



# Space4Commerce

The future is created – encouraging the conscious consumer

July 2024



# Planetary boundaries establishes limits for humanity to develop and thrive for generations to come

## Why planetary boundaries are important?

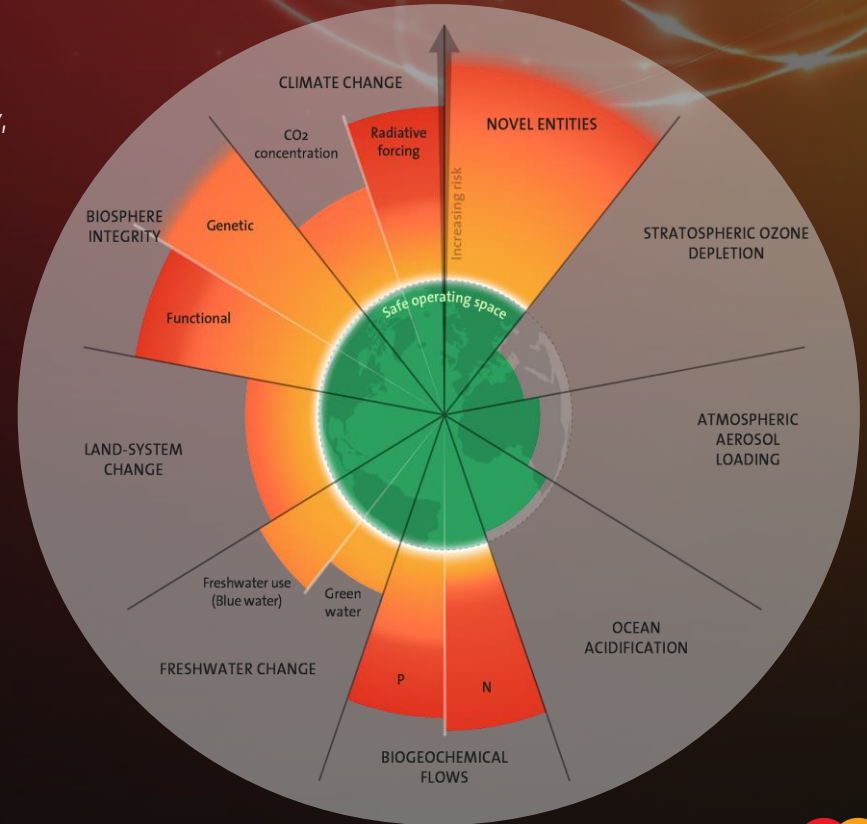
Many organizations focus on carbon when considering sustainability, but a **carbon tunnel vision is blinding businesses** to major risks. The planetary boundaries framework helps to **put light on all the areas** where we need to be cautious of our influence on the Earth's ecosystems.

## What is the current situation?

2023 assessment of the planetary boundaries framework showed that **six out of nine safe operating thresholds are being exceeded**, with major risk coming from novel entities (chemical pollution), biosphere integrity (biodiversity loss), biogeochemical flows and climate change.

## What does the future holds?

Actions implemented this decade will have effects for thousands of years. The **time to act is now**, as **there is no other future that a radically changed one** – either by us or by the environment.



# Letter from Peter Bakenecker

(Division President, Central Europe)

There is no healthy business on an unhealthy planet. That is why for many years Mastercard's journey is guided by *doing well by doing good* strategy.

Now, we strive to empower our partnered retailers to join us on this way by connecting you with the top scientist, innovators and established leaders in the sustainability area.

Mastercard's Sustainability Innovation Lab in Stockholm is a unique place, where each business regardless of their advancement in ESG progress can get inspired to do more and act better for the Planet.

After the first trip with the retail community to Sweden, our invited guests came back with an advanced knowledge, meaningful business connections and strengthened enthusiasm to act for Planet's future.

We invite you to our future events as only together we can make meaningful impact.

– Peter



# Annual production and release of novel entities, such as plastic and chemicals, are increasing at a pace that exceeds global monitoring capacity

## NOVEL ENTITIES BOUNDARY

- Among novel entities are **plastics, pesticides, chemicals, and pharmaceuticals**
- **350,000** different **types** of manufactured chemicals on the global market
- **Rate at which pollutants are appearing far exceeds our capacity** to assess and mitigate ensuing environmental and social risks

## BEST PRACTICES FROM HOUDINI

- Progressive outdoor clothing company based in Stockholm designing long-lasting garments
- Houdini's business model is built within the planetary boundaries framework

### Circular mono-material design

made from recycled fibers which are recyclable at the level of a PET-bottle, **eliminate the need for virgin resources**

### Clean chemistry

represents fabric technologies and chemistry **working in partnership with** rather than at the expense of **nature**

### Wearable multitools

are products that are **built to last**, both in terms of quality and style

### Houdini Circle

presents a seamless, circular and user-centric business model, **supporting product care, repairs and reuse**



# Natural flows and forms of nitrogen and phosphorus have radically changed as a result of industrial and agricultural processes

## BIOGEOCHEMICAL FLOWS BOUNDARY

- **Food sector** (agricultural fertilizers) accounts for **100% of the impact** on biogeochemical flows
- The amount of nitrogen applied to cropland every year is **more than three times the determined safe level**
- Large quantities of nitrogen and phosphorus entering waterbodies can lead to **harmful algal blooms** and **ocean dead zones**

## BEST PRACTICES FROM



- **Axfoundation** is a non-profit Swedish 'do tank' developing practical and innovative solutions for a sustainable society
- **Rosendals' Garden Foundation** has been cultivating and spreading biodynamic farming practices for almost 40 years

### Future Food Program aims to find solutions

to the challenges of global food production and consumption. Axfoundation has worked on sustainable food production, urban gardening, blockchain use cases, and responsible use of antibiotics. The foundation runs a test **farm and development center** for the sustainable food systems of the future

### Rosendals Trädgård is a driver

**of the farm to fork concept** with all cultivation done according to biodynamical principles. Situated in central Stockholm, Rosendals Trädgård is run as a **commercial garden** and the produce is used in Rosendals' garden cafe and woodfired bakery



# Increasing demand for food, water, and natural resources is causing severe biodiversity loss and changes in ecosystem services

## BIOSPHERE INTEGRITY BOUNDARY

- Genetic diversity measures the **extinction rate**, while functional integrity looks at the **energy levels available** to ecosystems
- Biodiversity loss is a powerful **accelerator of climate change**
- Increased ecosystem damage and extinction can be slowed by **actions to protect the integrity of living systems, enhancing habitat, and improving connectivity between ecosystems**

## BEST PRACTICES FROM



- Non-profit Swedish 'do tank' developing practical and innovative solutions for a sustainable society
- Bringing together the entire value chain – from primary producers to retailers

### The Swedish Wool Initiative aims at

scaling up the **use of Swedish wool** among Swedish fashion brands and contributing to the vision of **zero waste** of Swedish wool. Part of the initiative is creating **circular business models** and a value chain for Swedish wool that create value for all stakeholders

### The Fiber Traceability Initiative

is a Proof-of-Concept initiative – paving the way for companies to adopt **Digital Product Passport (DPP)**. In light of the DPP legislation companies need to establish full **traceability** and **transparency** throughout the entire value chain



# Water is crucial for life on Earth, and overconsumption can lead to deforestation and soil degradation

## FRESHWATER CHANGE BOUNDARY

- Freshwater use refers to the consumption of green water (soil moisture from precipitation) and blue water (from rivers, lakes, and groundwater)
- Physical **water scarcity** is reached when withdrawals of blue water exceed 5000–6000 km<sup>3</sup> year
- Exceeding these boundaries can **disrupt ecosystems, impact biodiversity, and affect climate regulation**

## BEST PRACTICES FROM



- Sweden-based clothing company operating in 75 geographical markets
- H&M Group Ventures focuses on sustainable investments that will transform fashion and that support their financial and strategic goals

### Colorifix is transforming industrial dyeing

into an **environmentally friendly, socially responsible** and economically viable process. Compared to conventional dyeing of Polycotton, Colorifix technology **reduces water consumption by 77%**

### Alchemie Production develops digital dyeing

and finishing technologies for the textile industry. Their innovations, such as the Endeavour system, utilize precise digital control to apply dyes directly to fabrics, **reducing water waste by up to 95%**



# Further agricultural land expansion may seriously threaten biodiversity and affect the climate and hydrological cycle

## LAND-SYSTEM CHANGE BOUNDARY

- Land-system change refers to the **conversion of forests** and other ecosystems to agricultural land
- The threshold has been established at 15% of the global ice-free land surface, with 12% of the global land surface being already under cultivation
- Land-system change influences other boundaries, and **can trigger rapid changes** at the continental scale where threshold has been crossed

## BEST PRACTICES FROM



- The Priceless Planet Coalition unites the efforts of merchants, banks, communities and consumers to **restore 100 million trees**
- The 18 restoration projects have been carefully selected across the 6 continents to create maximum impact

### Restoring trees mitigates

climate change and regulates **the air we breathe** by moderating greenhouse emissions. It further **protects the wildlife** habitat and **increases food security** and employment for local communities

### The Coalition is a platform

which unites corporate sustainability efforts and engages businesses and consumers to **take collective actions**. Mastercard manages the coalition and educates the consumers on reforestation to increase engagement





# Crossing the climate change boundary may trigger disruptions that are difficult for the society to cope with

## CLIMATE CHANGE BOUNDARY

- The climate change boundary is meant to prevent **severe and irreversible environmental changes** from global warming
- It aims to avoid critical thresholds that could disrupt regional climates, destabilize major systems like the thermohaline circulation, and cause rapid sea-level rise
- To minimize these risks, it is essential to keep atmospheric CO<sub>2</sub> below the critical levels

## BEST PRACTICES FROM



## REITAN CONVENIENCE

- Leading retail company in the Nordic and Baltic countries
- Reitan's purpose is to redefine their industry and to **make convenience sustainable** and **sustainability convenient**

### Assortment mapping plays a key role

in determining the carbon emissions of the products. This in turn supports the **replacement to more sustainable options** and ensures greater transparency

### Replacing beef with chicken

in one of Reitan's popular hot dogs resulted in significant increase in sales and **serious decrease in CO<sub>2</sub> emissions**, proving that nudging could contribute to a positive shift in consumption patterns. Other successful experiments included swapping cow milk for plant-based milk and ham rolls for turkey rolls



# The risks of climate change will have to be faced even if the thresholds are upheld, and every company is responsible to act now

## CLIMATE CHANGE BOUNDARY CONTINUED

### CASE STUDY: OVERPACKAGING

- Many products (e.g., toothpaste, creams) are **overpackaged in both plastic and paper**, though paper packaging is unnecessary in a lot of cases
- However, consumers perceive paper packaging as more environmentally friendly and are willing to pay more for it, and packaging with a greater paper-to-plastic ratio is judged as more environmentally friendly
- **Consumers' beliefs shape their engagement in sustainable behavior** (e.g., "paper is good, plastic is bad" belief)

### BEST PRACTICES FROM



- World's largest furniture retailer since 2008
- IKEA has an ambitious **sustainability strategy** that focuses on Healthy and sustainable living, being circular and climate positive and a fair and equal society

### Sustainable packaging systems

- IKEA's ambition is to have all food **packaging made from renewable or recycled materials** and to **phase out plastic** from consumer packaging by 2028
- Ongoing efforts to develop sustainable food packaging that complies with food safety regulations, while **minimizing food waste** and **optimizing material use**



The planetary boundaries are interconnected, therefore efforts to uphold them should be holistic in nature



REITAN CONVENIENCE



### Mastercard Sustainability Innovation Lab

- The purpose of the Lab is to **integrate sustainability** throughout Mastercard solutions
- The goal is to enable 3 billion people to make sustainable consumption choices by 2030

#### Examples:

- Sustainable Consumption Platform – end-to-end solution that provides insights into CO<sub>2</sub> footprints and clear path towards sustainable consumption choices



### IKEA Foundation

- The focus of the Foundation is to take **bold climate actions**, but also support vulnerable communities adapt to the impacts of climate change
- The Foundation provides grants to organizations working on climate change mitigation, emission reduction among many others
- So far, the IKEA Foundation has granted €2 billion for people and the planet

### Reitan Convenience's approach

- Reitan is anchoring its business in the frontier of sustainability science, and launched the **Strategy for Antropocene framework**
- The three main impact areas are: Climate Action, Products and Value-driven Transformation
- The aim is to target root causes rather than just treating the symptoms
- The company focuses on the leadership and is systematizing the change across the organization



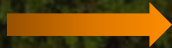
# Change will not come easy, but we need to start today!

## Taking immediate action is crucial to restoring planetary boundaries

### Greatest business opportunity of our time?

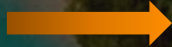
Moving back to safe operating zones requires changing business models and consumer behaviors

Linear economy



Circular economy

Fossil fuels



Renewable energy

Exploitation of nature and society



Regeneration of nature and society

### SUSTAINABILITY ROADMAP



**Dig where you stand**  
do what you can here and now

- Importance of **leadership** and **internal education** of management
- Anchoring **'the why'** in communication



**Set visions and targets**  
and follow up on progress

- Setting **science-based targets**
- Starting **internally** and then pushing the consumers to do the right thing



**Shape the playing field**  
together with others

- **Collaboration** is key for **systemic change**
- Creating an **ecosystem of shared ambition**



**Embrace change**  
and build resilience

- New ways of **thinking** and working
- New types of **leadership**



**Create ripples**  
help others dig where they stand

- Working with **suppliers, partners** and **peers** to achieve science-based targets



# Follow what is coming next from Space4Commerce!

## Space4Commerce agenda

### NEXT COMMUNITY EVENT

<b>Place:</b>	<b>Planned date:</b>	<b>Event focus:</b>
Prague, Czechia	11 <sup>th</sup> September 2024	Consumer Experience of Tomorrow

### MORE TO COME!

Sustainability	Hospitality
Grocery	Data use cases
Mobility / inCar	Technology / Cyber

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For the latest updates on Space4Commerce:



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