



# Impact Report FY23

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Our mission is to help people, businesses, and governments to operate within the planet's limits - because we believe that living well requires a healthy planet.

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# Message from the CEO & Chairmen

The global challenge of staying within our planet's boundaries has never been more urgent. The stark realities of environmental degradation and climate change underscore the pressing need for transformative change. FY23 saw climate induced droughts across Europe, East Africa, China, and South America, while Australia, New Zealand, and Pakistan battled with severe flooding. The Chinese paddlefish, Mountain Mist frog, and the Ivory-Billed woodpecker were amongst the animals declared extinct from over-fishing, hunting, and habitat destruction. Almost 6 million premature deaths were caused by air-pollution. January 1st was the warmest since measuring began.

Here in New Zealand the risk of environmental overshoot was felt personally by many as Cyclone Gabrielle and Auckland floods caused widespread destruction, devastating loss of lives, and expensive recovery that will continue for a long time.

It is imperative that we act immediately to halt our trajectory of environmental destruction and begin our journey to a regenerative future. PAN's significance in this context cannot be overstated; to have any chance of success we need to be able to make decisions in context of what is scientifically necessary.

FY23 was a year of continued progress and growth for PAN. Notable achievements include:

- Doubling our engagement to promote the Planetary Boundaries as a universal concept;
- Launching of our member training and networking program as a critical step towards building a more connected and informed community;
- Establishing strategic planning tools to enable small and medium scale enterprises to incorporate Planetary Accounting Thinking into their decision making processes;
- Advancing our flagship initiative, Planetary Facts, to its Pilot phase, to work hand in hand with businesses to support them to deliver products and services that align with a healthy planet and to communicate this with their customers.

Looking ahead FY24 is shaping up as an exciting year with initiatives including:

- Supporting the Dunedin City Council to develop the Otepoti Doughnut - a city-scale planetary accounting assessment for Dunedin that advances global progress towards translating Doughnut Economics to actionable roadmaps;
- Digitizing our member training program to enable broader access and engagement, empowering more individuals and organizations to contribute to our vision;
- Formalizing Planetary Accounting qualifications, further cementing our position as pioneers in this field;
- Establishing a new branch of our network called Implementation Partners – organisations who work with us to digitise Planetary Accounting solutions

Despite the challenges ahead, we remain optimistic that we will achieve a future where we not only stay within the planet's environmental limits but thrive within them. We would like to thank our team, network, and wider community for your continued support on this journey.



ANDREW COWIE  
Chairman FY23



KATE MEYER  
Founding Director  
CEO



RICHARD LAUDER  
Chairman FY24

# Entity Information

The Planetary Accounting Network (PAN) was incorporated on the 3<sup>rd</sup> January 2019 as a registered charity (CC56788).

**Purpose:**

To help people, businesses, and governments to operate within the planet's environmental limits.

**Our Vision:**

To enable and inspire every person to play their role as guardians for our planet.

**Our Mission:**

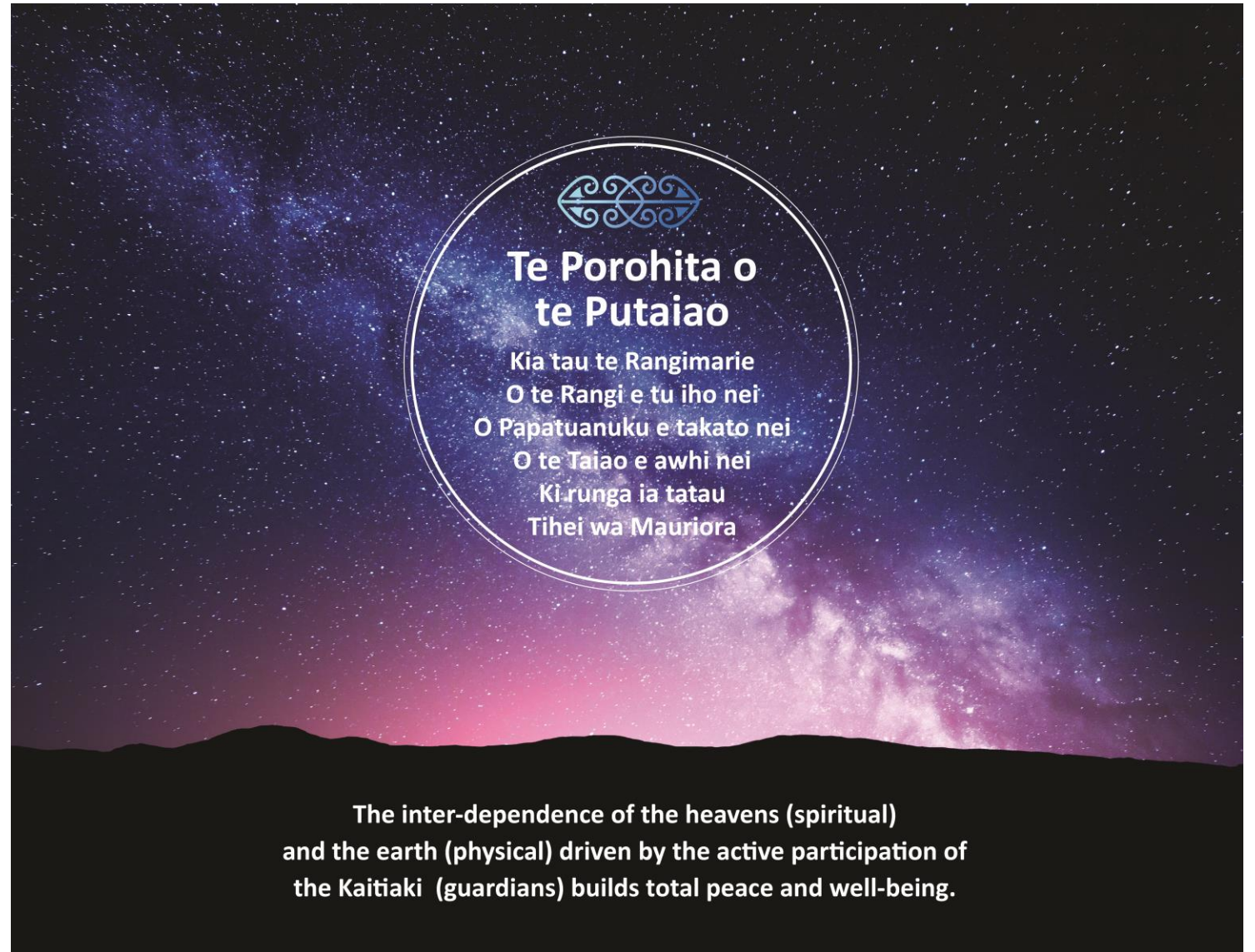
To make Planetary Accounting easy to access, easy to understand, and easy to use.

... because living well requires a healthy planet.

[info@planetaryaccounting.org](mailto:info@planetaryaccounting.org)

+64 226566213

[www.planetaryaccounting.org](http://www.planetaryaccounting.org)



# The Story of Planetary Accounting

2009



In 2009, a group of internationally renowned scientists identified nine “non-negotiable” environmental limits for the planet – which they called the Planetary Boundaries. In 2023 we are exceeding six.



2019

In 2019, Kate established a board of trustees and founded the Planetary Accounting Network, to help people, businesses, and governments to use the framework to support sustainability efforts that align with what is scientifically necessary.



2013

In 2013, PAN’s Founder - Kate Meyer was frustrated in her role as a sustainability consultant that “sustainability” typically focused on how to do less bad – rather than what was needed to restore the planet to good health. Kate left her job to work on a solution under the umbrella of a PhD.

2016

By 2016, a draft solution was ready. Knowing that to reach its potential, the framework would need rigorous peer review – Kate contacted several international experts, including the lead authors of the Planetary Boundaries framework. The response was exceptional. Fast track to six months later, Kate packed her preschoolers and husband into a caravan and hit the road to spend the next 12 months meeting experts across Europe.

2017

16 Research visits, 8 vehicle breakdowns, 6 conferences, 4 trips to A&E, 2 dislocated knees, and the purchase of a previously stolen caravan later, the Planetary Accounting Framework had been extensively reviewed and revised. The framework was published in Springer’s Sustainable Earth Journal that year and as a Springer textbook the following year.

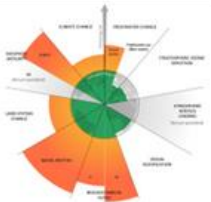
2023

Today, many of the experts Kate met are still strong supporters of Planetary Accounting and PAN – as one of the only frameworks that enables the consistent and robust translation of global environmental limits, beyond carbon, to the scales we need to make decisions.

# Planetary Accounting

We are living beyond critical global environmental limits; the risk of fundamentally, irreversibly, and catastrophically altering the state of the planet is high.

**Planetary Boundaries**



**Earth System Boundaries**



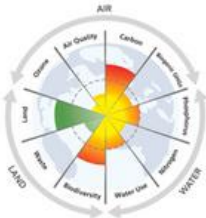
**Doughnut Economics**



**Sustainable Development Goals**



Planetary Accounting translates mission-critical environmental limits to local scales to enable science-based decision making, beyond carbon, at any scale. We can do this at a regional scale, whilst linking it to national goals, corporate targets, and community lifestyle.



**Product**



**Community**



**Corporate**



**Regional**



**National**



At every scale of application, Planetary Accounting is fundamentally the quantification of the environmental footprints of human activity that consider impacts on air, land, and water, and comparing these against global limits – to provide easy to understand data, in context, for decision making.

# What We Do

## Our Key Activities

We enable change through:

### Engagement

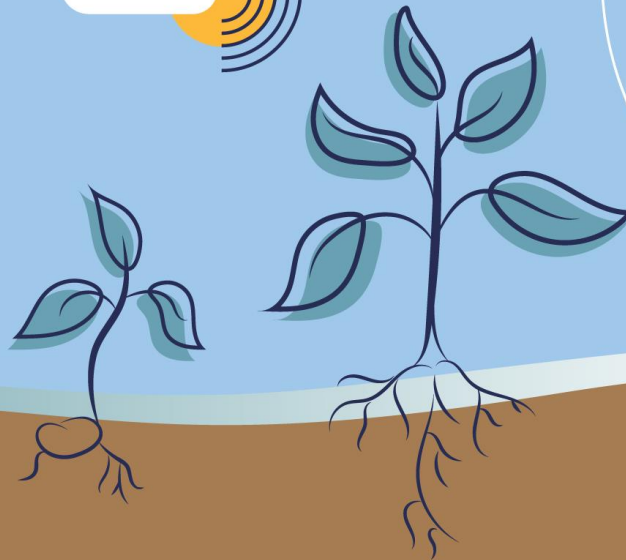
Promote “living within Planetary Boundaries” as a universal concept to increase awareness and promote uptake.

### Applications

Establish and support applications of Planetary Accounting at different scales from individual or product, to corporate, or national.

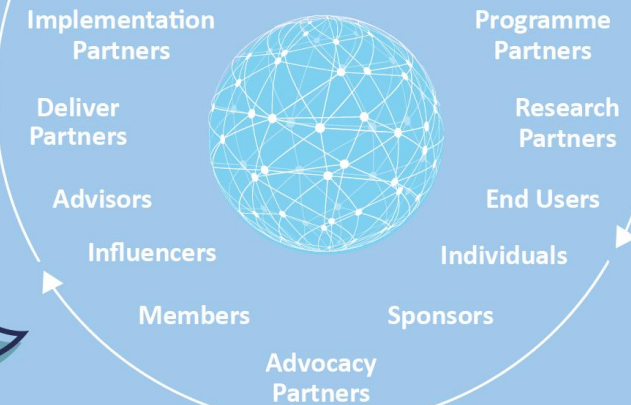
### Training

Provide direct and affiliate training & education to support the uptake of Planetary Accounting.



## Our Network

Amplifies our impact by engaging, collaborating, testing, enabling, advancing, supporting, and scaling our work



## Our Core

Planetary Accounting is quantifying environmental footprints in the context of planetary limits; science-based sustainability, beyond carbon, at any scale. Everything we do is underpinned by our R&D programme to maintain and update the core framework as the custodians of Planetary Accounting.

# Engagement

**At PAN, we actively promote “living within the Planetary Boundaries” as a universal concept to increase awareness and promote uptake.**

In FY23 we reached over 35,000 people! Our engagement activities included

## **Network Events**

- PAN hosted 6 training and networking events to increase our Members’ knowledge and understanding of how they can incorporate Planetary Accounting into their decision making at work and beyond.

## **Talks & Presentations**

- More than 1,500 people learnt about Planetary Accounting via presentations at conferences, panel discussions, and webinars.

## **Publications**

- Our publications, including the Planetary Accounting textbook, academic articles and other written collateral reached over 20,000 people

## **Social Media**

- Our social media engagement increased 10-fold from FY22 to FY23

“We joined the network to learn from other professionals in the field of Sustainability, and to support the work PAN is pioneering in labelling and transparency.”

*Lorietta Bahr, Sustainability Advisor | Lion*





# Training



**In FY23 we began to provide training and education to support the uptake of Planetary Accounting.**

In FY23 we launched our Network Training & Delivery Partner Secondment Programme:

Our Network Training was delivered via interactive webinar sessions with breakout rooms for workshop activities and covered topics such as:

- An introduction to the Anthropocene
- Understanding Planetary Boundaries
- Translating Planetary Boundaries to Planetary Accounting
- The UNEP Driver-Pressure-State-Impact-Response Framework

\*In FY24 we are moving to an online delivery system to enable wider uptake and understanding of Planetary Accounting and related topics.

Our Delivery-Partner secondment programme provided on-the-job learning opportunities for selected people from our Delivery Partner organisations.

*“My secondment was driven by my own need to be able to make better purchasing decisions and be more informed. Through the secondment I learnt about carbon accounting, LCAs, and the planetary boundaries. Most importantly it’s made me excited about a future where we might have easy access to information that can help us make better decisions and a future where consumer behaviour will drive change at a corporate level.”*

*- Jaen-Mari dos Santos | Beca*

*"I was super excited to have been offered a secondment role supporting the establishment of PAN’s Delivery Partner programme. This was a unique opportunity for me to combine my programme and project management expertise with my growing passion for all things sustainability. Coming from a construction and engineering background, this role allowed me to develop and grow my skills on a research and development focused programme of works.”*

*- Tom Garrett | Beca*

# Applications



Establishing and supporting applications of Planetary Accounting at different scales is where we make the most impact, and where we directed the most of our resources in FY23.

In FY23 we focussed on the following applications:

## Planetary Facts

Planetary Facts are like nutritional facts for sustainability. They are environmental footprints of products, across the Planetary Boundaries, in scientific context. Planetary Facts give businesses the data they need to offer better products and services, and customers the information they need to make good purchasing decisions. In FY23 PAN:

- Validated business & customer demand for Planetary Facts
- Completed focus-group studies to understand barriers and opportunities to enable Planetary Facts to drive pro-environmental consumer purchasing decisions
- Co-designed concept labels that scale in size and complexity and are easy to understand “at a glance”
- Launched our Pilot Programme – inviting Programme Partners to undertake Planetary Facts Assessments of their products

## Planetary Accounting for Regions and Cities (PARCs)

Our PARCs applications support local governments to integrate and underpin decision making with what is scientifically necessary for a healthy environment. In FY23 PAN:

- Supported the development of digital PARCs applications (see Case Study – Open Corridor)
- Supported the application of the Thriving Cities – Doughnut Economics framework at a city scale (see Case Study – The Dunedin City Council)

## Planetary Accounting for Corporates

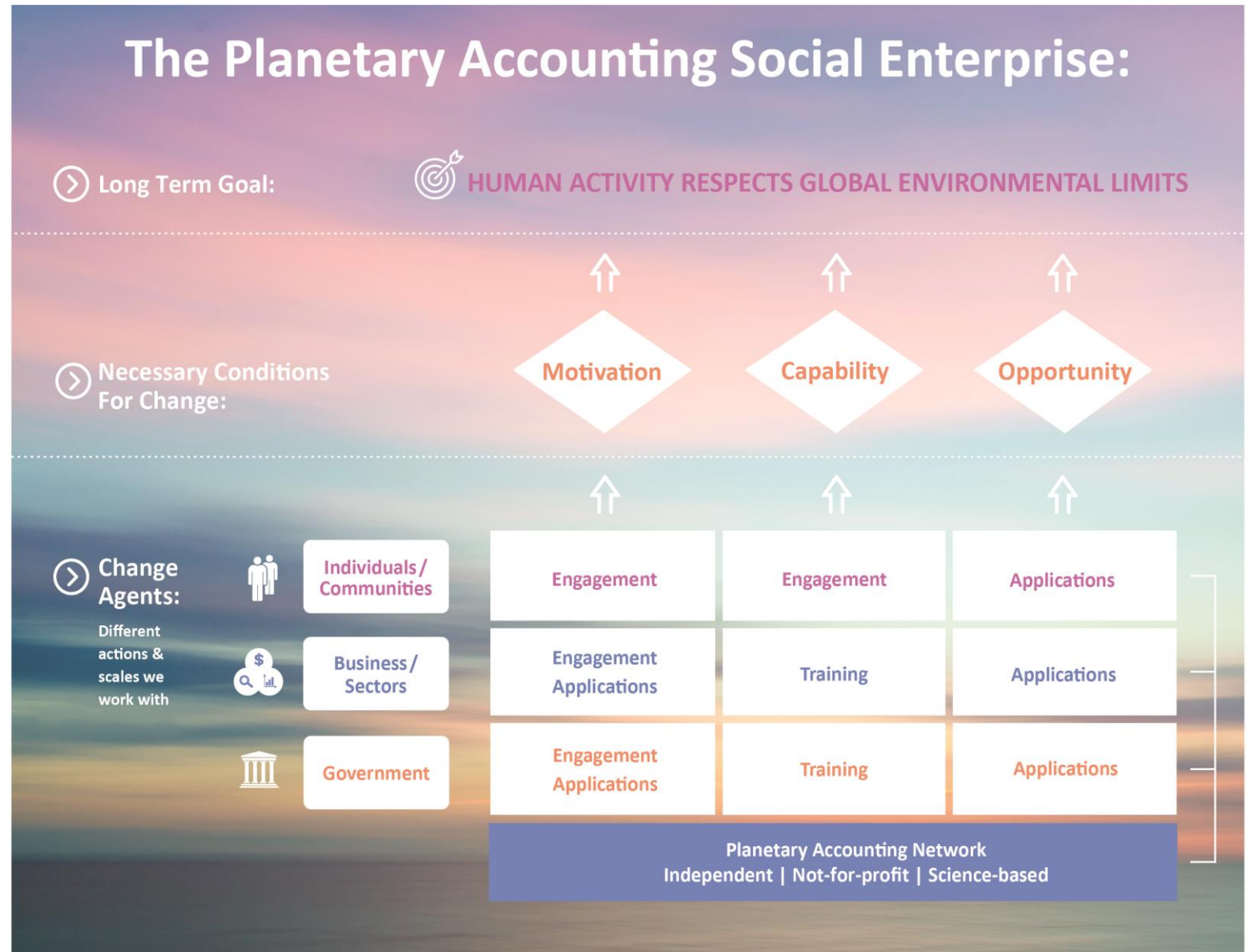
In FY22 we supported partners to set Planetary Science-Based Targets for their organisation. In FY23 – PAN established a Planetary Accounting approach that enables smaller organisations to apply Planetary Accounting thinking to their strategic planning and decision making.

# Our Change Theory

We know from change theory that there are three necessary conditions for change: **motivation, capability, and opportunity.**

Change theory also tells us that to create the systemic, transformational change action is needed at three scales: **communities, businesses and governments.**

As such, to tackle environmental overshoot we identify mechanisms to **leverage motivation, support capability building** through engagement and training, and develop applications that **create the opportunity for change** across community, business and government activities.



# Structure & Governance

Our people are the ones who **make it all happen.**

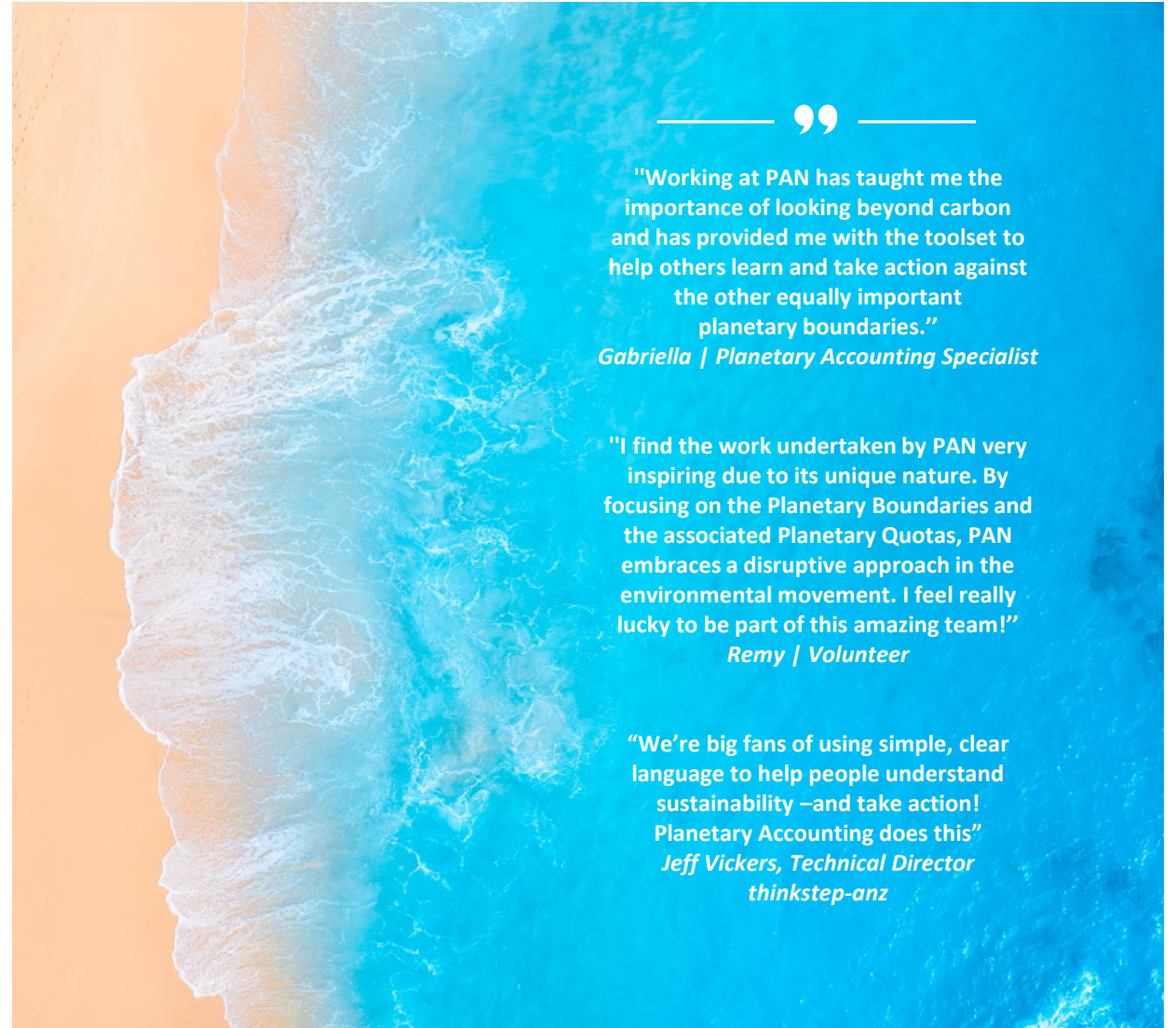
Our **trustees** provide **governance**

Our **employees**, Delivery-Partner **secondees** and Founding-Partner **sub-consultants deliver our work**

Our **volunteers support us** across a range of activities from administration to engagement

We also engage the following people / organisations to provide **external perspectives and guidance:**

- Internationally acclaimed **independent advisors** provide **expert feedback on our work**
- **34 Organisations** belong to our **member network** (see page 12)
- **Industry representatives** and **subject matter experts provide insights** via our Planetary Facts Steering Group



“Working at PAN has taught me the importance of looking beyond carbon and has provided me with the toolset to help others learn and take action against the other equally important planetary boundaries.”  
*Gabriella | Planetary Accounting Specialist*

“I find the work undertaken by PAN very inspiring due to its unique nature. By focusing on the Planetary Boundaries and the associated Planetary Quotas, PAN embraces a disruptive approach in the environmental movement. I feel really lucky to be part of this amazing team!”  
*Remy | Volunteer*

“We’re big fans of using simple, clear language to help people understand sustainability –and take action! Planetary Accounting does this”  
*Jeff Vickers, Technical Director thinkstep-anz*

# Our Whanau (team)

## BOARD & EXEC TEAM



ANDREW COWIE  
Chairman



KATE MEYER  
Founding Director  
CEO



RICHARD LAUDER  
Trustee  
*(from 04/2023)*



BREE LORNIE  
Treasurer



YVONNE LARCHER  
Trustee Finance  
and HR Lead

## EMPLOYEES & SECONDEES



RACHEL DANCE  
Graphic  
Designer



GABRIELLA  
RUTHERFORD  
Planetary Accounting  
Specialist



ALICE OSWALD  
Senior Planetary  
Accounting Specialist  
*(from 04/2023)*



JAEN-MARIE SANTOS  
Secondee



SARAH BACON  
Secondee

## VOLUNTEERS



CLAUDIA LOOS  
Communications



DAVE HENLEY  
Systems  
Thinking



REMY TURC  
Network  
Ambassador



CAROLINE HOPE  
Regenerative  
Agriculture



JOSH BRISCOE  
Network  
Ambassador



PRAJAKTA MODAK  
ESG Specialist



AMY IRVINE  
Memberships



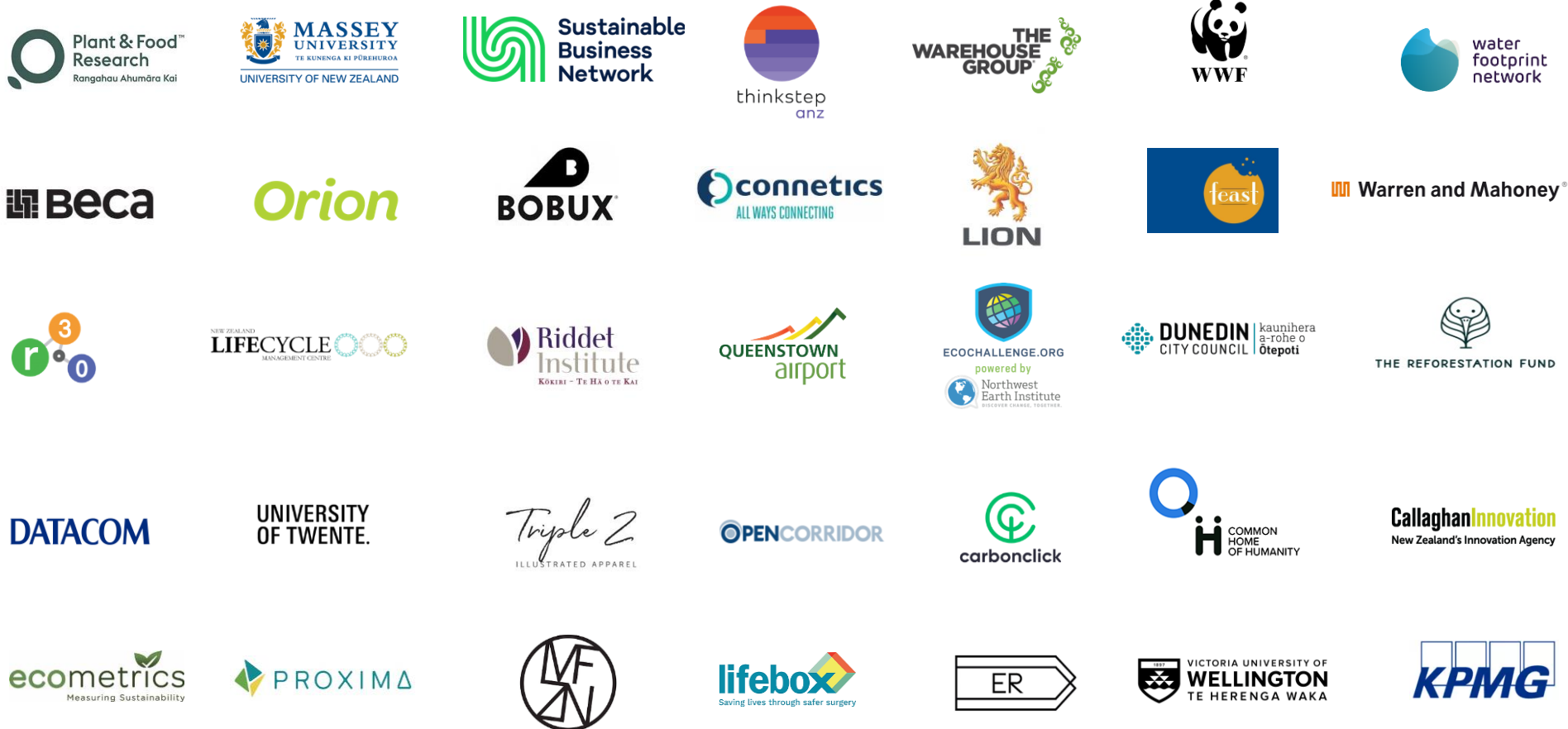
LOKESH SANGARYA  
Sustainability  
Advisor



LEE MAIER  
Marketing and  
Communications

# Our Network

PAN is a membership-based organisation. Our network comprises Members, Sponsors, and Delivery Partners who have joined us to learn how to use Planetary Accounting to support their decision making and to endorse, test, and support our work



“Plant & Food Research is delighted to be a member of the Planetary Accounting Network and has benefitted from opportunities to collaborate and learn. We believe that the scientific basis of the Planetary Boundaries concept is sound, that humanity is at risk due exceeding a number of the boundaries, and that the work of PAN is crucial if individuals, organisations and nations are to understand how to respond appropriately to these risks.”

Roger Robson-Williams, Chief Sustainability Officer, Plant & Food Research

# Our Impact

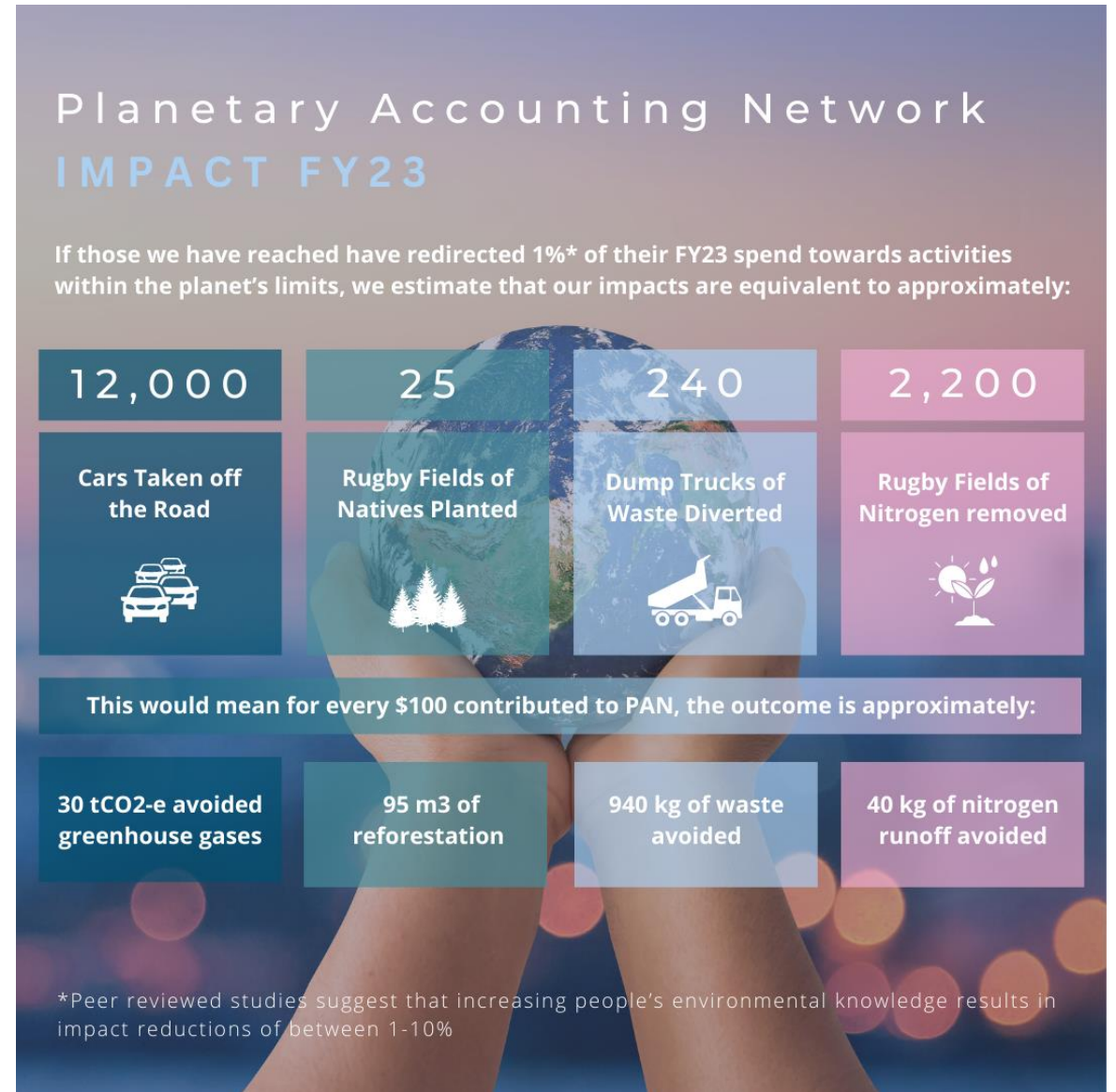
At PAN, our greatest outcomes occur by enabling and empowering others to reduce their environmental impacts to align with the planet’s environmental limits.

This means that through our network and other touch points we can significantly leverage our effort to make a much greater positive impact on the planet than we could directly. This also means that measuring our impact accurately is difficult.

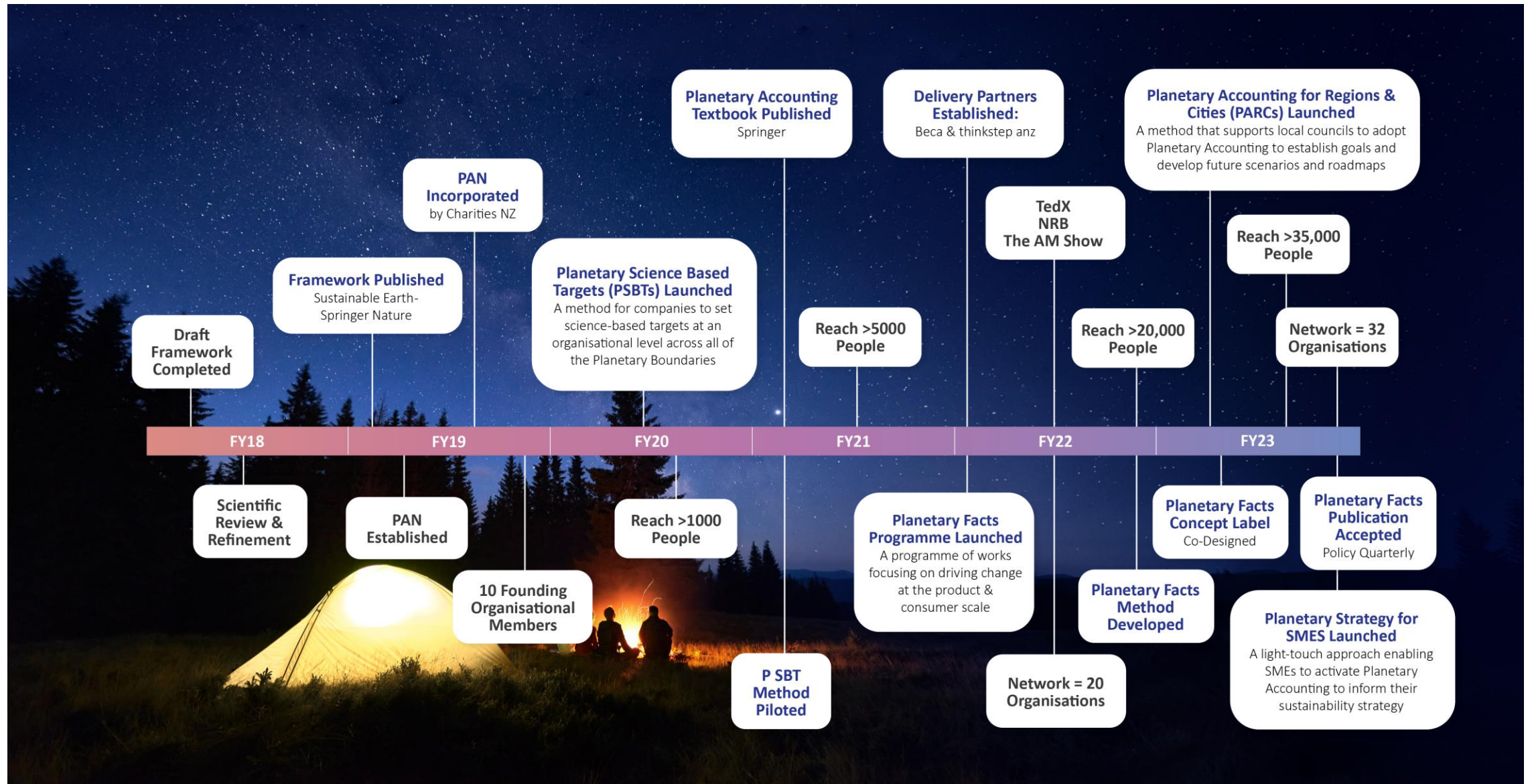
However, underpinning decision making with robust data and scientifically valid processes is one of PAN’s core foundations. It is important to us to quantify the impacts of our work so that we can track and communicate our performance in a way that helps us, and other stakeholders, make better decisions. Further, the climate will not wait for perfect data, so at PAN we believe that a pragmatic approach is sometimes needed to enable and prioritise action.

As such, we have taken a high-level, pragmatic approach to estimating our Planetary Handprint. We have endeavoured to take a conservative approach and are committed to improving the accuracy of this estimate as PAN grows through improved data quantity, accuracy and granularity.

**To learn more about how we estimated our impact in FY23 and our plans to improve the accuracy of this estimate over time, visit our website.**



# Key Milestones





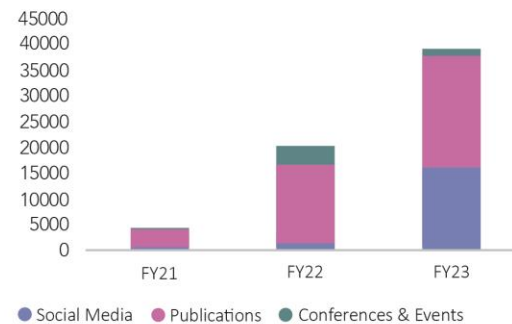
# Key Performance Indicators (KPIs)

We measure our performance across several key performance indicators:

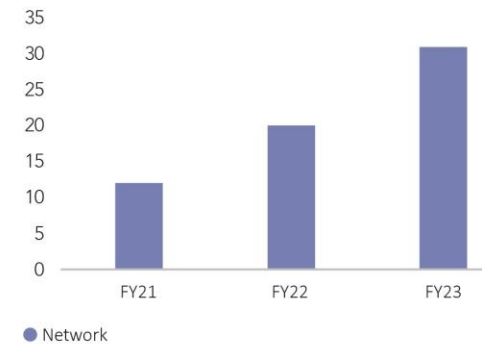
- Reach: The number of individuals we have educated about Planetary Accounting through speaking events and written collateral;
- Network: The number of organisations in our network
- Publications, Contributions & Citations: The number of publications and contributions to research, and associated citations
- Team: The number of team members.

In FY23, our reach increased by 92% from 2022. Our increase in reach came predominantly from our publications and social media. The number of organisations in our Network increased by 55% from 2022; our team increased 4-fold, and our publications, contributions, and associated citations continued to increase.

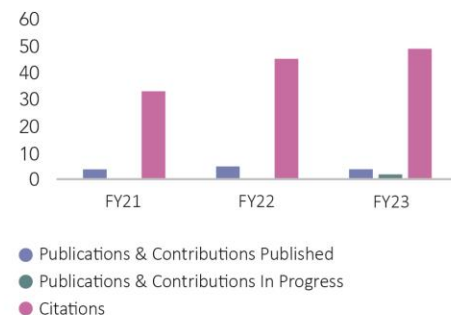
## Reach



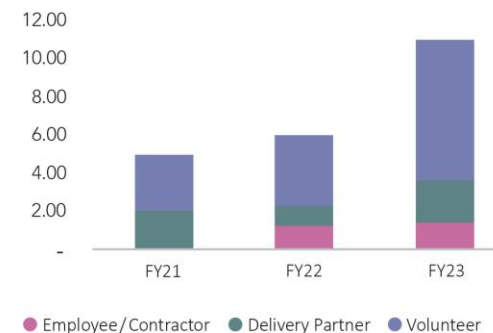
## Network



## Research Contributions



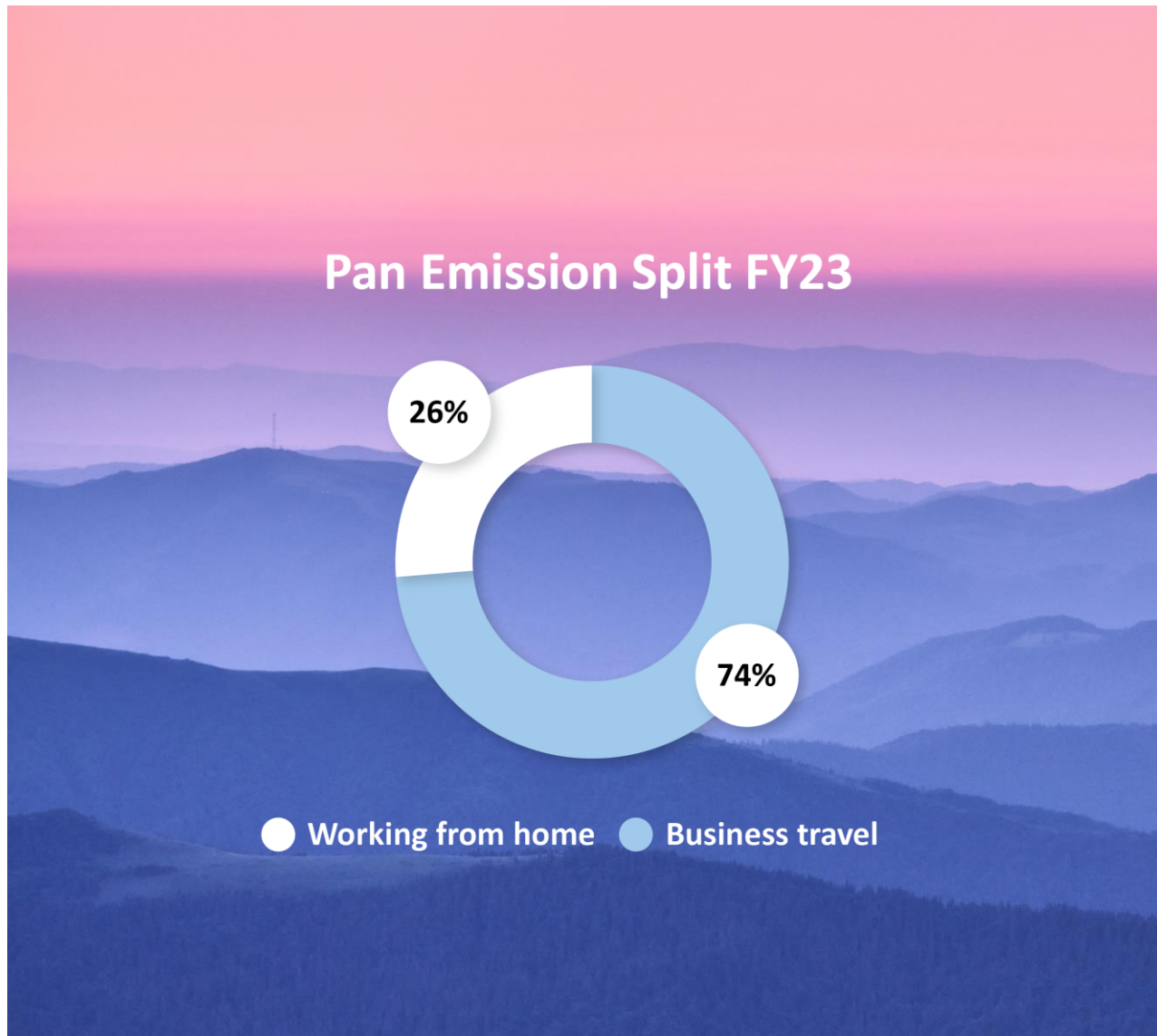
## Team



We were also very proud to have our work acknowledged through high impact forums including:

- The Global Thresholds and Allocations Network – a group of organisations working to resolve challenges associated with shared responsibility for planetary health
- Invitation to provide an expert review of the upcoming UNEP publication - Global Resource Outlook 2024 – which reports on the state, trends, impact and outlook of global resource use, including land, water, air and materials.

# Our Footprint



In FY23, PAN continued to prioritise helping others to manage their environmental impacts by growing our initiatives. However, as we did in FY22, we have also measured our own carbon footprint. In 2022 we excluded Working from Home emissions, as these were determined to be outside of our control. But, as PAN's team has continued to grow, and more team members have joined the whānau, we have extended our inventory to include these emissions in FY23.

In FY23, **our total emissions were 0.63 tonnes of CO<sub>2</sub>e. Approximately 75% of these emissions coming from Business Travel, and the remaining 25% from Working from Home.**

While our footprint is very small, we continue our efforts to minimise these impacts while we seek to maximise our positive impacts through our work. For example:

- We propose online options for workshops and presentations as a priority
- When we deem travel necessary, we aim to cluster meetings and workshops to limit the number of trips
- We encourage our team to work from home in an emission-friendly manner.
- We donated to Te Kakano Aotearoa Trust to support planting of native trees that will uptake more carbon than was emitted due to our Business Travel and Working from Home

We also consider the impacts of our supply chain. For example, **we chose to use Kiwibank for our banking because of their sustainability commitments.** It was important to us that Kiwibank will not provide banking services to entities that are directly involved in the extraction, production and manufacturing of coal, oil and gas or their manufacture and production.

As we grow, we will continue to formalize our sustainability approach, and when our scale is appropriate to undertake formal assessments we will measure and disclose our Planetary Footprints, associated Science-Based Targets, and our plans to meet these.

In the meantime, in each new reporting period we will review our scope and largest contributors and include other streams of emission sources when necessary.

# Case Study: Open Corridor

## Project Overview

Open Corridor are developing an online platform called City Metabolism to provide municipalities (sustainability officers, city planners, policy makers, etc.) and community stakeholders with data and insights regarding the environmental impacts caused by activities within the region on the health of the planet.

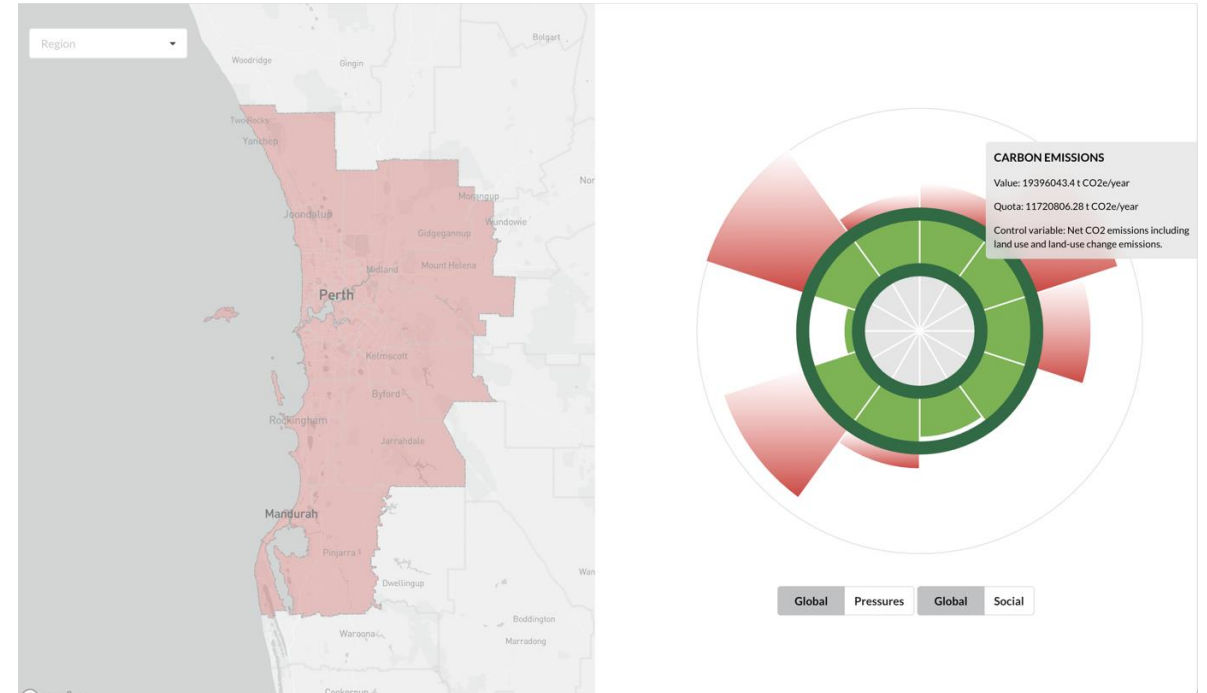
## Approach

The City Metabolism tool is based on Planetary Accounting principles. However, it is being developed ahead of the formal publication of our Planetary Accounting methodology for Regions and Cities (PARCs). As such, PAN have been actively supporting the team at Open Corridor to underpin their tools with up-to-date and scientific methods, assumptions, and calculations, and to document these to enable Open Corridor to share this information transparently.

## Outcomes

City Metabolism beta is well under-way and is being adopted by local government and communities alike. Users can now select any region from a map of Australia to see the impacts of this region across the Planetary Boundaries. The team are incorporating different methodologies for the regional “budgets” to promote wider understanding of the nuances associated with downscaling global targets. They are also providing powerful spatial, temporal, and categorical filters so that users can better understand the key activities associated with each environmental pressure. The tool forms part of a larger science-based observatory, which will be announced in the coming months.

Given the success of the collaboration to date, Open Corridor have recently joined PAN as an Implementation Partner – i.e., a recognised digital provider of Planetary Accounting applications (in this case, our PARCs application). Both teams are very excited about this new venture and look forward to sharing more about it in the coming months.



# Case Study: Dunedin City Council

## Project Overview

The Dunedin City Council (DCC) is exploring the Thriving Cities Portrait which applies the theory of Doughnut Economics to the city level. Doughnut Economics aims to meet social need whilst respecting the Planetary Boundaries. PAN have been engaged to support the environmental focus of this initiative.

## Approach

Like most local councils, the DCC are already measuring and managing many environmental impacts. As such, our support began with an in-depth stock-take of the DCCs existing strategies against the Planetary Boundaries. In parallel we facilitated a series of workshops with each of the strategy teams to educate them about the Planetary Boundaries, promote engagement, and to gain insights to feed into the stock-take and subsequent recommendations.

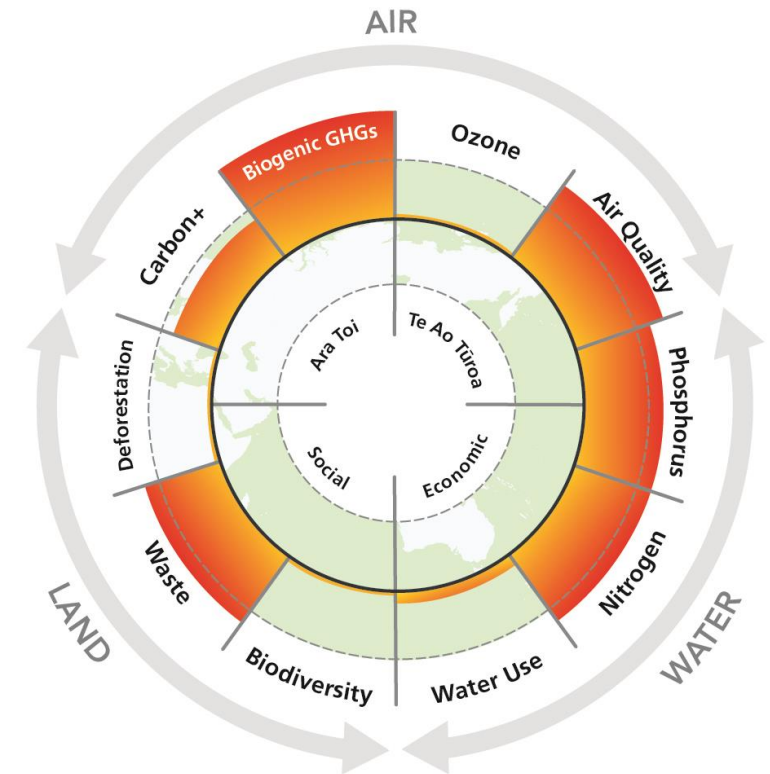
## Outcomes

There is already strong alignment between the DCC strategies and the Planetary Boundaries. Ongoing work includes the refinement of environmental metrics, a preliminary assessment of Dunedin's "Planetary Footprints", and preliminary advice regarding evidence-based targets each.

Whether or not the DCC formally adopt the City Portrait, the work to date and ongoing activities will have lasting benefits for the DCC and for greater Dunedin. The workshops have increased staff's environmental literacy. The updated metrics create better alignment of the DCC strategies with one another and with what is scientifically necessary for the health of the planet. They also provide a strong foundation for wider stakeholder engagement as they provide a consistent and easy to understand basis for decision-making, community engagement, and alignment of local business strategies with local council goals, and they can be contrasted and compared with other cities and regions within New Zealand and internationally.

— 99 —

*The DCC have engaged the Planetary Accounting Network to help us explore the Ecological Ceiling of the City Portrait. Kate and Gabi have been able to explain a complex idea to staff from across the organisation, answer our many and varied questions, and make us feel more confident as we develop a City Portrait for Dunedin.*



# Applications: Planetary Facts

## The Problem

Customers want to make environmentally conscious purchases and businesses want to provide environmentally friendly products. Neither have the right information to enable these goals.

Meanwhile, Greenwashing is rife. There are > 450 eco labels in the global marketplace, which reduces the trust consumers place in labels. More than 50% of consumers find the way businesses talk about their social and environmental commitments confusing (Colmar Brunton survey).

## The Solution

Planetary Facts is a simple, science-based approach to assessing and communicating the environmental performance of products and services. Planetary Facts are the critical environmental footprints of any product, such as carbon, water, biodiversity, and waste. Similar to nutritional fact panels which include Recommended Daily Intakes for each health indicator, the environmental footprints are reported in the context of Recommended Daily Limits for a healthy planet.

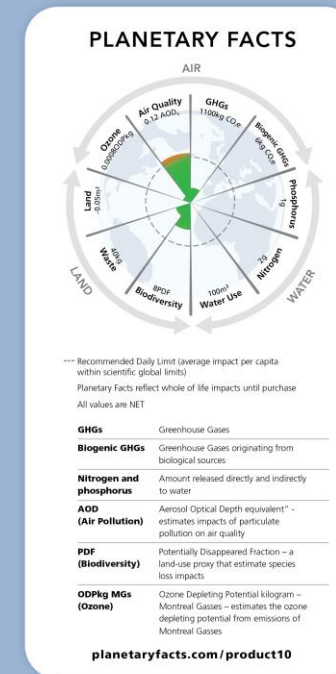
Planetary Facts will generate systemic change through a product lever. It will provide businesses access to the environmental performance of their products and services, and customers the information they need to make environmentally conscious purchasing decisions. Planetary Facts will therefore leverage consumer demand to put

pressure on businesses to design 'better' products, creating a positive innovation loop.

## Where are we at?

We have validated business and customer demand, established the methodology for calculating Planetary Facts, co-designed concept labels with consumers, and used focus group findings to inform the further development of our labels and associated education and engagement activities.

We are now in a pilot phase, working with industry partners to test PAN's Planetary Facts methodology ahead of the label pilot on-shelf and subsequent launch. Our goal is to have Planetary Facts labels in front of 250k New Zealanders by 2026. Based on our growth projections, we believe we can grow this to >12m people in New Zealand, Australia, and Singapore by 2028. We estimate that by 2028, Planetary Facts could avoid the emissions of ≈20 million tonnes of CO<sub>2</sub>-e, with a similar scale of influence across each of the Planetary Boundaries.





Our mission is to help people, businesses, and governments to operate within the planets limits - because we believe that living well requires a healthy planet.