use "nature" that is "untouched" and devoid of Indigenous Peoples and other forest communities. The notion of using nature and its gifts to sustain an economy that is based on fossil fuel extraction and the exploitation of nature, Mother Earth and people goes against the cosmologies, values, and belief systems of Indigenous Peoples. Furthermore, large-scale NBS projects go beyond displacing and putting a stop to cultural and subsistence practices – they criminalize them. Traditional Indigenous Knowledge will be erased and lost as a result of the dispossession of land, water, and life for NBS projects and its carbon credits.

## THE PROBLEM WITH COUNTING CARBON IN "NATURE"

Four dangers with counting carbon as a nature-based solution:

1. **Misleading science and the issue of permanence:** Carbon dioxide can indeed be removed from the atmosphere by trees and other vegetation, and land-use changes such as deforestation can release more carbon into the atmosphere. However, fossil carbon and terrestrial (land-based) carbon are part of different carbon cycles. Carbon from fossil fuels takes over hundreds of millions of years to form and become stored underground. However, carbon from land-use changes cycles much faster. This means that trees, vegetation, soil, and oceans cannot endlessly absorb the enormous amount of carbon dioxide released by fossil fuels.<sup>25</sup>

→ ***No matter what, we will always end up with more carbon in the air as long as we continue to burn high quantities of fossil fuels.***

<sup>23</sup> Gabbatiss, J. 2021. Analysis: Shell says new 'Brazil sized' forest would be needed to meet 1.5C climate goal." Carbon Brief. Retrieved from: <https://www.carbonbrief.org/analysis-shell-says-new-brazil-sized-forest-would-be-needed-to-meet-1-5c-climate-goal>

<sup>24</sup> For more case studies and examples of companies "net-zero" pledges and their use of NbS, see FoEI. 2021. Chasing Carbon Unicorns: The deception of carbon markets and "net zero." Retrieved from: <https://www.foei.org/wp-content/uploads/2021/04/Friends-of-the-earth-international-carbon-unicorns-english.pdf>

<sup>25</sup> W. Carton et al. 2021. Undoing Equivalence: rethinking carbon accounting for just carbon removal



2. **Fixates on tree planting:** Because of the push of NBS as a tool for carbon dioxide removal, tree planting projects are the main source of attention and funding. This leads to the proliferation of large-scale industrial tree plantations and agro-monocultures that damage natural ecosystems, reduce biodiversity and carry a long history of human rights abuses. In fact, an estimated 45% of the Bonn Challenge pledges in tropical regions are for commercial plantations.<sup>26,27</sup>
3. **Exacerbates the loss of biodiversity:** Planting trees does not equate to establishing a healthy ecosystem with complex functional webs of interactions between species. NBS is conflating and obscuring the distinction between natural forests and monocultures. Furthermore, inappropriate tree planting can do more harm than good. Tree planting projects, especially in afforestation, most likely will include the use of non-native and even genetically engineered trees with the claim that they will do a better job at absorbing carbon. These projects will intensify the number of chemicals to maintain the crops and can poison the surrounding environment, not to mention the unanticipated consequences of altering tree genetics.<sup>28</sup>
4. **Distracts from the need to keep fossil fuels in the ground:** The carbon dioxide removal contributions of nature are part of a sustained and long process of Mother Earth. They are not 'services' to be commodified nor do they 'offset' carbon from fossil fuel extraction. High-emitting industries and governments are the biggest supporters of NBS because they use it to claim they have offset their greenhouse gas emissions. Net zero emissions targets can be met by implementing NBS projects. The focus on NBS effectively depoliticizes the conversation about the climate crisis by imposing a technical and economic 'solution'. NBS and carbon offsets do not keep fossil fuels in the ground.

## REMAINING CRITICAL OF NBS IN OTHER CONTEXTS

Often, proponents of NBS will use case studies of NBS in certain contexts to defend the concept, especially when it has yet to be incorporated into a carbon market. However, it is important to remain critical and read between the lines of this argument. For example, there has been a major push for NBS in urban environments, mainly through the implementation of green/blue infrastructure and ecosystem-based adaptation in cities, especially in the Global North, and in environmental justice (EJ) communities. Technically these interventions have the potential to help urban dwellers address "just transition" and some of its societal and climate challenges. However, they are not inherently just and can create new sets of problems within those environments. There is a wave of recent research that demonstrates how the incorporation of green

<sup>26</sup> The Bonn Challenge is a global effort to apply NBS and restore 150 million hectares of the world's degraded and deforested lands by 2020 and 350 million hectares by 2030. It was hosted and launched by Germany and the International Union for Conservation of Nature (IUCN) in Bonn on 2 September 2011.

<sup>27</sup> Lewis, S. L., Wheeler, C. E., et al. 2019. Restoring natural forests is the best way to remove atmospheric carbon. *Nature*, 568, 25-28.

<sup>28</sup> Hoodwinked in the Hothouse: Resist False Solutions to Climate Change. Third Edition. 2021.

spaces in cities brings along new waves of gentrification and displaces marginalized urban communities.<sup>29</sup>

Alarming, recent reports have signaled the potential for urban tree cover and planting programs to be adopted into carbon markets.<sup>30</sup> Looking to secure more funding for urban trees, some local governments in the United States, including Austin, Texas, King's County, and Washington are running pilot offsetting projects with a Seattle-based nonprofit called City Forest Credits (CFC). The nonprofit is developing a new approach to generating funding for city tree canopies by attracting investment from private companies and individuals who wish to offset their carbon emissions by buying credits from tree planting or preservation.

→ ***Based on processes of design and development, implementation of NBS projects can contribute to socio-spatial inequalities and perpetuate legacies of injustice. Implementation of projects must be analyzed against the background of systemic and historical injustice to adequately address climate threats. NBS alone can never sufficiently address the unequal political, social, economic and power structures that are the root causes of the climate crisis.***

## TROUBLING DEVELOPMENTS + "STACKING" NBS CREDITS FOR PRIVATE PROFITS + ARCHITECTURE FOR REDD++

Since NBS projects would not generate profits for the private sector without the hyper-financialization of nature and "ecosystem services," proponents of NBS are creating more ways to derive multiple income streams from a single project to increase revenue potential. One such tactic is called "stacking," which describes the measuring and packaging of multiple, overlapping ecosystem services provided by a given piece of land separately into a range of different types of credits.<sup>31</sup> What this means is that with only one investment into a single NBS project (in a given piece of land), the landowner or project developer can claim various types of credits coming from one piece of land and sell them to different buyers, instead of capitalizing on single carbon credits. These other types of credits include endangered species credits, water quality credits, wetland credits, shade credits, etc. However, the generation

<sup>29</sup> Haase, A. 2017. The Contribution of Nature-Based Solutions to Socially Inclusive Urban Development – Some Reflections from a Social-environmental Perspective. Nature-based Solutions to Climate Change Adaptation in Urban Areas, Theory and Practice of Urban Sustainability Transitions.

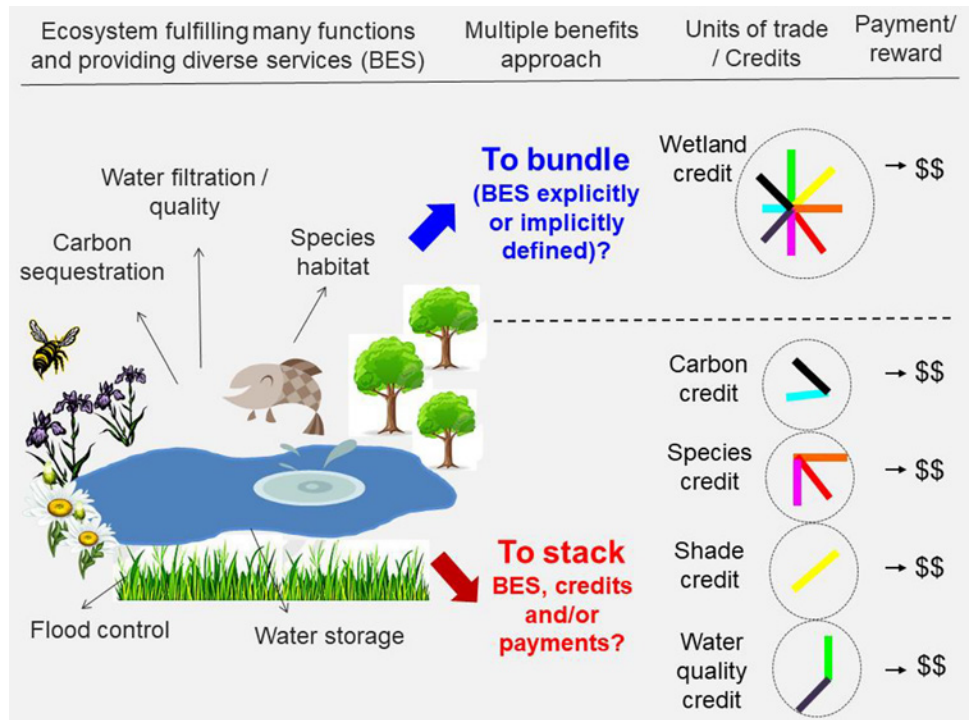
<sup>30</sup> Dolan, M. 2018. Carbon Offsets for Urban Trees Are on the Horizon. Bloomberg [online]. Retrieved from: <https://www.bloomberg.com/news/articles/2018-08-28/why-cities-are-piloting-carbon-credits-for-urban-trees>

<sup>31</sup> von Hase, Amrei and Cassin. 2018. Theory and practice of 'stacking' and 'bundling' ecosystem goods and services: a resource paper. Business and Biodiversity Offset Programme (BBOP). Forest Trends, 2018, Washington D.C.



of these credits do not mean that extractive activities end on the land where the NBS project is based.

The practice of stacking leaves many critical issues unaddressed, including leakage, permanence, verification, additionality, and accounting. For example, when a NBS project creates a “bundle” of services that overlap with another single-service credit, a private landowner or developer can double count a NBS outcome and sell it more than once. Think of the planting of one tree, but the “owner” of that tree can charge separate fees for its carbon sequestration capabilities, shade, and flood-resisting capacities all at the same time to multiple buyers.



Source: von Hase, Amrei and Cassin, 2018. Theory and practice of ‘stacking’ and ‘bundling’ ecosystem goods and services: a resource paper. Business and Biodiversity Offset Programme (BBOP). Forest Trends, 2018, Washington D.C.

Despite the failures of credit stacking and its negative impacts on climate action, financiers and developers of NBS are doubling down on the idea. A 2020 report argued that in order for credit stacking to work “efficiently,” parallel markets for conservation and biodiversity would need to be further developed to create more private investment into conservation programs in the first place.<sup>32</sup> If practices like these continue to proliferate, demand for multiple forms of credits from NBS will undoubtedly grow along with it. The hyper-financialization of nature through NBS remains a grave concern for the future of Indigenous Peoples and non-Indigenous local communities as their most basic human right, access to forests, land and waters, stands to be violated as corporate greed seeks more control and profit-making opportunities.

<sup>32</sup> Monahan, K, et al. 2020. Nature-Based Solutions: Policy Options for Climate and Biodiversity. Smart Prosperity Institute.

## ARCHITECTURE FOR REDD+ TRANSACTIONS: THE REDD+ ENVIRONMENTAL EXCELLENCE STANDARD (ART-TREES) - TREE CREDITS

In the voluntary market, what ultimately counts as an offset credit is determined by the organizations and institutions that manufacture them, giving these actors unchecked power to cherry-pick their own rules, guidelines and standards. Looking to avoid direct regulations, financiers within the carbon market are seeking to create their own set of standards with NBS. A prominent “rule-maker” in the voluntary carbon market is Architecture for REDD+ Transactions: the REDD+ Environmental Excellence Standard (ART-TREES).

ART-TREES’ objective is to confuse the “quality” of different credits and combine them into one single TREE credit. TREE credits blur the lines between the categories of avoided, reduced, and removal of carbon within NBS projects. The push for “equivalence” between the different types and outcomes of carbon-related projects will undoubtedly flood the market with identical TREE credits, making them cheaper for corporations to purchase while falsely claiming they are removing carbon from the atmosphere. TREE credits will also make REDD+ credits interchangeable with other types of credits, thereby increasing the desire for REDD+ programs.<sup>33</sup> Even though these new standards remain arbitrary, they will provide “credibility” to investors and create greater market demand for offset credits. ART-TREES does nothing but enlarge the supply and cheapen offset credits that will allow polluters to continue fossil fuel extraction and exploitation while harming Indigenous Peoples and non-Indigenous local communities.

→ ***Demand for removals will manifest as an increase in demand for carbon offsets, whether or not the offsets are for avoidance, reduction or removal. Carbon market systems do not keep fossil fuels in the ground.***

## CONCLUSION

At first glance, NBS seems to offer a quick and easy “sustainability fix” to complex socio-economic problems that require sustained and concerted political action. Polluters’ framing and push for mainstream NBS is a tactic to normalize the use of planetary-scale geoengineering that would allow companies like Shell to claim they are in line with whatever climate target they come up with. However, a closer look into the inaccurate scientific assumptions and track record of failed implementation of meaningful climate policies reveals NBS, as promoted by multinational corporations and institutions, to be a false solution that aims to target Indigenous Peoples’ lands and territories resulting in the perpetuation of land grabs, environmental injustices, climate change and biodiversity loss.

<sup>33</sup> Currently, REDD+ credits are only certified for avoided or reduced emissions, not for carbon removals.



Colonial governments and fossil fuel industries will continue to search and colonize Indigenous Peoples' forests, waters, coastal areas, grasslands, soils, and rivers looking for carbon sequestration potential and corporate interests. NBS have been co-opted and deeply greenwashed into an economic tool that polluters can use to justify land and ocean-grabbing practices, establish unjust conservation projects, and violate the self-determination and rights of Indigenous Peoples and the human rights of non-Indigenous local communities.

Carbon is only one part of the larger disaster that is the climate crisis, where compounding issues such as the decline of biodiversity, deterioration of human and ecological health, increasing pressure on ecosystems, and the continuing violation of the rights of Indigenous Peoples and human rights of local communities must be addressed. We must recognize, reject, and resist the greenwashing agendas perpetuated by colonialism, capitalism and patriarchy. The process that would avoid runaway climate catastrophe must be grounded in an Indigenous-led Just Transition based upon a need for humanity to reexamine and reevaluate its relationship with the sacredness of Mother Earth. This process can be found in but is not limited to, practices of Traditional Indigenous Knowledge and IEN's [Indigenous Principles of Just Transition](#).

Therefore, enhancing biodiversity and working with nature should be based on system change and foreground and center Indigenous Peoples' self-determination, Indigenous sovereignty, territorial rights and jurisdictional authority, demarcation of ancestral lands, Traditional Indigenous Knowledge, keeping fossil fuels in the ground, and the inherent relationship jurisprudence and territorial integrity of Mother Earth and Father Sky.