

Dimensions of the Doughnut



An introduction to each of the 21 social and ecological dimensions of the Doughnut

Version 2.0, September 2024
www.doughnuteconomics.org

Welcome to the Dimensions tool v.2

This tool is a series of slides that show each of the 21 dimensions of the Doughnut. For each dimension there is a short description, the data from the Global Doughnut (**soon Doughnut 3.0!**), and images of live initiatives/projects happening in practice all over the world.

These examples aim to capture the essence of the dimension and how we may *move* towards the Doughnut for each of them. There is still a lot of *movement* to be done in this respect, but each example shows a range of actions happening around the world to inspire and encourage people, particularly young people, who are so aware of the social and ecological challenges globally, and many of whom are so involved in leading action.

This tool can be used as a resource to support teaching in or outside education spaces, to present and/or expand ideas about the Doughnut, as well as a practical tool to use in workshop activities. A tool to use in everything that has to do with opening pathways towards thriving and regenerative futures!

Enjoy...

The DEAL Team

The examples shown for each dimension are intended as illustrations only. We fully recognise the challenge of seeking to represent such systemically complex issues with images from just one or two initiatives, and we welcome your suggestions for even better examples! Can you help? Please share.

On each slide you will find...

The dimension's **name and definition**

A **short description** and indication of the **current status** of the dimension.

Illustrative data on how humanity currently performs, in relation to the boundary.*

A thumbnail **Doughnut visualisation** showing in red any overshoot or shortfall*.



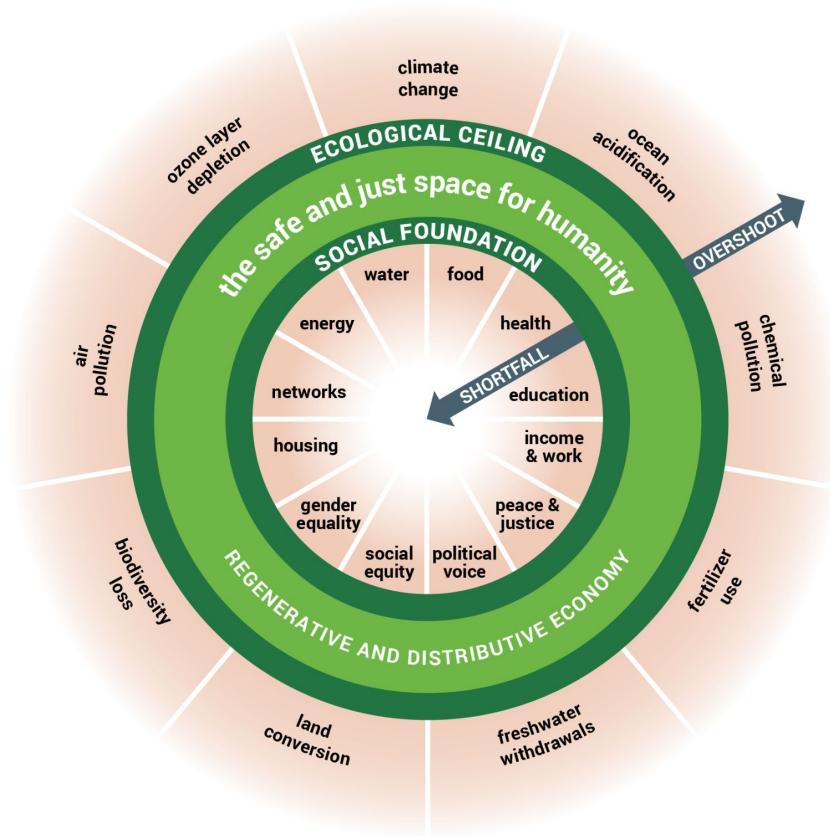
Examples of inspiring projects in which people are working together to get humanity into the Doughnut, with regard to the dimension at hand. **Click on each example's name** for further information.

This is an initial set of examples. If you spot any issues or have suggestions for improving this tool, please reach out to us via *Sharing back*, at the end of this document.



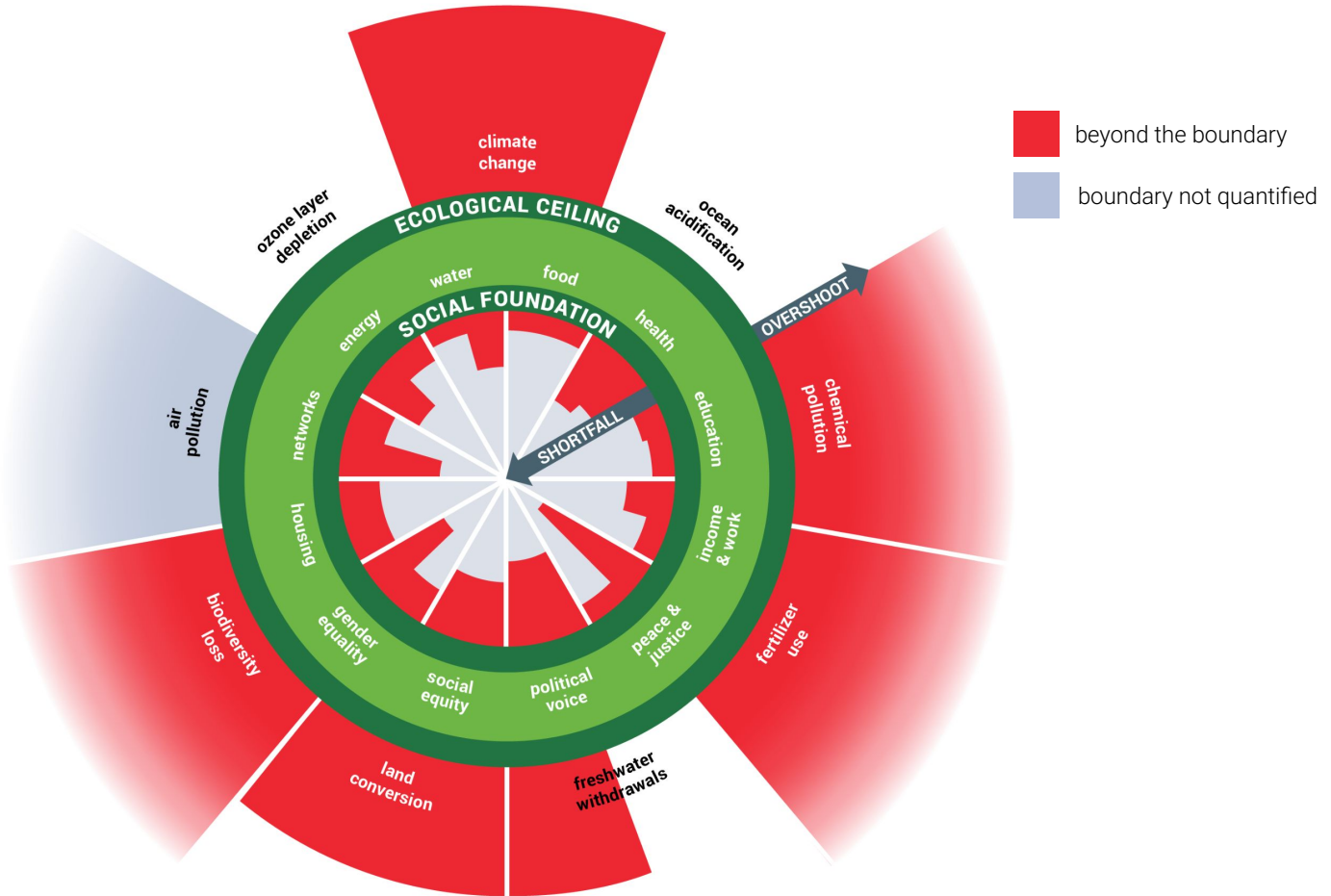
The Doughnut

This is the Doughnut. The goal of the Doughnut is to meet the needs of all people within the means of living planet. In other words, to live in the safe and just space for humanity.



Humanity's 'selfie'

Humanity is currently living far outside the Doughnut, on both sides - social and ecological - as all of the red wedges show. Billions of people still cannot meet their most essential needs while humanity has already collectively overshoot multiple planetary boundaries.



Explore the 21 Dimensions

As you explore each of the 21 Dimensions of the Doughnut, some questions you might want to consider are:

- How does this issue show up in your country?
- What kinds of policies or actions could help tackle the issue?
- How is this dimension related to other Doughnut dimensions?

If you are using this tool as part of Hello Doughnut! Foundational Tool, please follow the questions highlighted in the activity and/or reflection cards that you are using within your learning session.

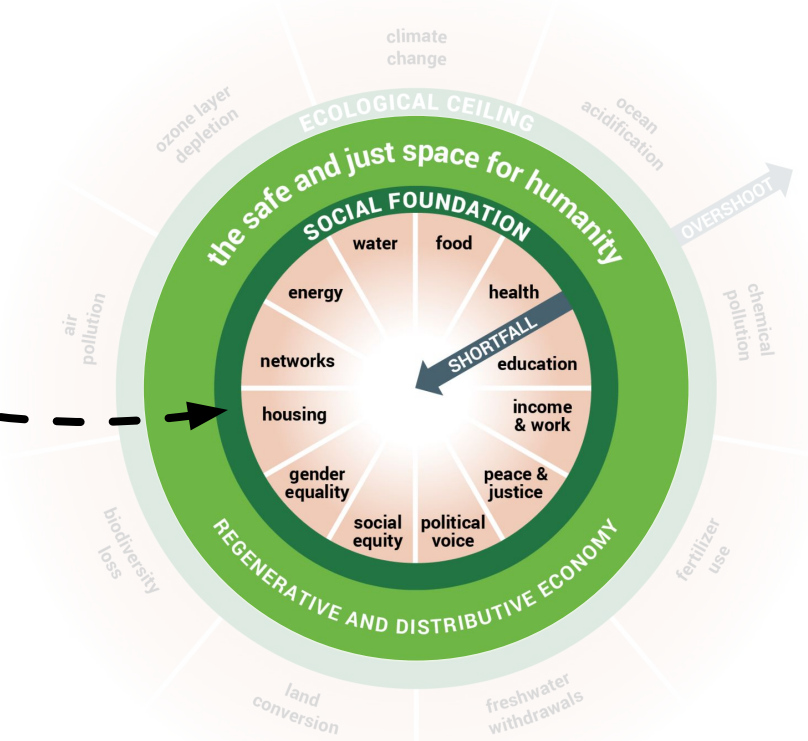
Part 1

Social foundation

The inner ring of the Doughnut, the Social Foundation, sets a boundary for **meeting the needs of all people**.

It includes *life's essentials for human wellbeing* - inspired by and derived from the Sustainable Development Goals of the United Nations.

Millions of people worldwide still cannot meet their essential needs.



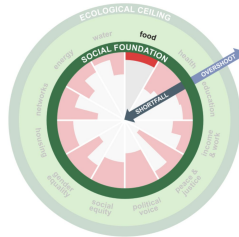
Food

Safe, sufficient, nutritious food for all



Food is a daily essential for a healthy life, which is why all people need to have secure access to sufficient, affordable, safe and nutritious food.

More than 800 million people worldwide are currently undernourished, and this number has been rising in recent years, especially in countries most affected by conflict and by the impacts of climate change.



Illustrative Indicators Population undernourished

% of global population 11%

Year and source 2014-2016 (World Bank)



Global coalition to end child hunger
[School Meals Coalition](#), Global



Greenhouse project by women farmers
[Kambuku Cooperatives](#), Malawi



Healthy and affordable food for families
[Big Bocs Bwyd](#), Wales



Ending hunger through urban farming
[AFO Acuaponía](#), Colombia

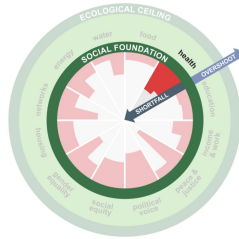
Health

Access to affordable, quality healthcare for all



Health services provide people with essential care and treatment for illness and injury, from birth to death. They also significantly reduce the prevalence of disease.

Globally, progress in tackling diseases such as malaria and tuberculosis has slowed or stalled. At least half the world's population do not have access to essential health services, and many of those who do still have to pay a high price for it, which too often pushes vulnerable families into poverty.



Illustrative Indicators	Population living in countries with under-five mortality rate exceeding 25 per 1,000 live births	Population living in countries with life expectancy at birth of less than 70 years
% of global population	46%	39%
Year and source	2015 (World Bank)	2013 (World Bank)



Healing through biodiverse nature
[Khoo Teh Puat Hospital](#), Singapore



Improving lives through accessible healthcare
[Tribal Health Initiative](#), India



Creating a safe place for children in care
[Hospital, Bolivia Digna](#), Bolivia



Accessible health clinic in the Andes
[CerviCusco](#), Peru

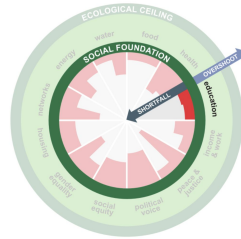
Education

Access to lifelong learning for all



Education is foundational to every person's ability to participate in society and to take up opportunities throughout their life.

Over 250 million children worldwide are still out of primary and secondary school. The reasons range from a shortage of qualified teachers and a lack of toilets in schools to prohibitive school fees and discrimination against girls and minorities.



Illustrative Indicators	Adult population (aged 15+) who are illiterate	Children aged 12-15 out of school
% of global population	15%	17%
Year and source	2013 (UNESCO)	2013 (UNESCO)

Democratizing education for refugees and local students
Spectrum Transformation Services, Uganda



Art workshops in climate-affected communities
For the Future, Philippines



Supporting the education system in Ukraine
Global Partnership for Education (GPE), UNESCO, Ukraine



Environment, food security, and agriculture education
School Gardening, Food & Trees for Africa, Africa

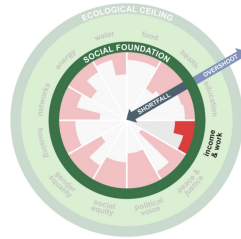
Income & work

Decent work and adequate income for all



Work that is safe, meaningful and fairly paid provides essential income for households to meet many of their needs and wants.

More than two billion people worldwide live in income poverty and around half a billion people are un- or underemployed. Many millions more work in dangerous and exploitative conditions, and are denied the right to organise and bargain collectively.



Illustrative Indicators	Population living on less than the international poverty line of \$3.10 a day	Proportion of young people (aged 15-24) seeking but not able to find work
% of global population	13%	9%
Year and source	2012 (World Bank)	2014 (ILO)



Poverty reduction through the protection of ecosystems
[Tropical Forest and Rural Development](#), Republic of Cameroon



Empowering women through education, childcare, healthcare
[Creative Handicrafts](#), India



Community-first approach to tourism
[Fairbnb.coop](#), Europe



Urban Housing Projects
[urbaMonde](#), South Africa

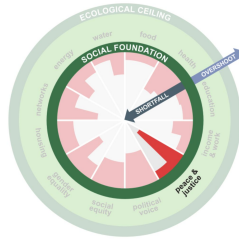
Peace & justice

Personal security, government accountability, and access to justice for all



Peaceful and just societies enable people to live in their communities, free from fear and exploitation. They likewise tackle corruption in business and politics by building effective and accountable institutions at all levels.

Worldwide, over 70 million people have been forcibly displaced from their communities primarily due to armed conflict, violence, human rights violations, and climate change.



Illustrative Indicators	Population living in countries scoring 50 or less out of 100 in the Corruption Perceptions Index	Population living in countries with a homicide rate of 10 or more per 10,000
% of global population	85%	13%
Year and source	2012 (Transparency International)	2008-2013 (UNODC International)



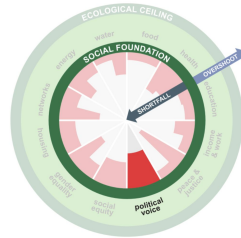
Political voice

Ensure people have voice in, and influence over, decisions that affect their lives



Democratic institutions, freedom of expression, freedom of association, and a free media all tend to support more inclusive, participatory and representative decision-making in public life.

Half the world's population, however, currently live in countries whose institutions fall significantly short on ensuring this.



Illustrative Indicators Population living in countries scoring 0.5 or less out of 1.0 in the Voice and Accountability Index

% of global population 52%

Year and source 2013 (World Bank)



Youth-led strike action for climate
[Climate Strike, Fridays for Future, Global](#)



Collaborative working for future change
[Future Generations Lab, Netherlands](#)



Resources to teach First Nations perspectives
[Australians Together, Australia](#)



Law incorporating Nature's right to exist
[Government of Panama, Panama](#)

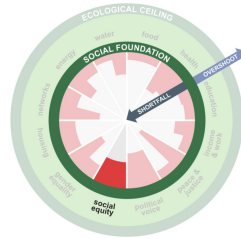
Social equity

Ensure quality of opportunity, and equality income



People living in more equal societies tend to be healthier, safer, and more trusting compared to those in less equal societies.

There are wide and growing inequalities of income and wealth in many countries. These inequalities are frequently exacerbated by inequalities of race and ethnicity, sexual orientation, religion, age, language, disability and location.



Illustrative Indicators Population living in countries with a Palma ratio of 2 or more (the ratio of the income share of the top 10% of people to that of the bottom 40%)

% of global population 39%

Year and source 1995-2021 (World Bank)

Supporting children with limb-loss to live self-sufficiently
[Irede Foundation](#), Africa



Violence against women prevention and gender equality
[Instituto Promundo](#), Brazil



Rights and education for migrant domestic workers
[The Voice of Domestic Workers](#), United Kingdom



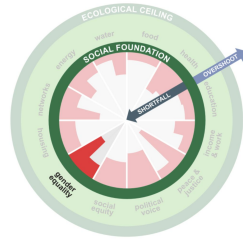
Enhancing disabled people's lives
[Wheels for Wellbeing](#), United Kingdom

Gender equality

Achieve gender equality and empower all women and girls



Ensuring that women and girls have equal access to education, health care, decent work, and representation in political and economic decision-making processes are essential elements of just societies.



Women and girls continue to face discrimination and violence in every part of the world. Gender equality is not only a fundamental human right, but a necessary precondition for a peaceful and prosperous world.

Illustrative Indicators	Representation gap between women and men in national parliaments	Worldwide earnings gap between women and men
% of global population	56%	23%
Year and source	2014 (World Bank)	2013 (World Bank)



Equipping impoverished young women and girls with education
[Girls Leading Change](#), Honduras



Female advocacy and empowerment in urban environments
[WomenMakeTheCity](#), Netherlands



Against sexual and gender-based violence and for reproductive rights
[Yayasan Gemilang Sehat Indonesia](#), Indonesia



Empowering girls across Asia
[Asian Girls Campaign](#), Asia

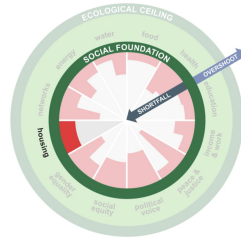
Housing

Decent, affordable, safe housing for all



Sustainable and resilient homes and settlements are foundational for creating thriving communities, and for reducing the risk of natural disasters and climate change.

Close to one billion people (and rising) live in slums – in overcrowded, poor-quality dwellings, often with inadequate drinking water and sanitation services.



Illustrative Indicators Proportion of global urban population living in slum housing in developing countries

% of global population 24%

Year and source 2012 (UN)



Improving housing conditions through education
[Mwanza Rural Housing Programme](#), Tanzania

Right to use housing cooperative
[Sostre Cívic](#), Spain



Improving housing through upskilling for women collectives
[Mahila Housing Trust](#), India

Co-created housing and urban development
[Half-house development](#), Chile



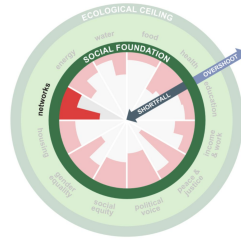
Networks

Access to networks - of transport, of communications, and of community support



Transport infrastructure, digital communications, and social connections are crucial for creating opportunity and for building community wellbeing and resilience.

Half the world's population have no access to local public transport, over 40% of people cannot access the Internet at home, and one person in four says they have no one to count on in times of trouble.



Illustrative Indicators	Population stating that they are without someone to count on for help in times of trouble	Population living in countries with a homicide rate of 10 or more per 10,000
% of global population	24%	57%
Year and source	2015 (Gallup)	2015 (ITU)



Making cycling paths safer for women
Safetipin App. Global



Supporting refugees through sport
ACCESS (Jordan). Jordan

Advocates for free public transport for communities
Tarifa Zero Belo Horizonte. Brazil



An online cooperative for communities
Gebiedonline. Netherlands

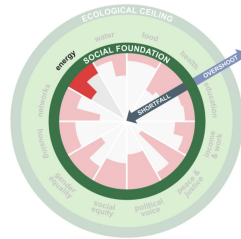
Energy

Access to clean, affordable energy services for all



Gaining access to electricity can be transformative - for children's education, household life, community healthcare and the local economy.

Despite progress, nearly 800 million people still live without electricity, and the share of renewable energy used worldwide is far too low. In addition, 3 billion people still depend on fuels like wood, dung and kerosene for cooking, which creates damaging indoor air pollution especially affecting women and girls.



Illustrative Indicators	Population lacking access to electricity	Population lacking access to clean cooking facilities
% of global population	17%	38%
Year and source	2013 (OECD/IEA)	2013 (OECD/IEA)



Clean power empowering women
[Solar Sister](#), Africa



Clean water and renewable energy in remote areas
[OffGridBox](#), Africa



Affordable solar power for everyone
[Salpha Energy](#), Nigeria



Renewable energies cooperative
[Energiegenossenschaft Starkenburg](#), Germany

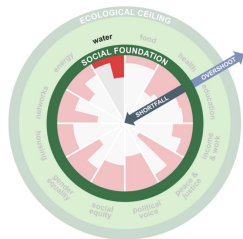
Water & sanitation

Access to clean water and decent sanitation



Water is a daily essential for drinking, bathing, cooking, and washing clothes.

Billions of people still don't have access to safe drinking water, or to a hygienic toilet. This exacerbates the spread of diseases like cholera and diarrhea, which cause millions of preventable childhood deaths every year.



Illustrative Indicators	Population without access to improved drinking water	Population without access to improved sanitation
% of global population	9%	32%
Year and source	2015 (WHO/ UNICEF)	2015 (WHO/ UNICEF)

Sanitation and waste management through the circular economy
[Sanergy Collaborative](#). Global



Improving water, sanitation, hygiene, and menstrual health for youth
[Splash](#). Global

Access to drinking water, sanitation, and hygiene education
[Planet Water Foundation](#). Global



Communities sustainably managing their own safe water
[Safe Water Network](#). India and Ghana



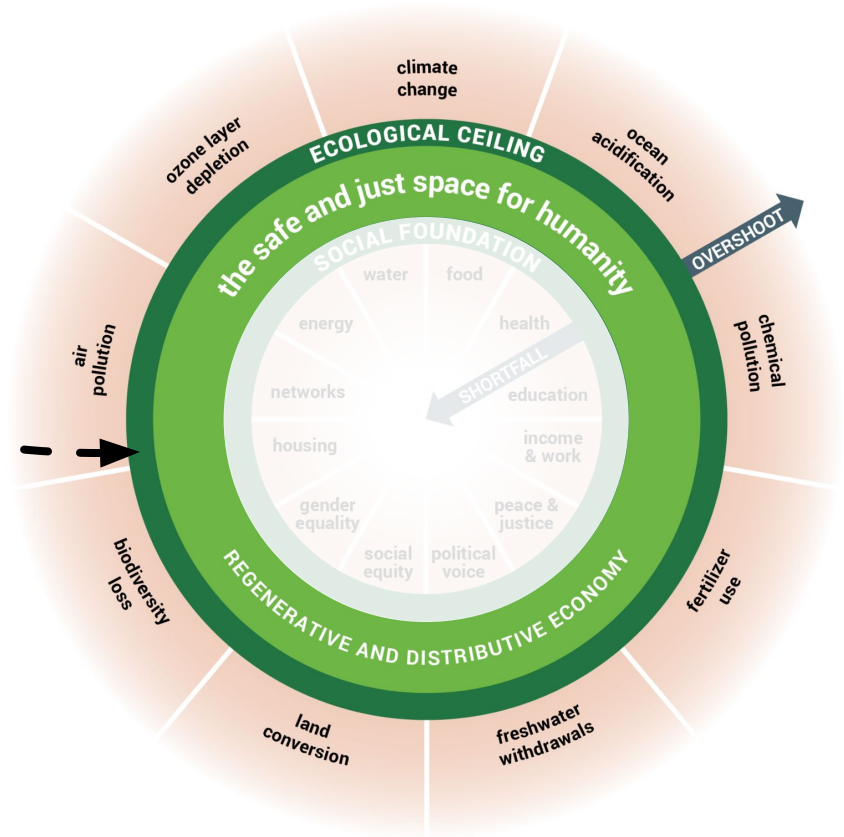
Part 2

Ecological ceiling

The outer ring of the Doughnut, the Ecological Ceiling, sets **a boundary for a healthy planetary home.**

This ceiling has been defined by the framework of 9 planetary boundaries. Since its creation in 2009 the framework has been revised several times. In the latest update (2023), six of the nine boundaries have been transgressed.

Human activity is overshooting many of the planetary boundaries.

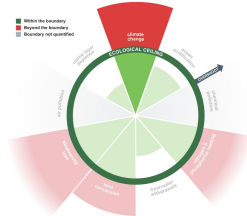


Climate change

Long-term shifts in temperatures and weather patterns



When greenhouse gases such as carbon dioxide, methane and nitrous oxide are released into the air, they enter the atmosphere and amplify Earth's natural greenhouse effect, trapping more heat within the atmosphere. This results in global heating, whose effects include rising temperatures, more frequent droughts, floods and storms, and sea level rise.



Control variable	Atmospheric carbon dioxide concentration, parts per million
Planetary boundary	At most 350 ppm
Current value, (% of PB) & trend	400ppm and rising. (169%). Worsening
Source	Steffen et al., 2015



Federation of African youth for climate
[African Youth4Climate](#), Africa



Sustainable and affordable energy systems
[SELCO India](#), India



Tax initiative to fund climate protection
[Climate Protection Fund](#), United States



Taking governments to court
[Climate Litigation Network](#), [Urgenda](#), Global

Ocean acidification

Ongoing decrease in the pH of the Earth's ocean



Around one quarter of the carbon dioxide emitted by human activity is eventually dissolved in the oceans, where it forms carbonic acid and decreases the pH of the surface water. This acidity reduces the availability of carbonate ions that are an essential building block used by many marine species for shell and skeleton formation. This missing ingredient makes it hard for organisms such as corals, shellfish and plankton to grow and survive, thus endangering the ocean ecosystem and its food chain.



Control variable	Average saturation of aragonite (calcium carbonate) at the ocean surface, as a percentage of pre-industrial levels
Planetary boundary	At least 80% of pre-industrial saturation levels
Current value, (% of PB) & trend	~84%. (%78). Worsening
Source	Steffen et al., 2015



Ocean acidification prevention
[Forests to Reduce Ocean Acidification](#), United States



Empowering Filipino people to protect the sea
[People and the Sea](#), Philippines



Monitoring native oyster populations
[Hog Island Oyster Co.](#), United States



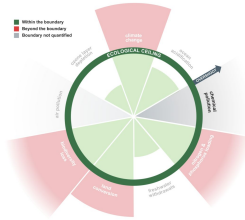
Ocean acidification prevention
[GOA-ON in a Box](#), Global

Chemical pollution

Increased contamination of our environment with chemicals that are not found there naturally



When toxic compounds, such as synthetic organic pollutants and heavy metals, are released into the biosphere they can persist for a very long time, with effects that may be irreversible. And when they accumulate in the tissue of living creatures, including birds and mammals, they reduce fertility and cause genetic damage, endangering ecosystems on land and in the oceans.



Control variable - No global control variable yet defined

Planetary boundary -

Current value, (% of PB) & trend -

Source -



Indigenous ancestral knowledge to protect the Amazon
[Chaikuni Institute](#), Peru



Community project working against plastic pollution
[The Great Nurdle Hunt](#), United Kingdom



Focusing on the connection between plastics and health
[Plastic Soup Foundation](#), Antarctica



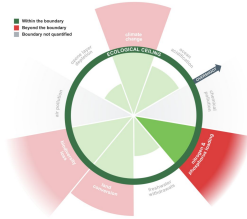
Large-scale litter removal from oceans and rivers
[The Ocean Cleanup](#), Global

Excessive fertiliser use

Any material of natural or synthetic origin applied to soil or to plant tissues to supply plant nutrients



Reactive nitrogen and phosphorus are widely used in agricultural fertilizers but only a small proportion of what is applied is actually taken up by crops. Most of the excess runs off into rivers, lakes and oceans, where it causes algae blooms that turn the water green, brown or even red. These blooms can be toxic and they kill off other aquatic life by starving the water of oxygen.



Control variable	Phosphorus applied to land as fertilizer, millions of tons per year	Reactive nitrogen applied to fertilizer, millions of tons per yr.
Planetary boundary	at most 6.2 million tons per year	at most 62 million tons per year
Current value, (% of PB) & trend	~14 million tons per year and rising (229%). Worsening	~150 million tons per year and rising (217%). Worsening
Source	Steffen et al., 2015	Steffen et al., 2015



Saving the world's coral reefs
Coral Reef Alliance. Global



Cleaning polluted water using new technology
Nanjing Institute of Geography and Limnology. China



Sustainable farming practices
Teitei Taveuni. Fiji



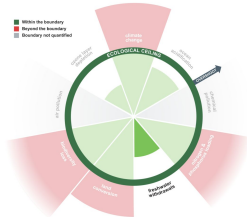
Ocean protection from phosphates
Phosphate Campaign. Surfers Against Sewage. United Kingdom

Freshwater withdrawal

Freshwater taken from ground or surface water sources, either permanently or temporarily



Water is essential for life and is widely used by agriculture, industry and households. Excessive withdrawals of water, however, can impair or even dry up lakes, rivers and aquifers, damaging ecosystems and altering the hydrological cycle and climate.



Control variable	Blue water consumption, cubic kilometres per year
Planetary boundary	at most 4000 km ³ per year
Current value, (% of PB) & trend	~2600 km ³ per year (61%). Intensifying
Source	Steffen et al., 2015

Wetland restoration in the Mediterranean
[Wetland-Based Solutions](#), Europe



Minimising wasteful use of water with smart irrigation
[TAHMO Social Enterprise](#), Ghana



Collective action for water stewardship
[The Water Stewardship Programme](#), Spain



Making groundwater understandable
[The Groundwater Project](#), Canada

Land conversion

A change in the primary usage of the land, from natural forested condition to human use



Converting land for human use – such as turning forests and wetlands into cities, farmland and highways – depletes Earth’s carbon sinks, destroys rich wildlife habitats, and undermines the land’s role in continually cycling water, nitrogen and phosphorus.



Control variable Area of forested land as a proportion of forest-covered land prior to human alteration

Planetary boundary at least 75%

Current value, (% of PB) & trend 62% and shrinking (152%) worsening

Source Steffen et al., 2015



Community natural resource management
[Ujamaa Community Resource Team](#), Tanzania

Multinational effort to restore a diversity of ecosystems
[The Great Green Wall](#), Sahel Region



Protected natural habitat for marine animals
[Pilbara Islands Nature Reserves](#), Australia

Mitigating tropical deforestation in supply chains
[Our Deforestation Free Champions Campaign](#), United Kingdom

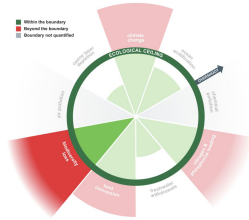


Biodiversity loss

Loss or decline in the number, genetic variability, variety of species, and biological communities



A decline in the number and variety of living species damages the integrity of ecosystems and accelerates species extinction. In doing so it increases the risk of abrupt and irreversible changes to ecosystems, reducing their resilience and undermining their capacity to provide food, fuel and fibre, and to sustain life.



Control variable	Rate of species extinction per million species per year
Planetary boundary	at most 10
Current value, (% of PB) & trend	Around 100-1000 and rising (1000%). Worsening
Source	Steffen et al., 2015



Air pollution

Contamination of the air due to substances that are harmful or with poisonous effects



Micro-particles, or aerosols, emitted into the air – such as smoke, dust and pollutant gases – can damage living organisms. Furthermore, they interact with water vapour in the air and so affect cloud formation. When emitted in large volumes these aerosols can significantly alter regional rainfall patterns, including shifting the timing and location of monsoon rains in tropical regions.



Control variable	No global control variable yet defined
Planetary boundary	-
Current value, (% of PB) & trend	-
Source	-



Student campaign for air quality awareness
[Dr. Air Bear](#), Myanmar



Tree planting campaign
[#FreetownTheTreeTown](#), Sierra Leone

Relieving traffic, encouraging active lifestyles
[Kigali Car Free Day](#), Rwanda



Mobilising citizens to solve the air pollution crisis
[Help Delhi Breathe](#), India

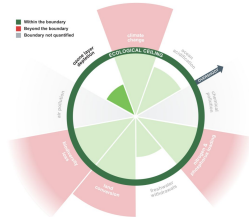


Ozone layer depletion

The thinning or hole of Earth's atmosphere ozone layer



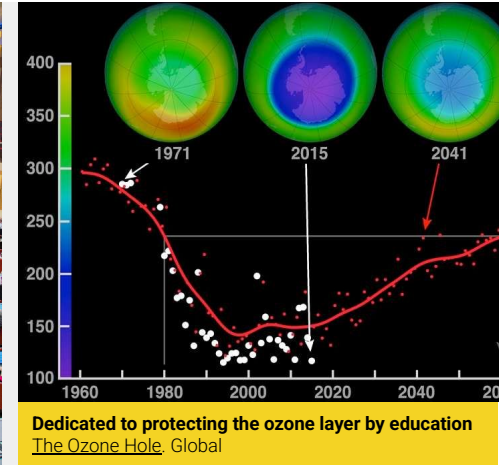
Earth's stratospheric ozone layer filters out ultraviolet radiation from the sun. Some human-made chemical substances, such as chlorofluorocarbons (CFCs) will, if released, enter the stratosphere and deplete the ozone layer, exposing Earth and her inhabitants to the sun's harmful UV rays.



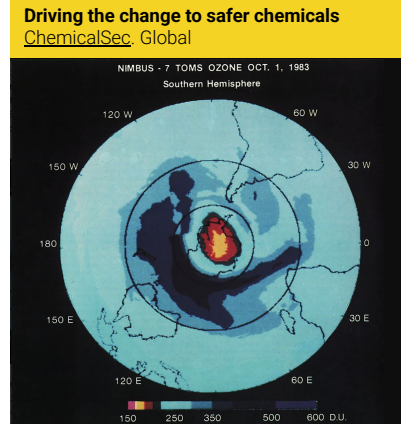
Control variable	Concentration of ozone in the stratosphere, in Dobson Units
Planetary boundary	at least 275 DU
Current value, (% of PB) & trend	283 DU and rising (47%). Improving
Source	Steffen et al., 2015



International environmental treaty
The Montreal Protocol, UN, Global



Dedicated to protecting the ozone layer by education
The Ozone Hole, Global



Driving the change to safer chemicals
ChemicalSec, Global



Pioneering CFC-free refrigerators in the 1990s
Greenpeace, Global

Sharing back to inspire others

In the spirit of reciprocity, and peer-to-peer inspiration, we ask that you share back your experience and learnings from using this tool with others in the DEAL Community, via the DEAL Community Platform.

- Share back your experience and learning on our photo stream, and/or creating a story or tool for use and adaptation. We know it will be hugely inspiring to others!
- Contact us with any questions or feedback to help us improve the tools, thank you!

Sharing global action

DEAL is always looking for new, impactful, and inspiring initiatives that show what it means to aim to live within the Doughnut's dimensions. We are looking for examples of what is happening in practice from all over the world to keep this tool as up to date as possible. Know of a project? [Share the project here.](#)

Dimensions of the Doughnut

Acknowledgements

Dimensions of the Doughnut v2.0 tool was created by

Aimee Laurel, Carolina Escobar-Tello, Kate Raworth, and Ruurd Priester with contributions by the DEAL Team.

We would like to thank

Everyone around the world who have generously submitted their projects and initiatives as examples of what it means to move towards the Doughnut in each dimension.

Image sources

The ideas and diagrams of Doughnut Economics, and the tools and stories of DEAL are all in the commons. However, this version of the Dimensions of the Doughnut Tool uses publicly available online images sourced directly from each organisation, which are subject to their own usage rights as we do not claim to own these. We've asked each organisation for permission to use their image in the tool; and as permission is subject to change, images from this tool may be updated in future versions. Transformative action is collective work, and we're grateful for the effort made by all the photographers and creatives who help share in the witnessing of social and ecological action around the world.

Regarding featuring young people in our images

Where applicable, we looked to feature children and young people in our tool. It's important for us to feature young people acting in the face of climate breakdown to encourage young generations to feel that they, too, possess the power to change the world.

Dimensions of the Doughnut

An introduction to each of the 21 social and planetary dimensions of the Doughnut

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