

A wooden heart-shaped ornament, made from a slice of a log with the bark still attached on one side, hangs from a thin twine string. It is positioned on the left side of the frame, hanging from a snow-laden evergreen branch. The background is a soft-focus winter scene with more snow-covered branches and a hint of a blue sky.


Indigenous Planetary Health: An Indigenous Clinical Perspective

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**No conflicts of interest to declare*



“The culture’s vitality is literally dependent on individuals, in community with the natural world. Indigenous cultures are an extension of the story of the natural community of a place and evolve according to ecological dynamics and natural relationships” (*Cajete, 2018*)

Stories

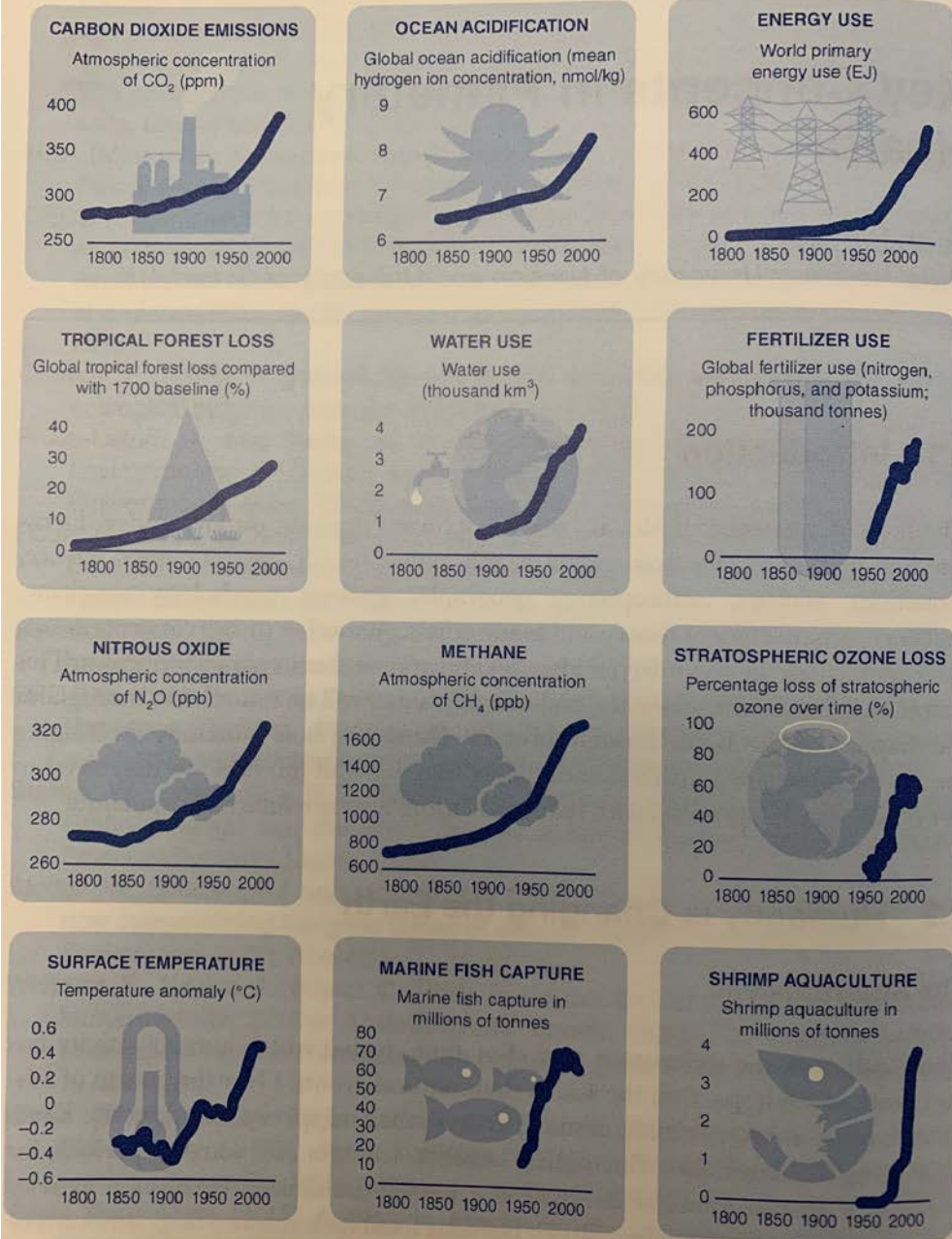


Relationship



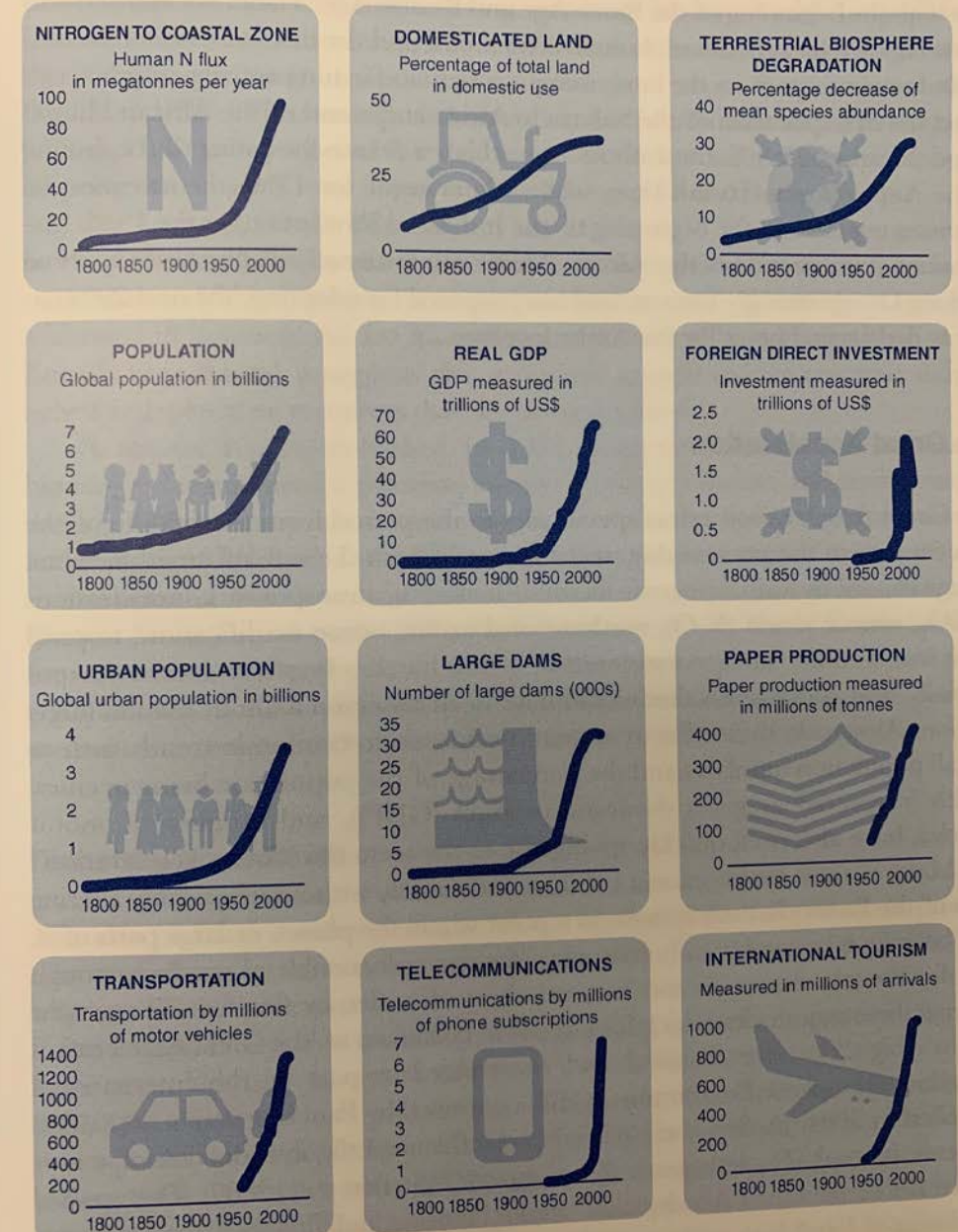
(a)

The Great Acceleration: Earth System Trends

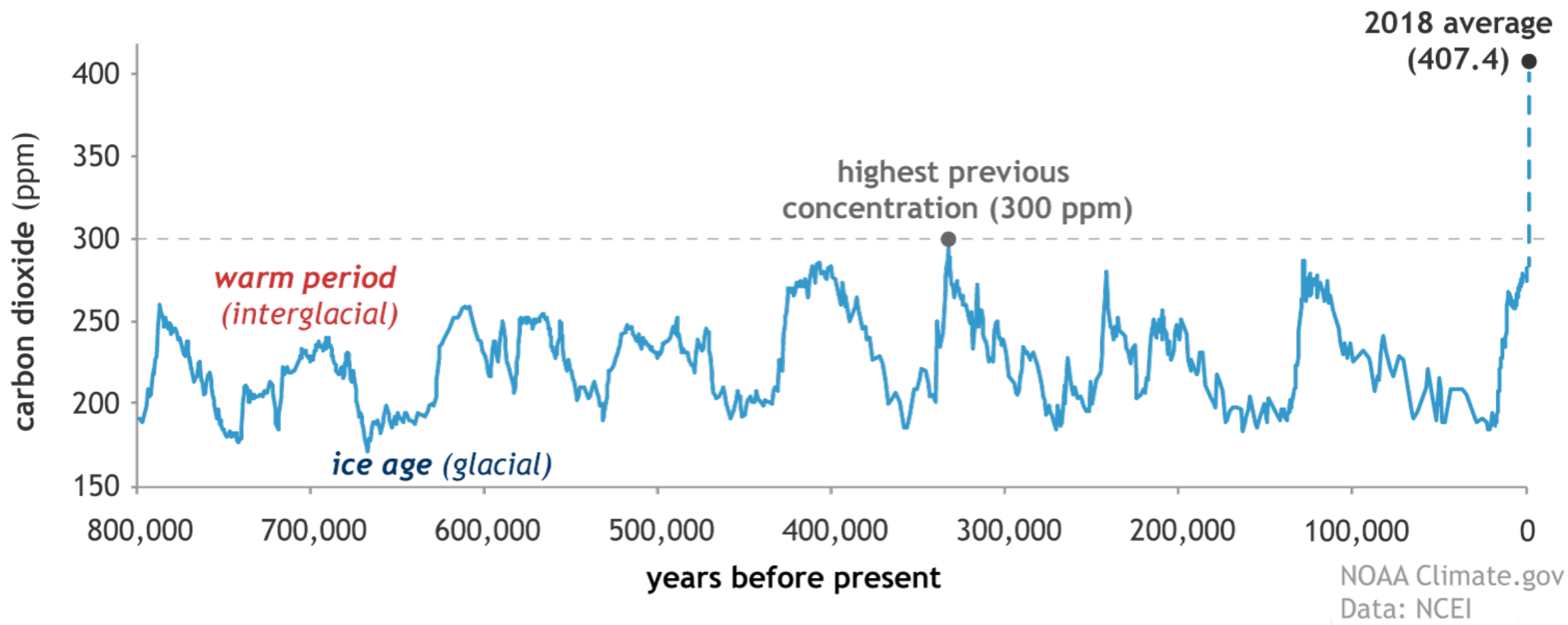


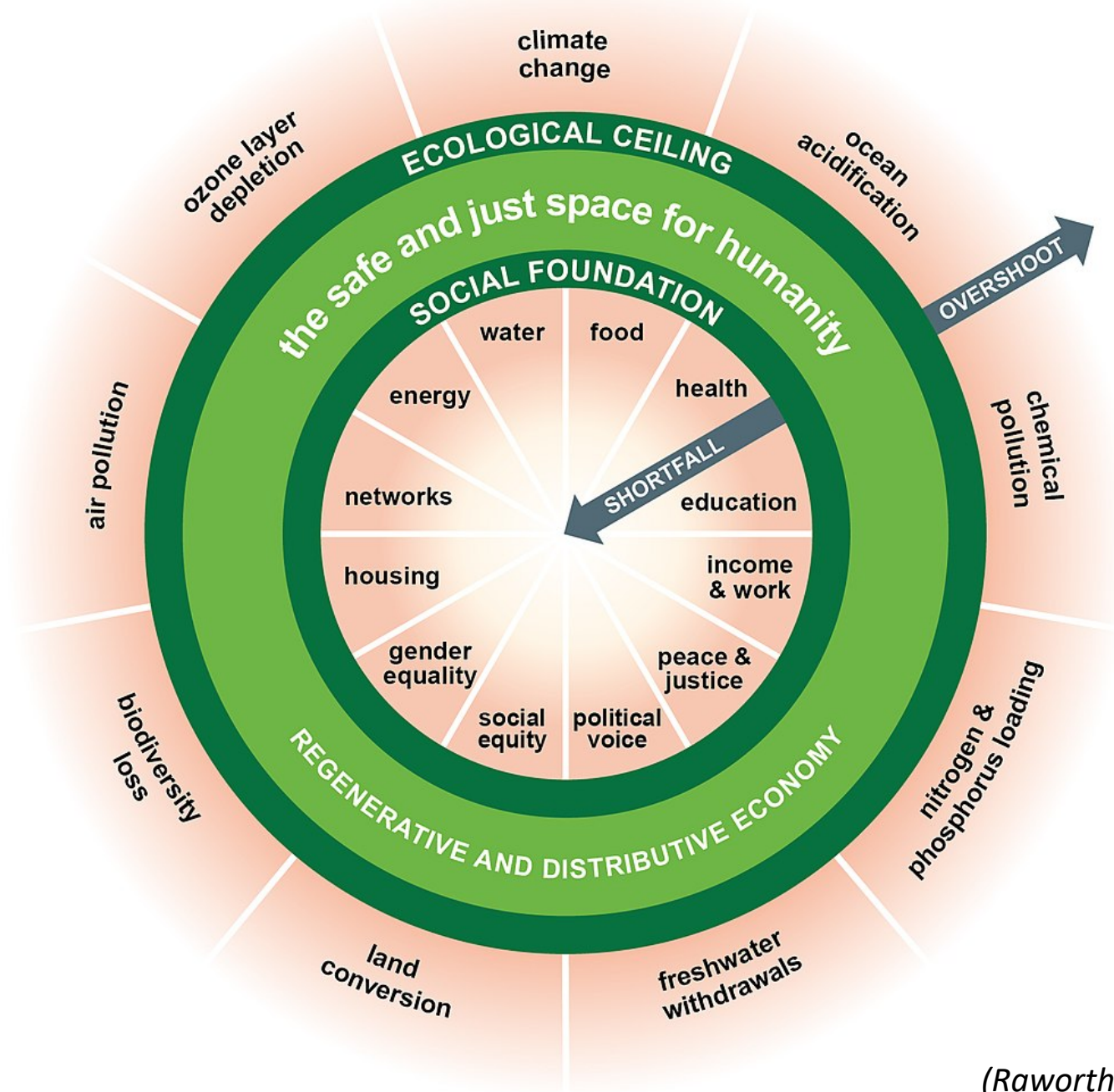
(b)

The Great Acceleration: Socio-economic Trends



CO₂ during ice ages and warm periods for the past 800,000 years





(Raworth, 2012)



Violence on our Earth | Sketch by: Katie Douglas

Indigenous Peoples- On the Front Lines

We live in parts of the world where its impacts are greatest and depend largely, or exclusively, on the natural environment for our livelihoods, culture and lives.

“The land is our Mother, so when we lose value for the land...people lose value for the women.”

~*Vanessa Gray (Aamjiwnaang First Nation)*

Permafrost rapidly thawing Arctic means sinkholes, damage to infrastructure and more greenhouse gases

BY THE CANADIAN PRESS
ORIGINALLY PUBLISHED: MAY 2, 2019



In this undated photo, abrupt permafrost melting has caused a large landslide into a side channel of the Mackenzie River...

Carolyn Gibson / THE CANADIAN PRESS

earth

Menu

Extreme Life | Bacteria

There are diseases hidden in ice, and they are waking up

Long-dormant bacteria and viruses,
trapped in ice and permafrost for
centuries, are reviving as Earth's
climate warms

CLIMATE

Humans Contribute to Earth's Wobble, Scientists Say

Droughts, melting ice and rising seas linked to anthropogenic climate change are altering the planet's motions

By Stephanie Pappas, LiveScience on September 25, 2018



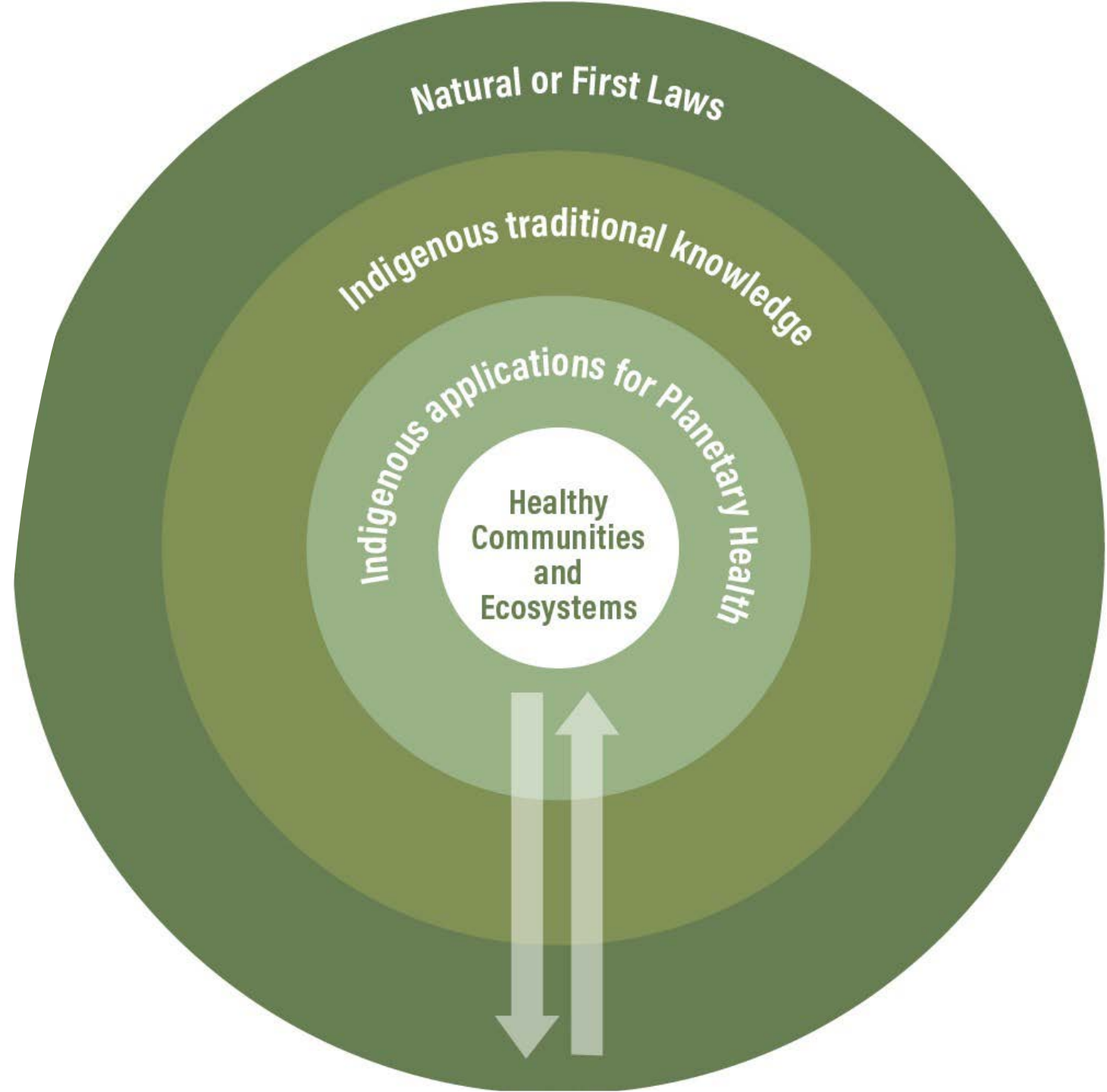
A full-disk view of Earth, centered on the Americas, as seen by the NASA/NOAA Deep Space Climate Observatory on July 6, 2015.
Credit: NASA and NOAA

Earth Centered Jurisprudence

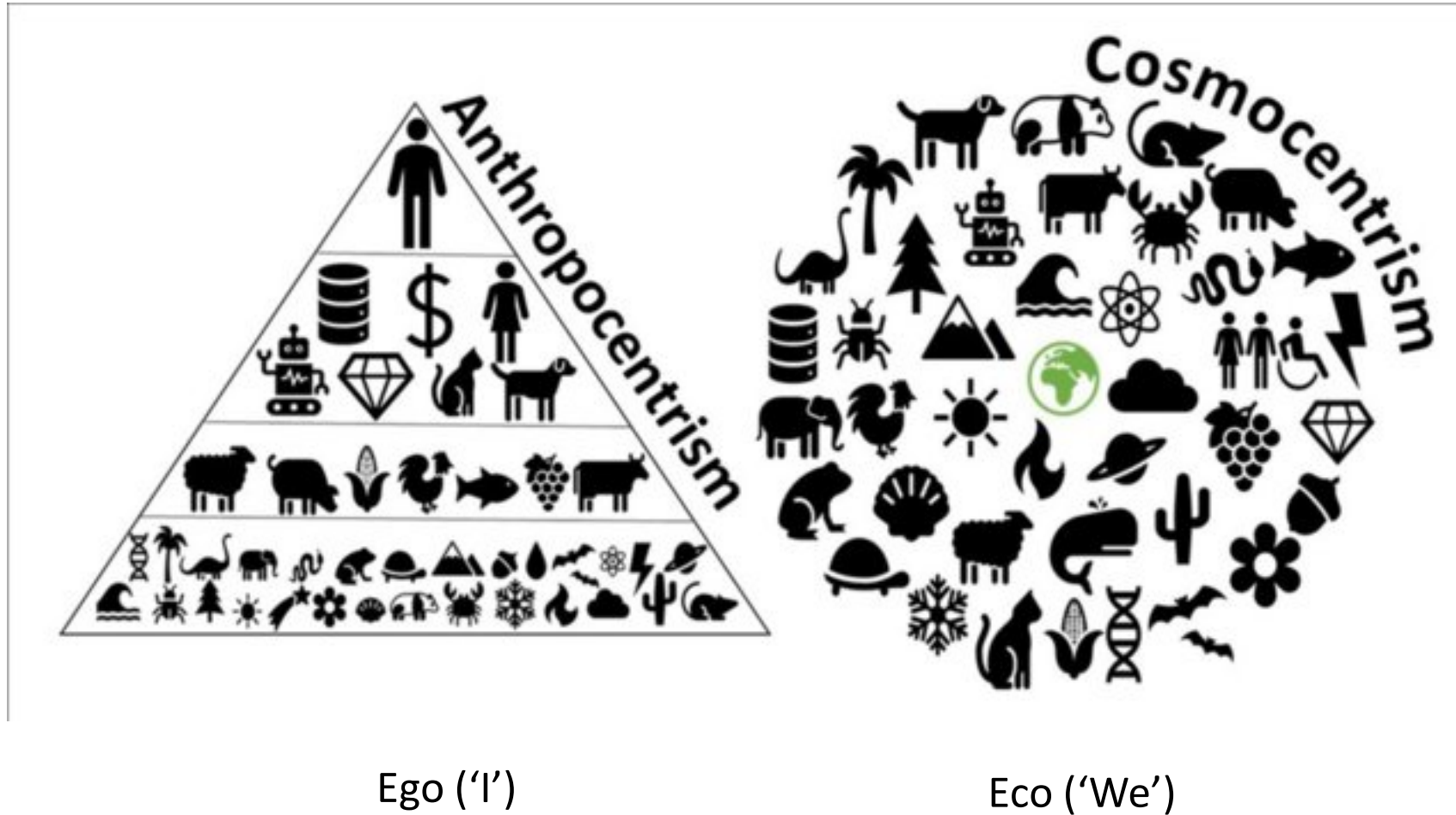
-Earth-centered jurisprudence systems govern both nature and global systems (i.e., there is a unity of natural laws between us).

-In the vision for a healthy future, it is important to create the conditions that enable the overcoming of the dissonance between 'being in nature' (i.e., nature that surrounds us) and 'being of nature' (i.e., nature that embodies us).

(Redvers et al, 2020a; Redvers et al., 2020b)



“Maya...cosmocentric worldview (CWV)—that is, a cosmology of conservation, or merged existence, where people, animals, plants, rivers, stones, clouds, etc., each played a role in maintaining the world.”



Intergenerational Equity

“We have been mortgaging the health of future generations to realize economic and development gains in the present.”

*~The Rockefeller Foundation–Lancet
Commission on Planetary Health*



Environmental – Public Health Chiasm

- Water Scarcity
- Changing Food Systems
- Biodiversity Shifts
- Climate Change
- Infectious Diseases
- Mental Health
- Global Pollution
- Changing Land Use and Land Cover
- Civil Strife and Displacement
- Urbanization
- Non-communicable diseases



Health Equity and Climate Change



Fundamentals

- The root causes and upstream drivers of climate change and health inequities are often the same
- The health risks and impacts of climate change are not equally or fairly distributed across people, communities or nations.
- Climate change exacerbates existing health and social inequities.

Forward Steps

- Interventions that act on upstream shared systemic causes can most effectively address both climate change and health inequities.
- Building political and economic power and voice are essential components of climate resilience.

Planetary Health

- Planetary health is a solutions-oriented, transdisciplinary field and social movement focused on analyzing and addressing the impacts of human disruptions to Earth's natural systems on human health and all life on Earth.



Planetary Health

- Planetary health as a 'field' is primarily a Western construct as Indigenous Traditional Knowledge systems have no clear separation between the health of the planet and the health of self or that of the community and ecosystem at large.
- This means that the meaning and applications of planetary health are directly rooted in community values based on protocols for living in harmony with all that have existed for thousands of years.

(Redvers, 2021)





Patient-Planetary Health Co-benefit Prescribing

- ...is an overarching terminology to denote any prescribing practice or clinical advice given that explicitly takes into account both the patients' and planets' health in the action of prescribing (*Redvers, 2021*).

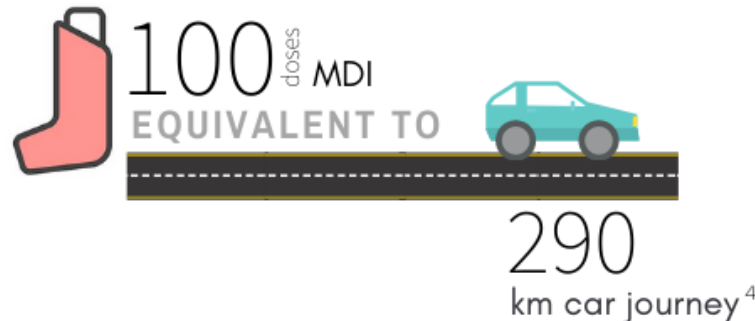
Environmentally Sustainable Opportunities for Health Systems

Metered dose inhalers (MDIs)

MDIs are common medical devices used to deliver inhaled medication. They are typically used in the treatment of asthma and chronic obstructive pulmonary disorder.¹

MDIs use HFC propellants to deliver medication.³

HFCs are artificial fluorinated gases that act as potent greenhouse gases (GHGs) when released into the atmosphere. These gases are widely used in industry, including the healthcare sector.



Hydrofluorocarbons (HFCs)

Common HFC propellants used in MDIs include:

HFC 134a

HFC 227ea**

370 GWP*²

3350 GWP*

*100 year time horizon

**Used to a lesser extent


Global
Warming
Potential
(GWP)



Global Warming Potential (GWP) is a standardization tool used to compare the global warming impact of different types of GHGs over a fixed time period (usually 100 years). It measures the amount of energy a given gas will absorb compared to the equivalent mass of carbon dioxide (CO₂), which has a standardized GWP of 1.

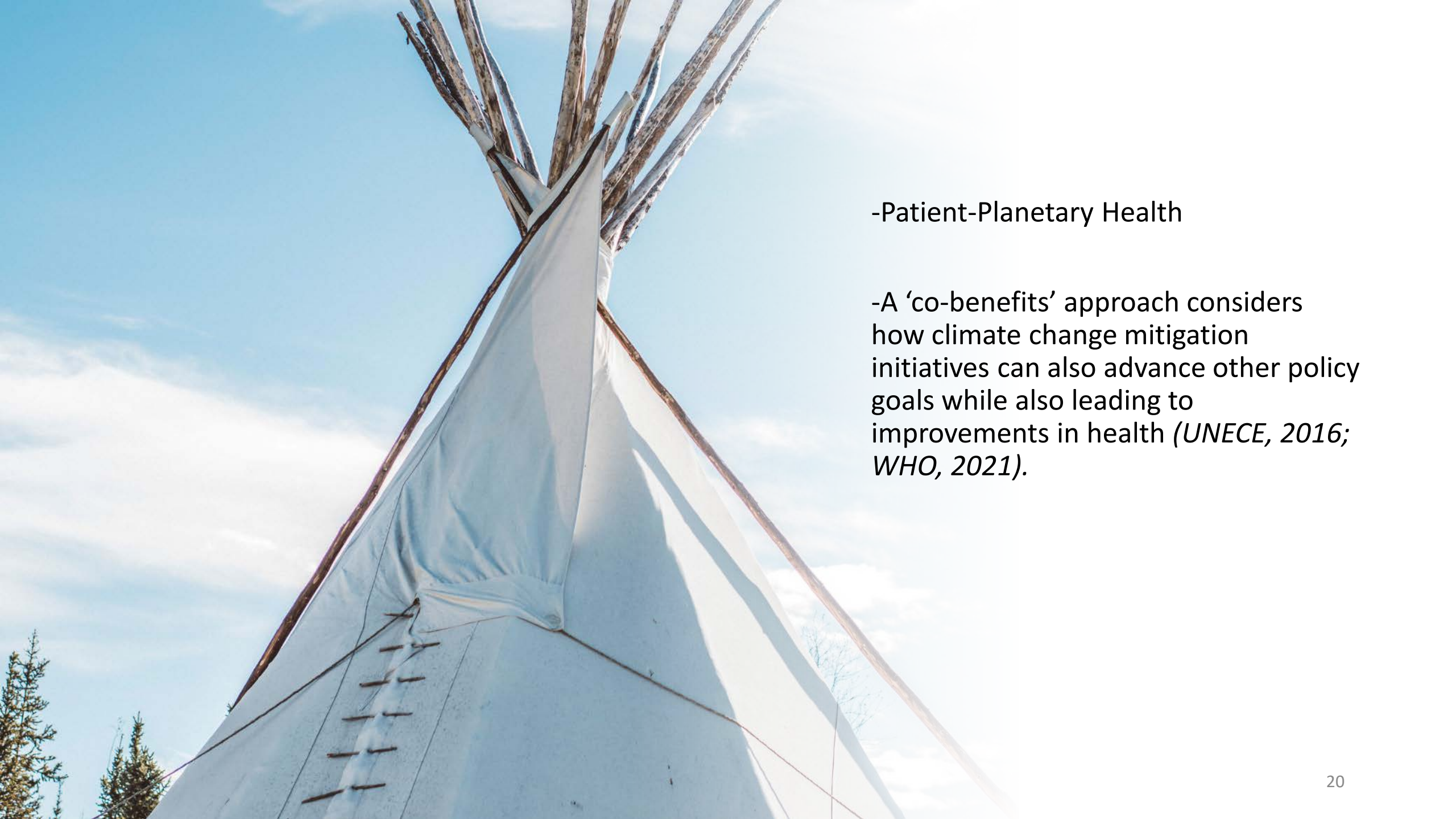
HFCs are “high-GWP gases” as they trap substantially more heat than CO₂ per unit mass.

Action guidance for addressing pollution from inhalational anaesthetics

J. A. Devlin-Hegedus , F. McGain, R. D. Harris, J. D. Sherman

First published: 21 June 2022 | <https://doi.org/10.1111/anae.15785> | Citations: 4

- Inhaled anesthetics account for 5% of acute hospital CO₂e emissions and 50% of perioperative department emissions in high-income countries.
- The global warming potential of desflurane, scaled by clinical potency, is approximately 40-50 times that of sevoflurane and isoflurane over a 100-year period (Desflurane is also significantly more expensive than other volatile anesthetics, with little evidence of clinical benefit justifying its use, and avoiding its use may have a cost savings benefit).
- Nitrous oxide is less potent than other inhaled anesthetics and must be used in high concentrations. It has a very long atmospheric life and its global warming impacts are similar to desflurane in clinically relevant doses.



-Patient-Planetary Health

-A 'co-benefits' approach considers how climate change mitigation initiatives can also advance other policy goals while also leading to improvements in health (*UNECE, 2016; WHO, 2021*).

The Determinants of Planetary Health: an Indigenous consensus perspective



Mother Earth level determinants

- Respect of the Feminine
- Ancestral Legal Personhood Designation

Interconnecting determinants

- Human Interconnectedness within Nature**
- Self & Community Relationships
- The Modern Scientific Paradigm
- Governance & Law

Indigenous Peoples level determinants

- Indigenous Land Tenure Rights
- Indigenous Languages
- Indigenous Peoples Health**
- Indigenous Elders & Children

“Take care of the Land and
the Land will take care of
you”

~Terry Teegee, a member of Takla
Lake First Nation



A pledge for planetary health to unite health professionals in the Anthropocene *(The Lancet, 2020)*

[https://www.thelancet.com/article/S0140-6736\(20\)32039-0/fulltext](https://www.thelancet.com/article/S0140-6736(20)32039-0/fulltext)



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