

# **SUSTAINABILITY**

*“The world will not be destroyed by those  
who do evil but by those who watch”*

Albert Einstein

01

INTRO

02

THE SITUATION

03

WHAT WE NEED TO DO

04

TELLUS2 & SUSTAINABILITY

05

LEARN MORE AND TAKE ACTION

06

SOURCES

# 01. INTRO

## **Earth is under planetary emergency**

According to the UN, we face a triple planetary emergency: the climate crisis, which is causing havoc in rich and poor countries alike; loss of biodiversity, as more than 1 million species face extinction; and pollution that kills some 7 million people every year. Politicians, businesses and individuals need to start living, acting and investing within planetary boundaries!

Climate change and global warming is rapidly worsening. Emissions continue to increase because we are burning oil, coal and natural gas more than ever before despite the Paris agreement since 2015 where world leaders signed upon the promise of keeping global warming to a maximum of 1.5 degrees and well below 2°C (compared to pre industrial levels). The world's governments plan to produce around 110 % more fossil fuels in 2030 than would be consistent with limiting warming to 1.5°C, and 45 % more than consistent with 2°C. The size of the production gap has remained largely unchanged compared to prior assessments. Governments' production plans and projections would lead to about 240 % more coal, 57 % more oil, and 71 % more gas in 2030 than would be consistent with limiting global warming to 1.5°C. Countries have directed over USD 300 billion in new funds towards fossil fuel activities since the beginning of the COVID-19 pandemic – more than they have towards clean energy.

We have exploited our planet to a degree where 68 % of our land living vertebrates are extinct. More than half of the great barrier reef is destroyed. Biodiversity is severely decreased and it is rapidly getting worse. The Amazon rainforest, the lungs of the world, will become a desert if we keep business as usual. Entire nations will be under water as the Arctic and the Antarctic ice melts if the status quo is maintained. We can go on and on to illustrate why humanity needs to change course to be able to keep Earth a habitable planet for humans, animals and plants – but we leave it there for now.



Tellus2, just like the UN, considers the sustainability issue not just an environmental issue. Sustainability should instead frame all other issues because of the planetary emergency. That is because our future and future generations' well-being depends on it and because sustainability is tightly tied to geopolitical stability, food supply, water supply, health, social and financial development. If we fail to listen to the scientists and to fulfill the Paris agreement it will, simply put, be game over for life on Earth as we know it.

### **Awareness and inspiration**

Tellus2 seeks to spread awareness around sustainability, inspire people to adopt a sustainable lifestyle and inspire companies to choose sustainable business models and, lastly, to contribute to sustainability in a very direct manner. We aim to act knowledgeably by relying on evidence and scientific fact. We want people to see that we understand the issues. And even though it is a true emergency situation for our planet we want to stay optimistic and focus on the solutions.

This document serves as a summary for ourselves and for our community to lean against when picking partnerships for maximum sustainable impact and when building the project as a whole. We try to use the most reliable sources such as the latest IPCC Climate Report, the Agenda 2030 and the SDGs from the UN and the Living Planet Report from WWF.

You find a complete list of our sources, as well as some useful links to easily learn more, at the very end of this document.

## 02. THE SITUATION

Around 150 years have passed since the industrial revolution started. We have built our modern societies exploiting planet Earth. For over 30 years, science has been crystal clear about what we need to do to preserve our planet – but political inability, short term financial focus and systematic manipulation by strong forces and collective denial has resulted in a negative inhibiting cocktail. It is a debacle beyond words. But there are still plenty of reasons to act now – what we do now decides the future for ourselves and all the future generations on planet Earth.



The challenge doesn't get smaller from the fact that we will be around 10 billion people on Earth in 30 years, compared to today's number of around 8 billion.

In this section we will highlight some of the biggest threats planet Earth is facing – all due to human activity! The information below is in line with the latest scientific consensus and gathered from the most reliable sources (complete list at the end of the document).

Global warming – how humanity is destroying our planet's self-regulating mechanisms despite good intentions and signed agreements. Greenhouse gas emissions are increasing by the minute when they need to decrease dramatically. A stable climate is an absolute criteria for a resilient biosphere; the living nature on which our entire civilization depends. Our oceans, plants, animals, lakes, forests, ices and glaciers are on a catastrophic course due to global warming. Again, not alarmism – facts!



Earth is over 4,5 billion years old but it has been existing in the way we know it for around 3 million years – continents approximately looking like today, ice covered poles and an atmosphere with around 20 % oxygen at sea level. Science has concluded that Earth never during this era has exceeded +2°C (compared to the pre industrial level).

Despite fluctuations in radiation from the Sun, asteroids, volcanic eruptions and earthquakes the planetary control has kept the temperature between -4°C and +2°C compared to pre industrial levels. That is due to the self regulating mechanisms of our planet; that is in particular the ice reflecting heat radiation from the Sun, oceans absorbing heat, forests absorbing carbon dioxide and more. Earth is now experiencing the hottest mean temperature since the latest ice age 12000 years ago; we are 1,2 °C above the preindustrial level and temperature is rising faster than in 3 million years. That's when the temperature should be decreasing due to Earth's relatively long distance to the Sun.

When world leaders in 2015 signed the Paris agreement they promised to work for keeping temperature below 1,5°C and well below 2°C. To even have a chance to achieve that we need to halve our greenhouse gas emissions every decade and reach a net zero state by 2050. Scientists are warning that Earth, at a certain temperature, will irreversibly enter self reinforcing heating loops that will lead to a condition for our planet as they refer to as "Hot House Earth". That is where temperature will rise 4-8°C and cause almost all the ice to melt which in turn will make sea levels rise unimaginably 15 meters or more. Scientists believe the tipping point to irreversibly enter the Hot House condition is around 2°C global warming. It won't happen overnight but it will trigger the irreversible process.

**What we do now will decide  
if we can avoid this utterly  
catastrophic scenario or not.**

## The list

The impact from global warming is immense and it is appearing much faster than scientists previously thought. Down below we list some examples of how climate change is interfering with different systems responsible for the stability of the climate and ecosystems worldwide, sometimes creating self-reinforcing heating loops. These are examples how intricate the balance of Earth has been managed for millions of years and how humanity is threatening the balance by its existence faster than science previously expected:

The Arctic ice is expected to be an open sea within 30 years. This will affect the jet streams of the northern hemisphere and give rise to more extreme weathers such as droughts, floods and heat waves with fires in the north because of stagnant low and high pressures.

Glaciers at the West Antarctic may have passed a tipping point where the ice will slide away into the ocean which would lead to sea levels elevating around 2 meters.

More than 50 % of the Great Barrier Reef is already lost. The reefs are important reproduction areas for fish and they are providing an income source for over 200 million people.

Heat circulation in the Atlantic Ocean is decreasing. This leads to more extreme weather in Europe.

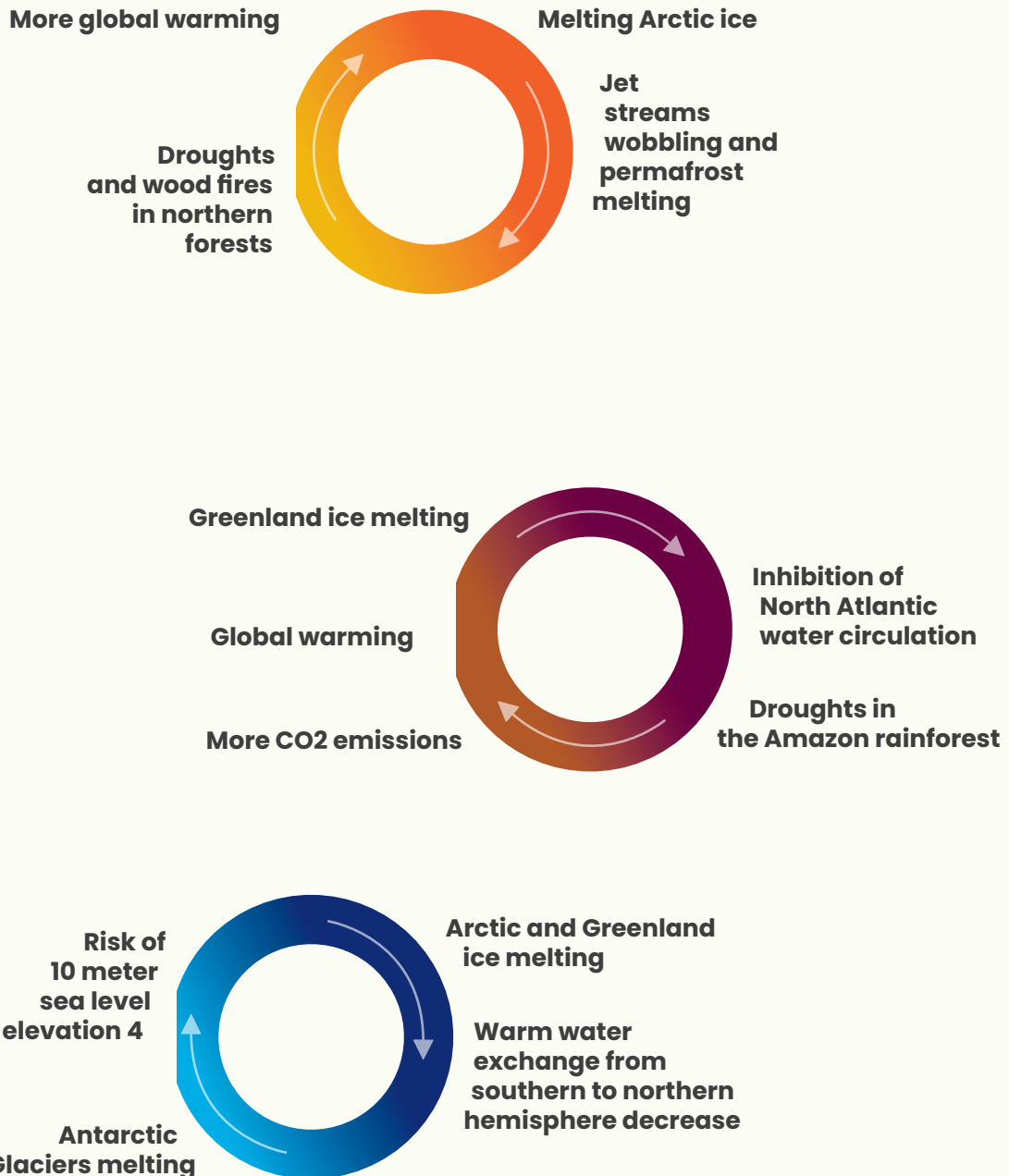
The rainforest of the Amazon is approaching a tipping point where it will become a dry desert.

Melting tundra is releasing a massive amount of carbon dioxide as the arctic soil is melting and methane gas is leaking from the increasingly hot East Siberian Ocean.

## The circles

The systems mentioned above are tightly tied to each other, if we affect one system several others will be interfered with in a domino effect.

For example:





## **Biodiversity**

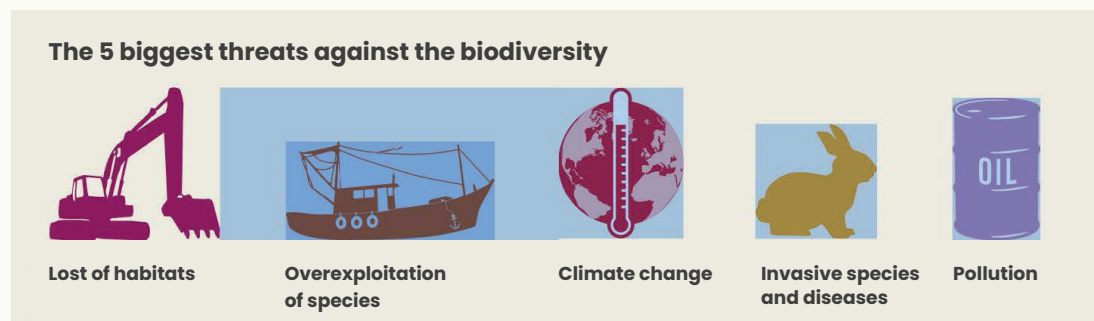
Since 1970 there has been a 68 % decrease of the populations of vertebrates included in and monitored by the Living Planet Report from the WWF. And this is probably just the tip of the iceberg since this report just monitors the vertebrates which constitute around 3 % of all living animals. The rest of the animal populations, such as for example mussels, snails, worms and insects, are not monitored in detail. Many of those are of essential importance for functioning ecosystems and we can not live without them. The biggest cause for loss of biodiversity is large scale land exploitation. So far climate change has not been the primary driver for the loss of biodiversity but as the temperature increases further climate change will become a bigger problem causing more loss of biodiversity.



75 % of ice free land areas and 66 % of the oceans are heavily impacted by human activity. 85 % of wetlands are gone. The deforestation continues. This is not just a problem for animals because human health and welfare are highly dependent on nature providing clean water, clean air, pollinators, etc.

Demand for food, water and natural resources has doubled in just 50 years – and it's still growing. We're using more than the Earth can provide. Our demands don't just affect us humans – they're having catastrophic consequences on the plants and animals we share the planet with, and they are destroying the natural systems we all depend on. Yet this is a time for hope. Across the world, people are facing up to these challenges and creating practical solutions. More of us are taking action to preserve what matters. More businesses understand and value biodiversity. More governments are reassessing how we use the world's resources.

We have a fighting chance to preserve our living planet for future generations. But we have to act now, together and on an unprecedented scale. Everyone of us has a part to play.



Sources: IBPES, WWF etc.

## Deforestation

Deforestation continues around the world even though the pace has decreased a bit as a whole. Deforestation combined with droughts and wood fires associated with global warming are severe threats in many aspects. Healthy forests are binding and absorbing large amounts of CO<sup>2</sup> and provide us with a wide range of important ecosystems which in turn is an essential part of planetary resilience.

The Amazon rainforest, as an example, constitutes the habitat for 30 % of our planet's land based organisms such as plants, animals and insects. 10 % of the total biomass of earth is concentrated in this area and 20 % of the flowing freshwater on earth is contained here. The rainforest evaporates large amounts of vapor so large that it is supplying Sao Paulo with fresh drinking water and affecting weather systems in North America and Africa. If we break the rainforest we will break a big part of the stability for our planet. It is a global concern to keep the rainforest! If we lose the Amazon rainforest, a big pulse of greenhouse gases will enter the atmosphere and worsen the situation materially – scientists estimate that if the remaining part of the rainforest is lost that would give rise to a further 1°C global temperature increase.

## **Oceans under pressure**

Preserving our oceans and the life therein is another important objective for a sustainable planet. Nearly a billion people rely on fish as their main source of protein, and more than 200 million earn their living from fishing. But over three quarters of fisheries are already exploited up to or beyond the limit of what's sustainable, putting their future in jeopardy. 8-11 million tons of plastics are yearly dumped in our oceans and the amounts are increasing. This is posing a big threat to ocean life because fish, turtles and marine mammals confuse the plastics with plankton and hence run the risk of suffocation. Apart from the plastics poisons and chemicals are ruining marine ecosystems. For example nitrogen containing fertilizers that end up in the oceans cause over fertilization.

Another important aspect regarding our oceans is that they absorb around 25 % of the greenhouse gasses. This causes acidification which in turn threatens marine ecosystems particularly by harming shellfish and corals.

## **Food production**

Global food production is the biggest sole contributor to global warming and one of the biggest causes of the 6th mass extinction of species on planet Earth (the loss of biodiversity) and deforestation. Around 30 % of the greenhouse gasses comes from agriculture. Food production consumes 70 % of all the water we use from lakes, rivers and groundwater.



50 % of our planet's land area is transferred to agricultural areas.

Aside from that, 11 million people die from unhealthy food yearly. Antibiotic resistance and leakage of fertilizer are other big problems associated with food production, as well as destroyed wetlands.

By transforming the food production by adopting existing technology and models this sector could rapidly go from sustainability problem number one, to solution number one. Solutions in the field are for example plow free farming and digital precision farming without nitrous or phosphorus leakage. People in the rich part of the world also need to consume less meat; red meat in particular.

## **We are all hit – but we are not equally hit**

People are being impacted by the changing climate disproportionately. Varying regions are facing different combinations of climatic impact drivers, including risks in the energy, food, and water sectors. Despite being the group least responsible for the climate crisis, MAPA (Most Affected People and Areas) are most severely impacted by it. They will be the most impacted by multiple overlapping risks, as well as being less able to adapt to them.

Roughly half of the world's population currently experience severe water scarcity for at least some part of the year due to climate change interacting with other drivers. Increasing weather and climate extreme events have exposed millions of people to acute food insecurity and reduced water security, particularly in Africa, Asia, Central and South America, and small islands and the Arctic.

Climate and weather extremes are increasingly driving displacement in all regions, with small island states disproportionately affected. An average of over 20 million people have been internally displaced annually by weather-related extreme events since 2008, with storms and floods being the most common.

Some regions that are presently densely populated will become unsafe or uninhabitable with movement from these regions occurring autonomously or through planned relocation. By 2100, compound and cascading risks will result in submergence of some low-lying island states. Mortality from floods, drought and storms was 15 times higher in highly vulnerable regions, compared to regions with very low vulnerability, in the past decade

Approximately 3.3 to 3.6 billion people live in contexts that are highly vulnerable to climate change. Global hotspots of high human vulnerability are found particularly in Central and South America, West-, Central- and East Africa, South Asia, Central and South America, Small Islands Developing States and the Arctic.

## 03. WHAT WE NEED TO DO

To achieve a sustainable planet we need to live within the planetary boundaries. We need to let the sustainability issue frame and dictate all political decisions and be a natural part of our everyday life. Everybody needs to be aware of the situation and we need to change our behavior and consumption on an individual level as well. The key areas are keeping temperature rise well below 2°C (in accordance with the Paris agreement) and protecting remaining biodiversity. A lot of damage has been made, but (and that is a big BUT) we have the future in our hands. The solutions are available right now!

**Politicians** need to lead the way. Vast crisis management measures need to be taken to fulfill the Paris agreement (to reach net zero greenhouse gas emission by 2050 we need to halve the emissions every decade). Politicians need to realize that our and future generation's well being, economic stability, food and water supply depend on this.

**Companies** need to align by providing sustainable products and services.

**Individuals** need to consume in a sustainable way and put pressure on politicians and businesses by demanding sustainable solutions. We need to reuse and recycle. We need to change our way of traveling. We need to educate ourselves and make conscious choices. We need to demand green energy. We need to cut down meat consumption. We need to buy food from sustainable producers. Perhaps even engage for the better in an organization or Metaverse project targeting sustainability. ;)

According to the "Eat Lancet study" we would protect our health and our planet by following a flexitarian diet with more vegetables, vegetable oils and nuts and less red meat and starch. If we continue to eat like we do today we will both miss the Agenda 2030 goals and the 2 degree goal of Paris. Double fail! The scientists call the diet in the study mentioned above "The planetary health diet" and if we were to follow it the food sector would be able to be kept within planetary boundaries. The diet includes 5 meals a week with animalic protein; one with red meat, two with chicken and two with fish. Sounds feasible, right?

Down below there are some examples of political actions that need to be taken, in line with demands from scientists, Fridays for future and the WWF, among many others. Some will lose money and power from this transition but the winners are many many more. Here is the list, “The exponential roadmap” to halve the emissions until 2030 as the scientists call it:

- 1.** Halt all investments in fossil fuel infrastructure including coal mines and oil.
- 2.** Remove all subsidies to the fossil fuel industry. Hundreds of billions of subsidiaries are yearly directed to this industry and, besides that, there are a number of tax advantages that need to go.
- 3.** Adopt emission fees on greenhouse gasses (scientists suggest at least 50 EUR per ton) in every sector – no exceptions. A big majority of all the emissions are done without any cost. This needs to be changed!
- 4.** Food production needs to be transformed. Ban further expansion of agricultural land.
- 5.** Secure carbon sinks. Secure flowing water and remaining biodiversity in all ecosystems. Protect 30 % of our oceans and 30 % of land to start with by 2030 from exploitation.
- 6.** The finance sector needs to be prevented from funding the fossil fuel industry. For example pension funds, the World Bank, the IMF, G7 and G20 need to align with the Paris Agreement!
- 7.** We need to adopt new principles for financial development. Help the market to adopt through material taxation of unsustainable behavior and investments. Reward circular thinking – reward reuse and recycling.
- 8.** All countries need to adopt non-negotiable legislation forcing them to align with the Paris Agreement.
- 9.** Make the Tellus Project the biggest and most important focus! Treat it as we treated the pandemic and the financial crisis. Mobilize all efforts and we will fix this!

Humanity has proven to be able to mobilize in an unbelievably swift and powerful manner to tackle different crises and challenges – the COVID pandemic and the financial crisis are two near term examples. The Apollo program is another. When we collectively choose to really make a difference the pace can appear almost logarithmic. Tellus2 sincerely believes that humanity possesses the capacity of changing course from the catastrophic pathway we currently are at. To do this, all leading forces need to understand the importance of following the Paris agreement and listen to the scientists. It is as simple as that. The solutions are already out there.

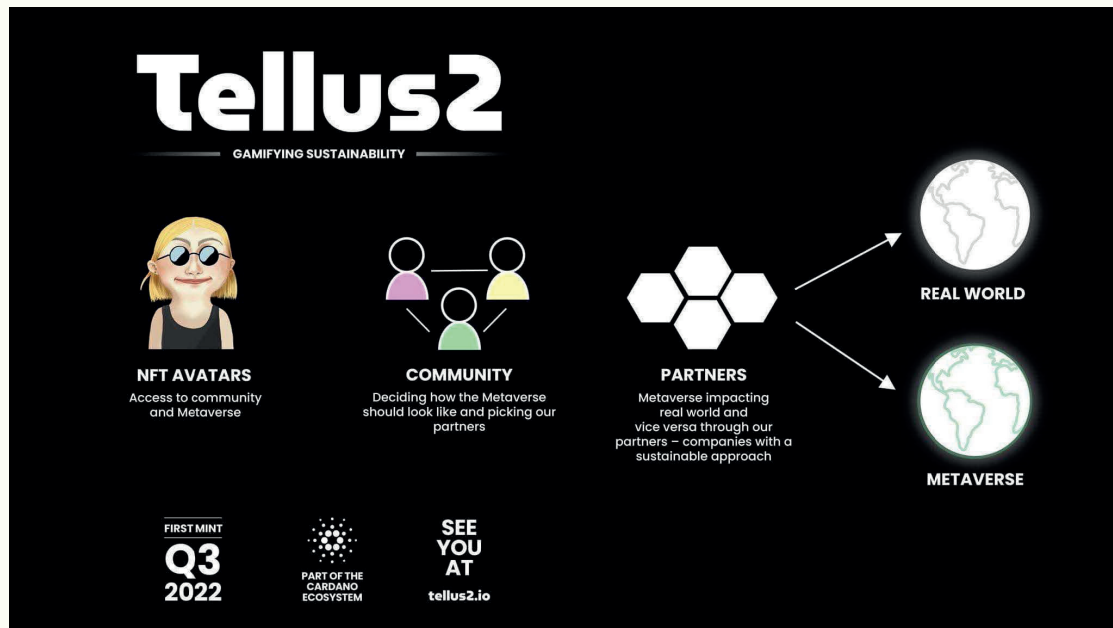
To succeed in the Apollo programme the US spent 2,5 % of the GDP on the Moon landing programme. If governments would spend 2,5 % percent of their GDP to save the planet we would have around 2 trillion USD to invest in sustainable solutions. That would probably be more than sufficient to reach the SDG goals. Sounds feasible, right? We need to step away from our “exploit and throw away” attitude and adopt a circular economy. Also feasible, right?

**Now, let's do this – together!**

## 04. TELLUS2 AND SUSTAINABILITY

Tellus2 is built from a desire to contribute in a real manner to sustainability. This will be achieved through our future partnerships – companies with a trustworthy and notable sustainable approach. Sustainable actions in the Metaverse will affect the real world and vice versa.

How it works:



Examples of impact – tree planting, water and forest protection, discounts on sustainable products and services and more. Imagination is the limit!

*"We seek to be knowledgeable, using the most reliable sources out there such as IPCC, other UN organs, the WWF and scientific studies.*

*We aim to spread awareness around sustainability, inspire to a sustainable lifestyle and contribute to sustainability in direct ways."*

Tellus2



## **Spread awareness**

We will keep our audience posted with the latest observations and advice from science, using the sources mentioned. As the whole system needs to change people need to understand what it is all about – we, the people, constitute the system and we have the ability to make a change!



## **Inspire**



We want to inspire people and businesses to act sustainably. We try to stay positive and focus on solutions even though we are facing a planetary emergency.

## **Contribute**

We aim to contribute by promoting and facilitating sustainable lifestyles and by encouraging business to act sustainably. We also seek to contribute by positive events in the Metaverse rendering in a positive event IRL as well, and vice versa.

We cherish the Planetary Health diet (less meat and dairy for people in wealthy countries), green power such as solar and wind, recycle and reuse, protection of ecosystems in oceans and at land, fossil free transportation, responsible fishing and agriculture and more.

By supporting and becoming a member of the Tellus2 Community  
You will facilitate our impact!

## **05. LEARN MORE AND TAKE ACTION**

We encourage You to learn more and educate Yourself in the sustainability field. There is a lot of useful and accessible information out there. Personally we like the free guides for a sustainable lifestyle that the WWF offers – very well presented and useful when it comes to everyday choices.

We also like the Lancet's guide for a sustainable diet – “the Planetary Health Diet”. There is also an educational podcast there. If people were to adopt the diet globally we would prevent 11 million premature deaths among humans – and save many more animals and protect the essential biodiversity.

Lastly we consider Fridays For Future and other organizations alike to play a really important role in the green transformation. They educate and inspire people to make a change and put pressure on politicians and businesses to align with the Paris Agreement. We believe it is a wise thing to engage in such movements. Their demands are simply: keep the global temperature rise below 1.5 °C compared to pre-industrial levels, ensure climate justice and equity and listen to the best united science currently available.

## **06. SOURCES**

### **Living Planet Report from WWF**

<https://livingplanet.panda.org/about-the-living-planet-report>

### **IPCC Report 2022**

<https://www.ipcc.ch/report/ar6/wg2/>

### **Earth**

Book written by professor Johan Rockström

### **Eat Lancet Study**

<https://eatforum.org/eat-lancet-commission/the-planetary-health-diet-and-you/>

### **IAE Net Zero by 2050 A Roadmap for the Global Energy Sector**

<https://www.iea.org>

### **UEP – Production gap report**

<https://www.unep.org/resources/report/production-gap-report-2021>

### **SDG Agenda 2030**

<https://sdgs.un.org/goals>

### **FAO Future of food and agriculture, alternative pathway to 2050**

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

## **Other links and reads**

### **WWF**

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

### **Friday For Future**

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