



# Carbon Primer

## Nature-based Solution Stories

**Introducing Nature-based Carbon Offsets:  
Nature-based Solutions (NbS) to Reduce Emissions, Protect Biodiversity, Create Jobs,  
and Enhance Resilience**



# Overview

This document is laid out in four parts:

1. A one page summary of Nature For Justice
2. A presentation of the Carbon Primer
3. Detailed notes that are a backup for the presentation
4. A QR code that links to additional reading materials

Please contact us with any questions or comments:

Steve Nitah ([snitah@nature4justice.org](mailto:snitah@nature4justice.org))

Hank Cauley ([hcauley@nature4justice.org](mailto:hcauley@nature4justice.org))



N4J Website

# Who is Nature For Justice?

**Nature For Justice mobilizes resources that Indigenous and local communities need to restore their natural ecosystems, build climate resilience, and promote sustainable livelihoods.**

**Nature For Justice was founded to address three urgent needs:**

- To help frontline communities adapt to climate change by accessing the resources they need to achieve resilience.
- To assist trusted local partner organizations in building their technical and managerial capacity to benefit the communities they serve and the long-term projects they support.
- To sequester massive amounts of carbon to contribute to achieving the Paris climate goal.



**How Nature For Justice is addressing these needs:**

- We provide the communities hardest hit by climate change with the means and know-how to build and sustain their resiliency.
- We create value for investors.
- At scale, our projects will sequester millions of tons of carbon, protect biodiversity, and improve livelihoods.

# Why this primer?

Many Indigenous communities see the potential but lack a clear understanding of how nature-based carbon projects work and what is expected of them. As a consequence, communities may be unable or ill-equipped to participate. N4J is often asked:

*“Please start at the beginning and help us understand what this road looks like?”*

*– Lillian Trapper*

A photograph of a bison standing on a gravel path that leads into a dense forest. The bison is in the foreground, facing right. The path is made of small stones and leads into the distance, flanked by tall green trees. The sky is overcast.

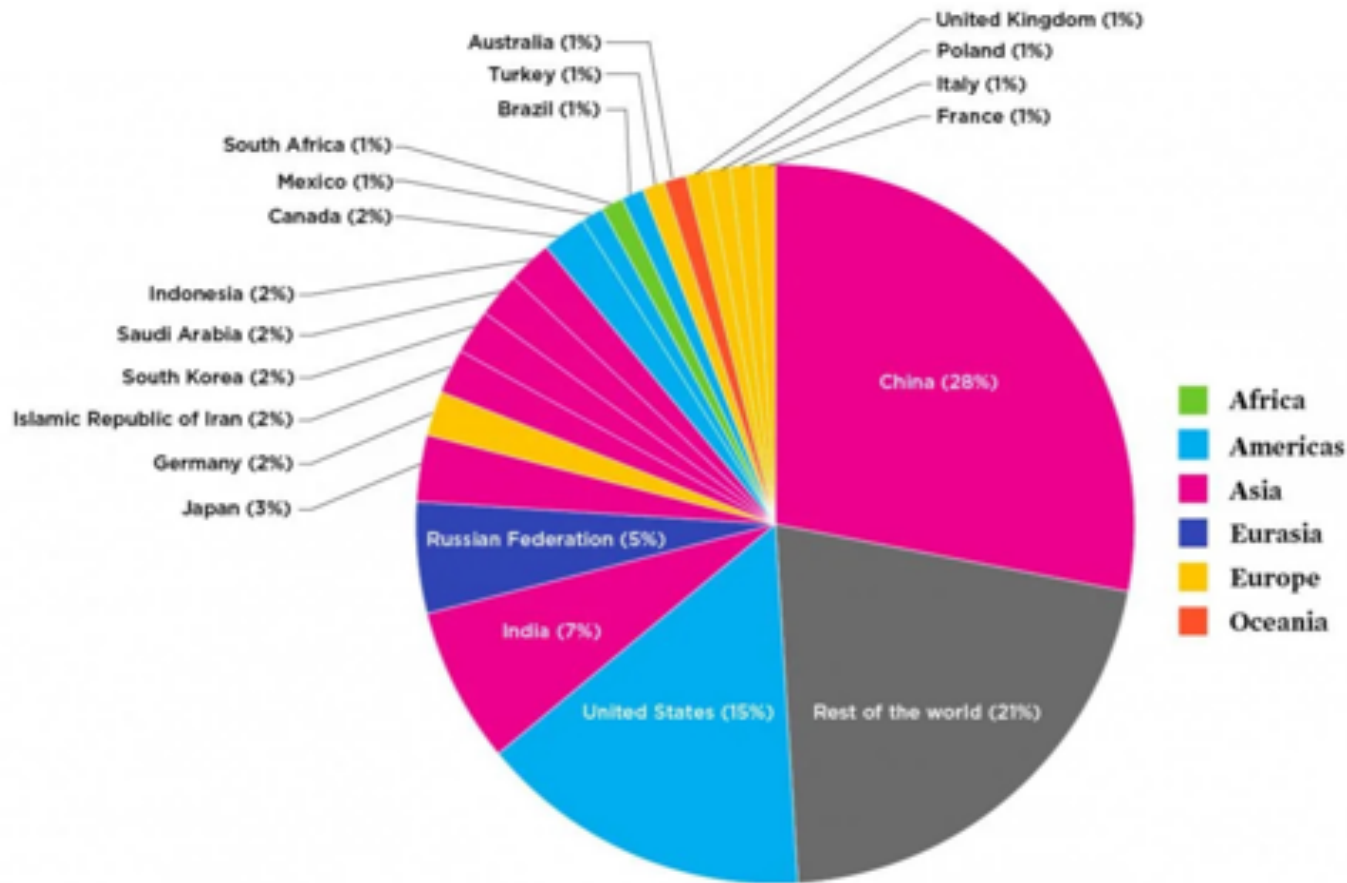
# Unlocking Local Benefits: The Power of the Carbon Markets for Positive Change

*“Our people are suffering.  
The forests are suffering.  
We need to restore both,  
and we think this will get us  
there”* - Chief Conway

Funds from the carbon markets can be used to protect your homes as near- and long-term benefits including:

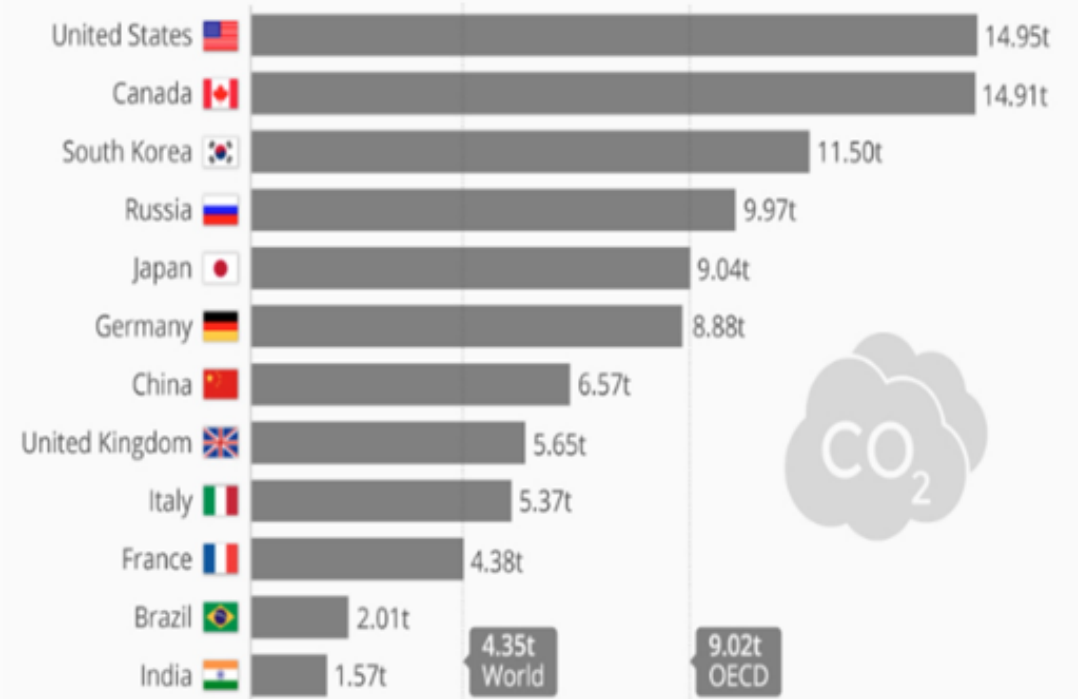
- biodiversity conservation and protecting ecosystem services
- generating jobs
- improving health to ensure that the benefits of the projects are sustainable at the local level

# Emissions by Country



## The Global Disparity in Carbon Footprints

Per capita CO<sub>2</sub> emissions in the world's largest economies in 2016\* (in metric tons)



\* countries chosen based on 2017 nominal GDP  
Sources: International Energy Agency, International Monetary Fund

Image: Statista

# The Global Approach: The Paris Agreement to Limit Warming to 1.5 Degrees C



*“As indigenous peoples, we say, we are not different than the rest of the species, we are only one species of nature, so we cannot harm the rest of them. So that's why living in harmony, it's connecting each other, respecting each other and trying to keep the balance without harming the rest of the species - species of nature,”*

– Hindou Ibrahim, UN Climate Thought Leader

# Company Commitments to “Net Zero” Emissions – Carbon Offsets in Demand



- More than one-third (34%) of the world’s largest companies are now committed to Net Zero
- Carbon offset credits help them get there - a credit is 1 ton of CO2 equivalent

*“By 2030 we can significantly reduce our emissions, but we need to buy offsets to get us the rest of the way there. Otherwise, it impacts our bottom line,”*

*– P&G Sustainability Team Leader*

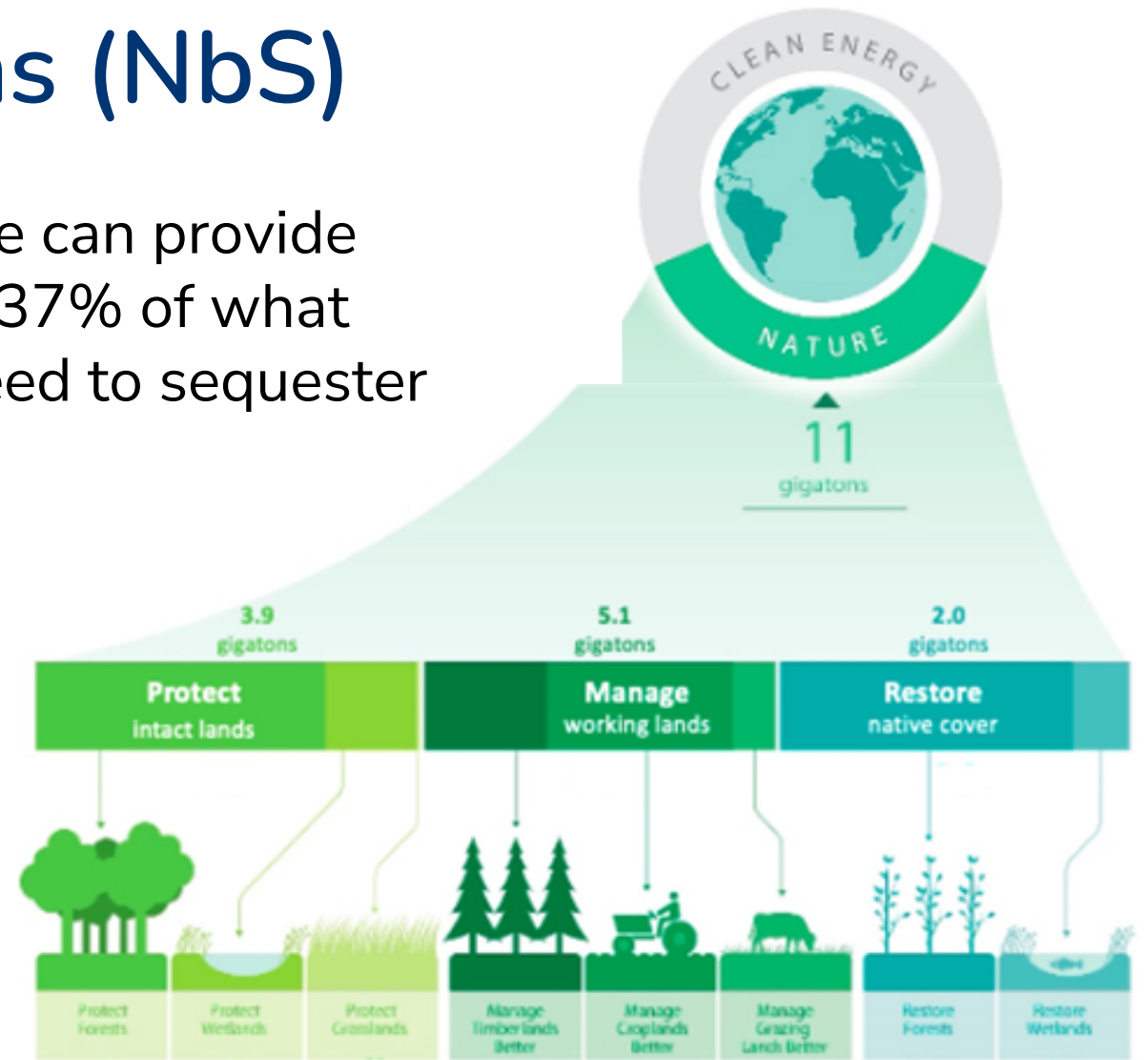
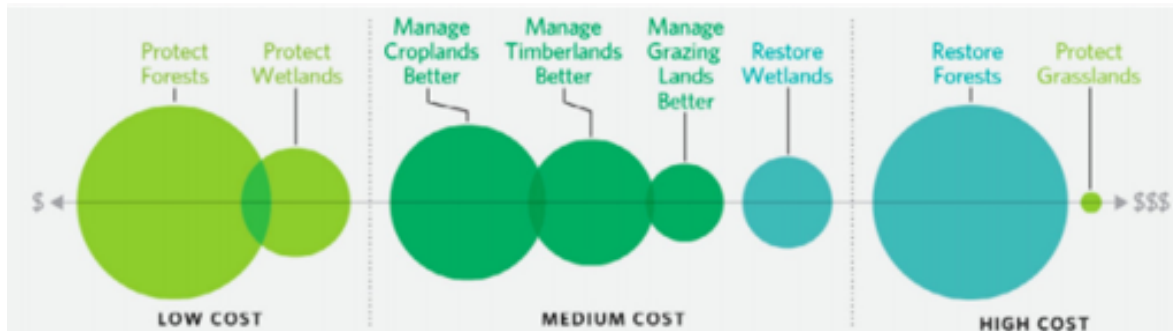


# Nature-based Solutions (NbS)

## Options:

- Protect
- Manage
- Restore

Nature can provide up to 37% of what we need to sequester



Source: Griscom et al., PNAS (2017) and Griscom et al., 2020 Philosophical Transactions of the Royal Society B. Graphics from Nature Conservancy magazine and SW rfostrathics

# NbS Projects: The Voluntary Carbon Market

## Integrity and eligibility criteria

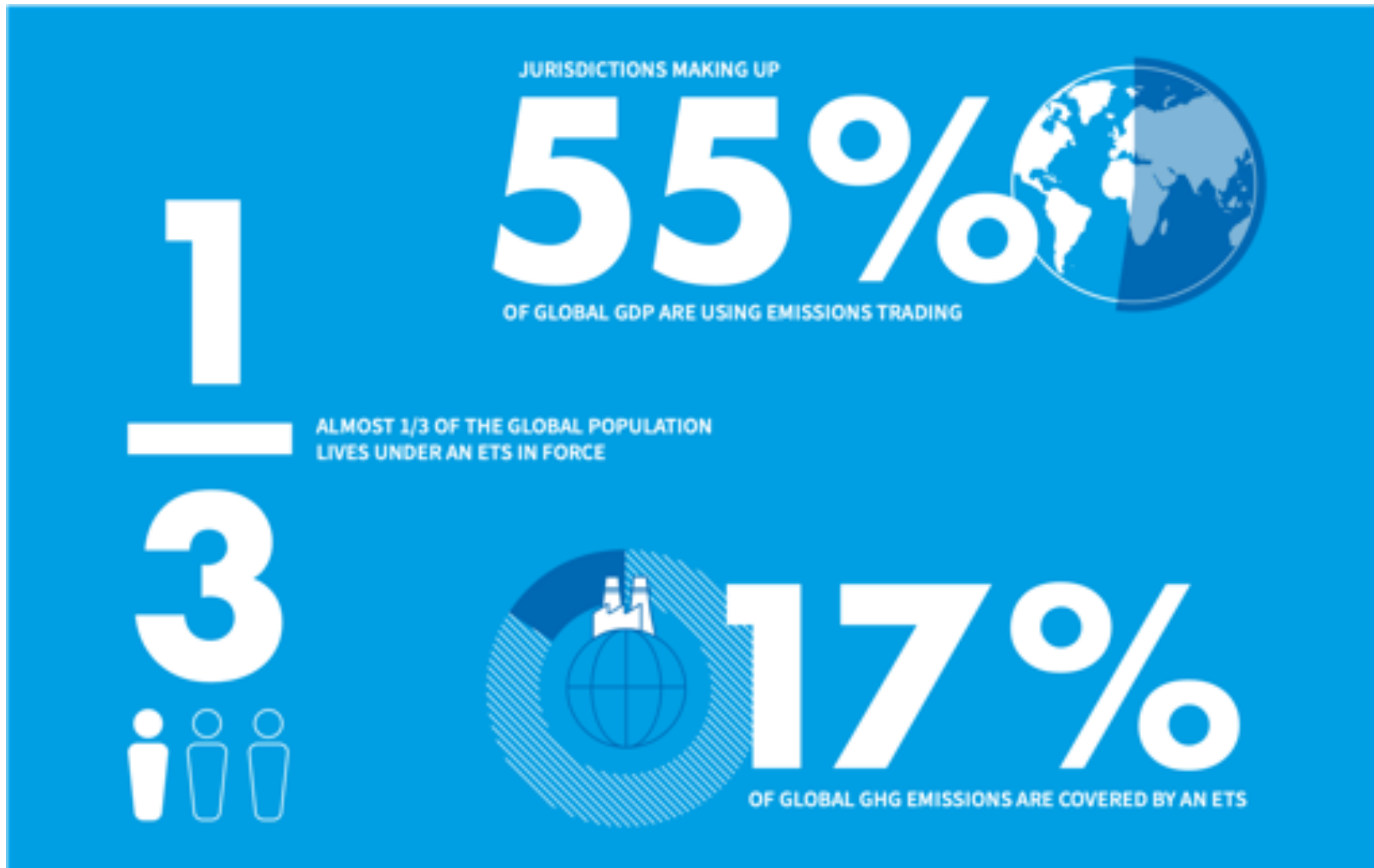
- **Real:** offsets must represent real emission reductions
- **Carbon Additionality:** offsets must represent emission reductions that are in addition to what would have occurred otherwise
- **Permanent:** offsets must represent emission reductions that are non-reversible
- **Verifiable:** sufficient data quantity and quality must be available
- **Quantifiable:** emission reductions must be reliably measured
- **Enforceable:** offset ownership is undisputed

What's missing? **Climate Justice Additionality, Irrecoverable Carbon**



*“We need to correct the perception that the Boreal Forest is not under threat,”*  
- Steve Nitah, N4J

# Compliance Market is Growing Rapidly



All Canadian provinces and territories had to submit to the federal government proposals for carbon pricing systems for the 2023-2030 period. These must meet the strengthened federal benchmark criteria of CAD 65 (USD 50) per tonne of CO<sub>2</sub> equivalent in 2023, increasing by CAD 15 per year to CAD 170/tCO<sub>2</sub>e in 2030.

# The Ontario Context



In 2018, Premier **Doug Ford cancelled Ontario's cap-and-trade scheme**, and challenged the federal government's authority to impose a carbon tax on the people of Ontario.

"I made a promise to the people that we would take immediate action to scrap the cap-and-trade carbon tax and bring their gas prices down," said Ford. "....I want to confirm that as a first step to lowering taxes in Ontario, the carbon tax's days are numbered."

BUT – Early in 2023, CBC News reported that Premier Ford's government expects to bring in more than \$2 billion through a carbon tax on industrial emitters over the next eight years.

# Nature For Justice – Recommended Next Steps

- **Carbon projects are complex** – begin to evaluate and select partners: carbon experts, financial, legal, and strategic
  - e.g., A Term Sheet for a single project in South Africa is 33 pages...
- **Define areas** and develop shapefiles and estimate carbon and other attributes
  - The sale of carbon offsets is a “means to an end”: resilient communities
  - The challenge of Crown Lands (if identified) and negotiating with the provincial government
- **Investigate the voluntary carbon market**, given the Ontario context, but the situation is likely to change over time for the compliance market
- **Complete a political assessment** – How is the provincial government likely to evolve its position?

# Core Partners in Canada



**conservation  
through  
reconciliation  
partnership**

The CRP is an Indigenous-led network that advances Indigenous-led conservation and Indigenous Protected and Conserved Areas (IPCAs) across Canada. It aims to inform and transform conservation strategy and practice by centering Indigenous leadership, rights, and knowledge. The CRP is a diverse collective of Indigenous leaders, conservation organizations, academia, civil society, and communities.

## ★ What They Bring

- **Extensive networks** in Canada, with First Nations and relevant NGOs, academia, and government
- Curated knowledge basket of **best practices and new tools for Indigenous-led conservation**



*Conserving  
Canada's  
Wetlands*

Ducks Unlimited Canada (DUC) is a Canadian non-profit that works to conserve, restore, and manage Canadian wetlands to preserve habitat for North American waterfowl, wildlife, and people. DUC has been working in the NWT to advance conservation, in partnership with Indigenous and Territorial governments, industry, and researchers, for over 30 years.

## ★ What They Bring

- **85+ years experience advancing conservation in Canada**, in partnership with Indigenous communities. Understanding of the local conservation context, partners, and landscape.
- **Expertise in conservation science** and land management solutions



Based in Vancouver, BC, Ostrom Climate is one of North America's leading providers of carbon management solutions. Ostrom specializes in carbon offset project development and climate solutions for Indigenous communities, the public sector, and private companies

## ★ What They Bring

- **Carbon expertise**, 20 years including carbon analysis and carbon project development
- **Experience developing carbon projects with First Nations**, including the [Great Bear Forest Carbon Project](#)

# The N4J Canada Team



The Entire  
N4J Team



## Chief Steven Nitah, Managing Director, Canada

Steven is a former tribal chief and negotiator for the Łutsël K'é' Dene First Nation and a specialist in aboriginal and treaty constitutional rights, negotiations, and relationship building with indigenous peoples. Steven served as the lead negotiator for the Łutsël K'é' Dene First Nation in the creation of the Thaidene Nënë Indigenous Protected Area—one of the largest protected areas in North America. Steven advises Indigenous Nations working to establish Indigenous Protected and Conserved Areas (IPCAs), advocates for federal recognition of IPCAs and Indigenous Guardians, and champions Indigenous-led conservation in international arenas. Steven leads N4J's initiatives and community outreach in Canada.



## Tess Zakaras, Director, Program Development

Tess has a background in global development, focused on private sector engagement, partnership development, and natural resources management. She has designed, built, and managed cross-sector partnership initiatives with donors, international and local companies, and civil society organizations. In Canada, Tess supports program management, research, and partnership initiatives.



## Hank Cauley, Co-Founder and CEO

Hank has a mix of corporate, academic, and NGO experiences over his 35-year career. He has started or turned around seven organizations/major projects and served as President of the Forest Stewardship Council USA and in senior positions at various NGOs and businesses. He works to find common ground on social, environmental, and business issues.

# Part 3: Notes to Supplement Story Version



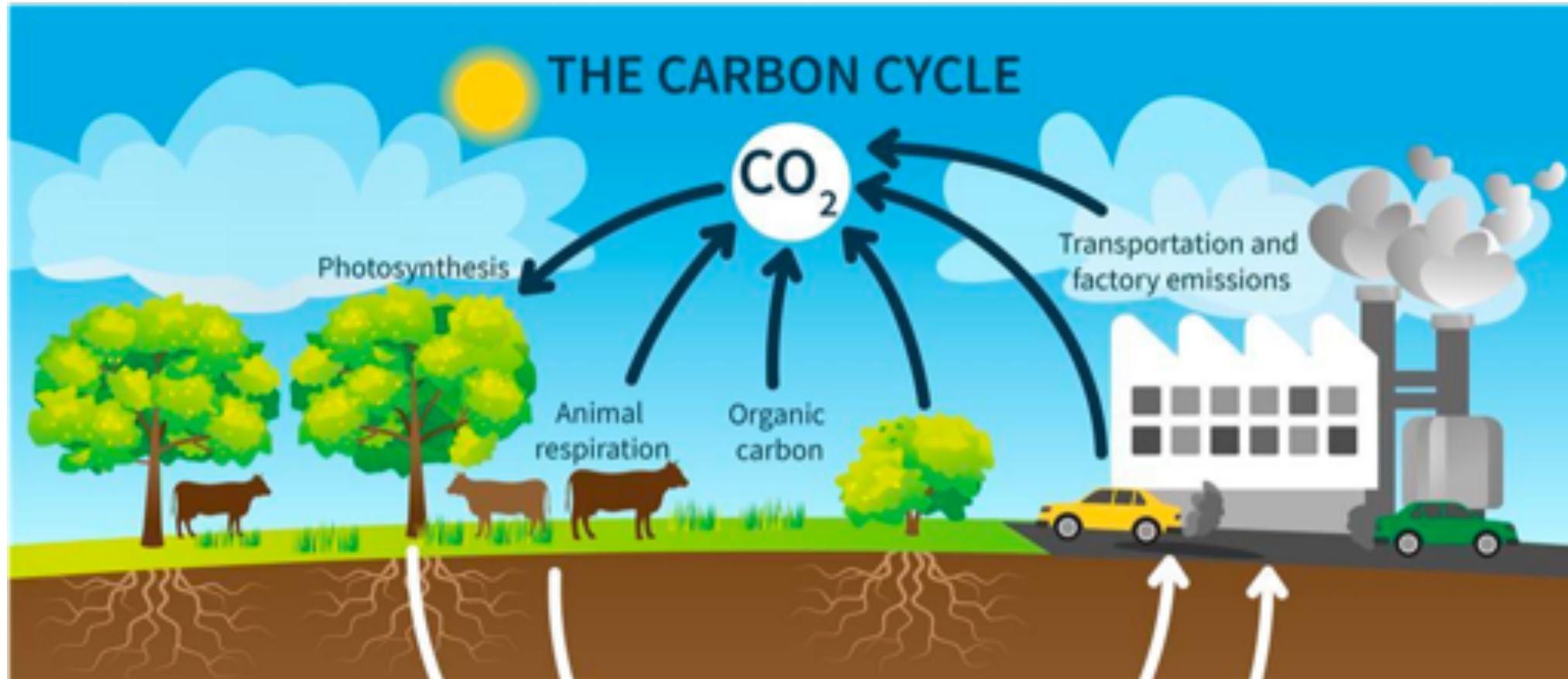
# Why this primer?

*The importance of capacity-building for Indigenous communities in the carbon market, and the role of Nature For Justice in providing such training*

- Capacity-building for Indigenous communities in the carbon market is crucial for ensuring they receive a fair share of benefits and are not taken advantage of by outsiders.
- N4J provides training to Indigenous communities on NbS carbon projects and their rights in order to equip them to participate meaningfully.
- "Carbon 101" training has proven helpful in preparing frontline communities for complex deals and ensuring they receive their fair share.
- NbS carbon projects can increase community resilience by reinforcing traditional land management practices and enhancing land productivity and ecological/agricultural resilience.
- Carbon market funds can be used for near- and long-term benefits, such as biodiversity conservation, job creation, and improving health.
- To ensure true community benefits, projects must consider their overall impact and not focus solely on carbon reduction/removal.

# GHG Emissions – CO<sub>2</sub>

*Understanding the natural carbon cycle and the role of forests in storing and releasing carbon is crucial to effective forest management and reducing carbon emissions.*



# The Paris Agreement - a path forward

- The 2015 Paris Agreement aims to limit the rise in average temperatures to 2.0 degrees Celsius above pre-industrial levels, ideally 1.5 degrees.
- Achieving the 1.5-degree target requires global greenhouse gas emissions to be cut by **50% by 2030** and reduced to **net zero** by 2050.
- Countries develop **national targets** and plans to reduce emissions, including transitioning to renewable energy and implementing **regulatory mechanisms** like carbon taxes and cap and trade systems.
- Many companies have committed to GHG reductions or carbon neutrality in line with the Paris Agreement targets.
- Companies reduce their emissions as much as possible, but still have residual or **unavoidable emissions**.
- Companies buy **carbon credits** as a way of offsetting their unavoidable emissions.

# What is a “Carbon Credit”?

*1 carbon =credit 1 tonne of CO2-eq*

- A carbon credit is a permit allowing a company to emit a certain amount of greenhouse gases.
- One credit permits the emission of a mass equal to one ton of carbon dioxide (or its equivalent).
- Carbon credits can be bought and sold as a valued asset class. Importantly, high quality credits with strong Indigenous Peoples involvement can get a price premium
- The carbon markets allow carbon emitters to offset their unavoidable emissions by purchasing carbon credits generated by projects that reduce greenhouse gases in the atmosphere.
- Carbon credits are also known as **carbon offsets**, **emission credits**, **carbon allowances**, and **carbon units**.

# Types of Carbon Offset Credits

- Carbon offset credits can be produced by a variety of activities that reduce GHG emissions or increase carbon sequestration.
- In most cases, these activities are undertaken as discrete “projects.”
- Many kinds of carbon offset projects exist, four main ones are:
  - **Renewable energy** development (displacing fossil-fuel emissions from conventional power plants);
  - **The capture and destruction** of high-potency GHGs like methane, N<sub>2</sub>O, or HFCs with technology;
  - **Community-based projects** such as improved cookstoves or biogas digesters.
  - **Nature-based solutions** such as avoided deforestation, improved landscape management, regenerative agriculture, or ecosystem restoration.

# What is a Nature-Based Carbon Offset?

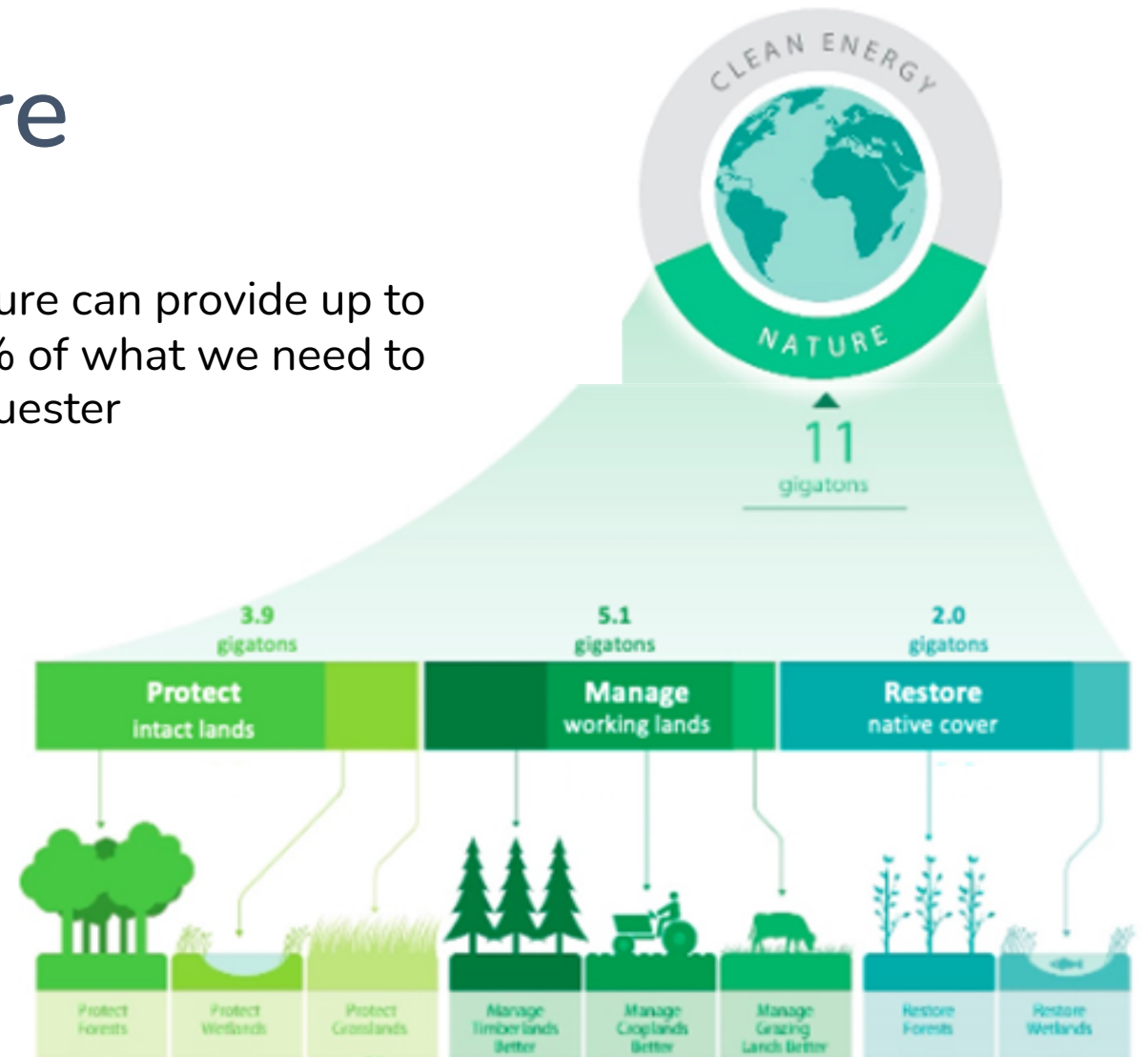
*Nature-based carbon credits*

- Nature-based solutions, or natural climate solutions, are **projects which protect, manage, or restore land**.
- Nature-based solutions involve plants and soils being managed in ways that increase the absorption and storage of atmospheric CO<sub>2</sub> through photosynthesis - a process known as **carbon sequestration**.
- Under the right conditions, these projects can lead to the issuance and trade of carbon credits.
- 1 tonne of CO<sub>2</sub> captured and stored in vegetation and/or soils is equal to 1 carbon credit.

# The Potential of Nature

- Protect
- Manage
- Restore

Nature can provide up to 37% of what we need to sequester



Source: Griscom et al., PNAS (2017) and Griscom et al., 2020 Philosophical Transactions of the Royal Society B. Graphics from Nature Conservancy magazine and SW Infographics

# Carbon Markets

## *The Voluntary Vs Compliance Carbon Markets*

- **The voluntary carbon market** emerged early as companies sought to offset their emissions before regulatory pressure forced them to make GHG reductions
  - *Companies can participate in the voluntary carbon market either individually or as part of an industry-wide scheme*
  - *Voluntary carbon credits tend to be lower priced given the voluntary nature of participation*
- **The compliance market** are government managed markets that most often force company participation
  - *Compliance market carbon credits tend to fetch higher prices*
- **The Canadian voluntary and compliance** markets are quite fluid at this time.



# The Voluntary Carbon Market

*NB: Integrity and eligibility criteria*

Voluntary Carbon Credit Requirements; successful projects must demonstrate that they are:

- **Real:** offsets must represent real emission reductions that have not already occurred (i.e. the reduction is not projected to occur in the future)
- **Permanent:** offsets must represent emission reductions that are non-reversible, or must typically be sequestered for at least 20 years in the case of carbon bio-sequestration projects
- **Verifiable:** sufficient data quantity and quality must be available to ensure emission reductions can be verified by an independent auditor against an established protocol or methodology
- **Quantifiable:** emission reductions must be reliably measured or estimated, and capable of being quantified
- **Enforceable:** offset ownership is undisputed and enforcement mechanisms exist to ensure that all programme rules are followed and the market's environmental integrity is maintained.
- **Additional:** offsets must represent emission reductions that are in addition to what would have occurred otherwise

Conceptually, carbon additionality is a determination of whether a proposed activity will produce some "additional good" in the future relative to a reference scenario, which we refer to as a baseline.

# Canada's Compliance Market

- Canada's Greenhouse Gas (GHG) Offset Credit System encourages businesses, municipalities, Indigenous communities, foresters and farmers to undertake innovative projects that reduce GHGs compared to business-as-usual practices. Canada's GHG Offset Credit System enables project proponents to generate federal offset credits if they register and implement projects meeting requirements in the *Canadian Greenhouse Gas Offset Credit System Regulations* and an applicable federal GHG offset protocol.
- Offset credits represent verified GHG reductions achieved by a project either by reducing GHG emissions or increasing GHG removals from the atmosphere. Offset credits can be sold and used for compliance by facilities covered in the federal Output-Based Pricing System or sold and used by others who are looking to meet voluntary climate targets or commitments.
- <https://www.ontario.ca/page/emissions-performance-standards-program>

# The Ontario Context



In 2018, Premier Doug Ford cancelled Ontario's cap-and-trade scheme, and challenged the federal government's authority to impose a carbon tax on the people of Ontario.

"I made a promise to the people that we would take immediate action to scrap the cap-and-trade carbon tax and bring their gas prices down," said Ford. "....I want to confirm that as a first step to lowering taxes in Ontario, the carbon tax's days are numbered."

BUT – Early in 2023, CBC News reported that Premier Ford's government expects to bring in more than \$2 billion through a carbon tax on industrial emitters over the next eight years,

# Process for Entering the Voluntary Carbon Market

## *Project Identification and Documentation*

- Identify an area to be analyzed for its **carbon offset potential**.
- Carbon credit projects typically then develop a **Project Idea Note (PIN)**, in essence a concept note, and then proceed to develop a **Project Development Document (PDD)**, which is much more detailed – akin to a full business plan.
- These documents have to refer to specific voluntary carbon credit methodologies approved by a given Carbon Credit Verification Organization. For example:
  - **Verra (includes CCB certification)**
  - **Gold Standard**
- These documents are then presented to voluntary carbon credit organizations for verification, prior to being approved.

# Climate **Justice** **Additionality**

## *Beyond Carbon, Towards Social Benefits for Local Communities*

- While carbon additionality remains a critical element of the carbon credit market, it does not fully capture the essential need for promoting resilience to climate change at the local level. At Nature For Justice, we advocate for a more comprehensive approach - climate justice additionality - that recognizes the disproportionate impacts of climate change on vulnerable communities and prioritizes their needs.
- We believe that to demonstrate climate justice additionality investments are required to materially **benefit frontline communities** that are disproportionately impacted by climate change, going beyond a “business as usual” scenario. Furthermore, we also believe that for Nature-based Solutions (NbS) projects to be meaningful for local communities the benefits they generate must be directly related to the owners' ability to achieve climate resilience over time.
- Climate justice additionality recognizes that the most vulnerable communities, such as low-income communities, communities of color, and indigenous peoples, have often been the least responsible for contributing to climate change but are the most affected by it. By prioritizing their needs, carbon offset projects can deliver critical benefits beyond just carbon reduction. These benefits may include **improving health, increasing access to clean water and energy, and enhancing livelihood opportunities.**

# Part 4: Additional Resources

[SNitah@Nature4Justice.Org](mailto:SNitah@Nature4Justice.Org)

[TZakaras@Nature4Justice.Org](mailto:TZakaras@Nature4Justice.Org)

[HCauley@Nature4Justice.Org](mailto:HCauley@Nature4Justice.Org)

Scan the QR code for various resources and reading materials



SCAN ME