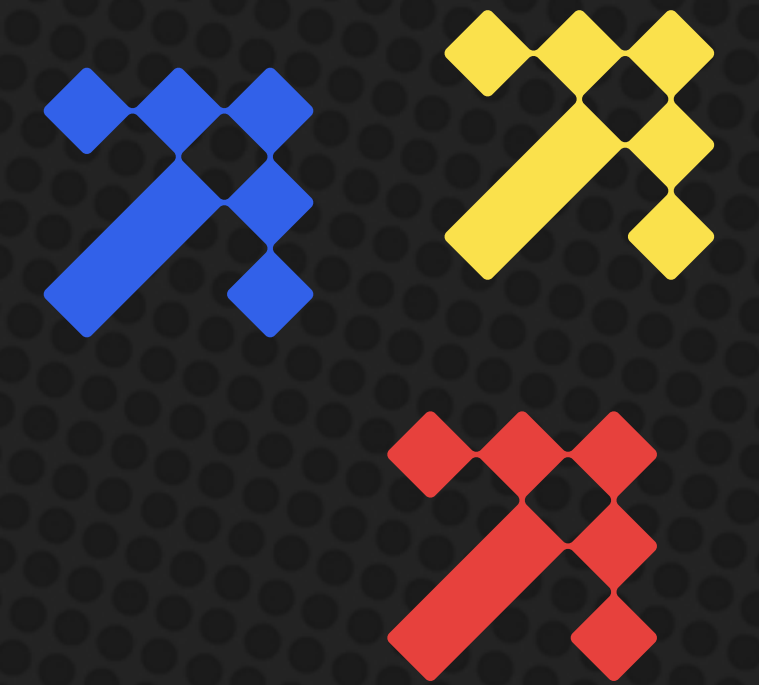



THE DEATH OF COFFEE?



 Science and imagination led futuring
for transformative businesses



“ We can't carbon calculate
our way out of this.
We need imagination. ”

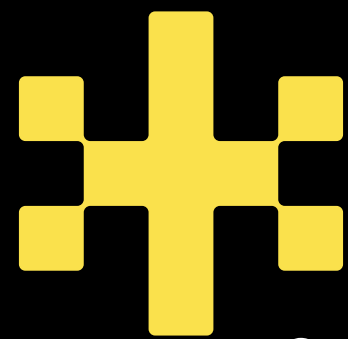
- **Andrew Merrie, PhD** | *Head of Futures, Planethon*

KEY TAKEAWAYS

Climate change is not an environmental problem, it is fundamentally an imagination problem. Here's why and how business leaders can solve the imagination problem at the heart of the climate crisis.

- 01** Imagination matters for business transformation and the creation of a more sustainable world.
- 02** The power of the future can support us to take bold action in the present.
- 03** Futures literacy is a critical skill for transformation and one that is lacking in the vast majority of companies.
- 04** What is climate fiction today will be climate fact in the future and therefore storytelling is critical for anticipation.
- 05** Organisations that succeed in inviting and being clear about how to leverage collective impact to make way for desirable futures, attract and retain top talents, clients, partners and investors.

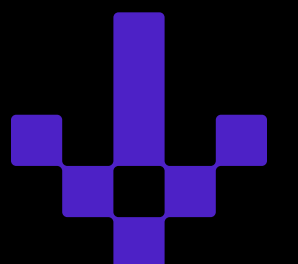
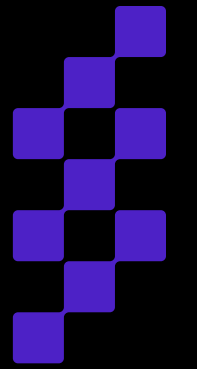
CONTENTS



Coffee, a crop of great ecological, economic, social and cultural value, is threatened by climate change and related stressors. Explore a possible future where the near death of coffee has become a reality (or has it?) by reading the excerpt from the 'Ragna' episode of the Spotify Original 'Twenty seventy-two' audio drama podcast. Ragna is based on Planethon's 'Hothouse without Coffee' science-backed narrative scenario. This can be found as the epilogue of the white paper on page 36.

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PROLOGUE



A short excerpt from the Spotify Original podcast 'Twenty seventy-two' | Episode: Don't Cry Over Your Bees

Written by **Nathalie Álvarez Mesén**



Performed by **Maxida Marak**

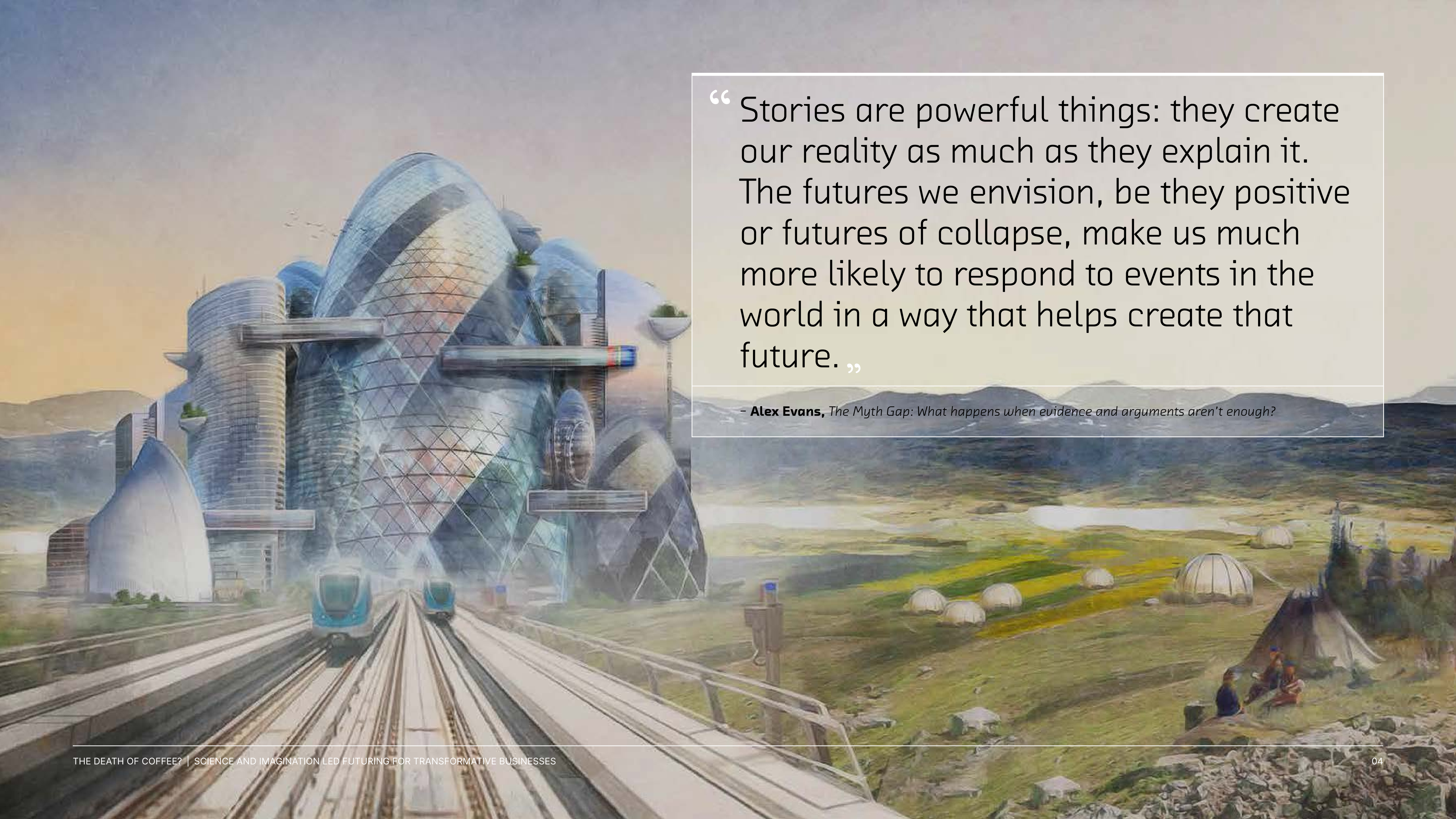
Underlying scientific scenario: **'Hyperfragile' by Planethon**



In a way, this feels like a victory. A moment of finally being seen. It is the first time in a while that a company admits that they need an independent farmer's real knowledge to solve the crisis. Even if it isn't HANA, it feels like a step in the right direction.

Robot bees have been in the market for bigger companies in the US for a while, but they just weren't built right. Those tiny squares couldn't even save the almond industry. And they looked nothing like the specimen in front of me.

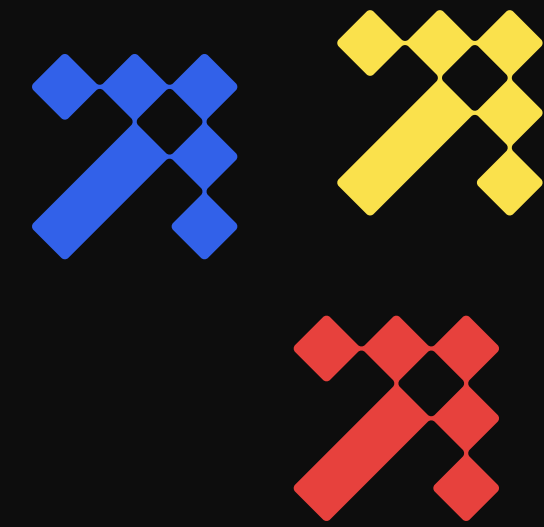
Because inside this box ... there is a bee. It's a damn real bee. Some sort of mix between a couple of native solitary species. They used just the right amount of creativity. I carefully grab it with the tweezers and place it in my hand. It's so realistic that I'm overwhelmingly ... unavoidably ... breathless. And I feel stupid because they are purposefully attacking my emotional memory to make me connect to this ... thing. But every hair in its furry thin legs is placed with such care ... and my eyes are rivers now. "Dad, you're getting it wet." Agustina umbrellas the bee with her hand, to protect it from my tears. I shake my head laughing like an idiot, "Don't worry, Agu," I say, "It should be water resistant, temperature resistant, life resistant ... Weird, huh?" When the blurriness clears, I can finally see the start button. ”



“ Stories are powerful things: they create our reality as much as they explain it. The futures we envision, be they positive or futures of collapse, make us much more likely to respond to events in the world in a way that helps create that future. „

- **Alex Evans**, *The Myth Gap: What happens when evidence and arguments aren't enough?*

EXECUTIVE SUMMARY



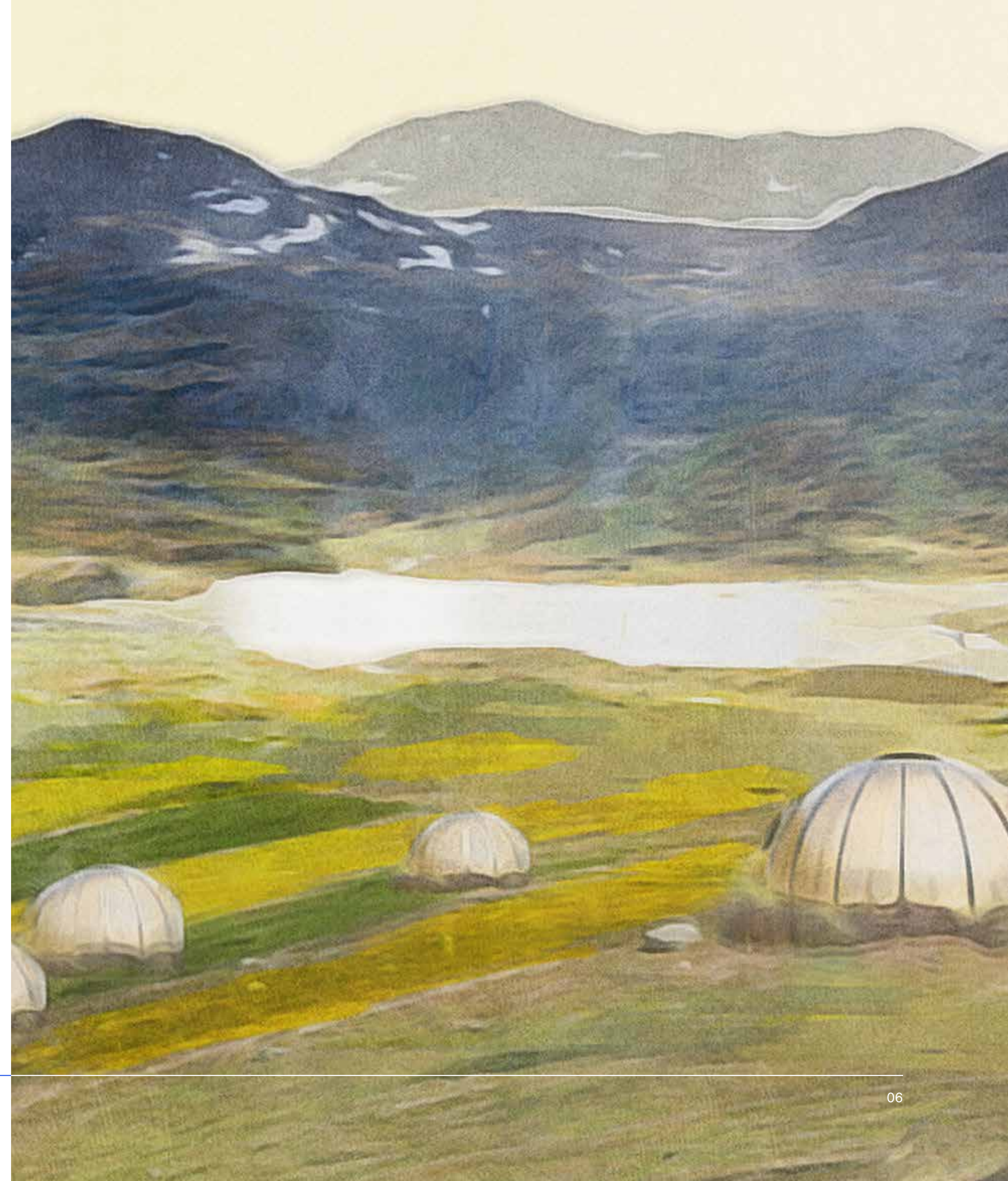
Businesses and organisations of all kinds are bombarded from all sides with conflicting expectations and constantly evolving challenges. Measurement, metrics, spreadsheets are seen as a safe harbour, a source of certainty, the eye of the storm. This kind of certainty however can be highly misleading if we never move beyond quantitative analytics, beyond the assumption of certainty and engage the imagination, engage creativity to embrace uncertainty.

After all, we already have tools to predict certainties. Indeed much of foresight, horizon scanning and trend identification and analysis is little more than highlighting things that are already happening and such approaches often assume that the past is an accurate way to determine what will happen in the future. These tools are built on linear assumptions that cannot account for real uncertainty. However, when we consider earth system changes together with socioeconomic and local environmental change, it becomes all too clear that uncertainty is going to become even more of a seemingly insurmountable challenge in the future as the world continues to get more volatile. We can't just put uncertainty in a black box and put it to the side. We have to find ways to engage with it, live with it, address it.



Human beings are storytellers, we use stories as important teaching and survival tools. Our imaginations are key to social, cultural and technological development and have contributed to the challenges we face today. But, our capacity to imagine can also help us find our way through these challenges.

As storytellers, we use fiction to bring the past to life and reshape the historical narrative as well as imagining and laying claim to the future. Science fiction and speculative fiction are tools for imagining alternative futures that hold immense promise for transformation. Fiction and storytelling satisfies the human need to imagine something before we can realise it. This is true for technological and scientific development in that, what was science fiction yesterday, is science fact today. As such, it is not so much of a stretch to connect the creative combination of science and storytelling to crafting and enacting better, fairer, more sustainable and more prosperous futures for humanity on a flourishing planet. However, this is still not very common in business and is certainly not an established practice.





“ We can’t analyse our way out of the situation in which we find ourselves, the only way out the other side is to probe uncertainty. ”

- Wakefield (2020)

What is climate fiction today, will be climate fact/reality tomorrow. In order to realise the changes we need to make, we must imagine them first. Therefore we are adapting a unique approach, developed from expertise and experience with futuring approaches grounded in sustainability science, for creating and working with planet-centric, system oriented narrative future scenarios; Cli-Fi prototyping, or climate fiction prototyping, originally from Yngwe (2022) which in part builds on the Science Fiction Prototyping approach of Merrie et al. (2018).

This white paper will make a case for why now is the time for your company or organisation to invest in cli-fi prototyping, building futures literacy, and harnessing the imagination to navigate an ever more volatile and uncertain world. We lay out the benefits of doing so and share the different ways that your organisation can use the future in your work today.

Already convinced? Reach out to us at hello@planethon.io

WELCOME TO THE ANTHROPOCENE



Humans have entered the Anthropocene. Humans have become the dominant influence on climate and the environment. Humans are in the driving seat. This is both profoundly unsettling and deeply inspiring. If we want the world to change, we have to change it.

We have gotten to this point, we have left 10,000 years of climate stability, to which we cannot return, (during the geological epoch known as the Holocene) due to a process coined by Earth System scientist Will Steffen as “The Great Acceleration.” Overall humans are wealthier and healthier than at any point in our history but the pressure that this has put on the earth system is immense and growing. This exceptional global socio-economic development has occurred on a stable, resilient planet which is now at risk. To put it even more bluntly, our exponential development has occurred in lockstep with an exponential increase in environmental degradation and human pressure on natural ecosystems.

Co-founder and former head of the Stockholm Resilience Centre at Stockholm University, Professor Johan Rockström sets the stakes as follows: “In 50 years we tipped from a 10,000 year Holocene into the Anthropocene. What we do in the next 50 years will determine the next 10,000 years.”

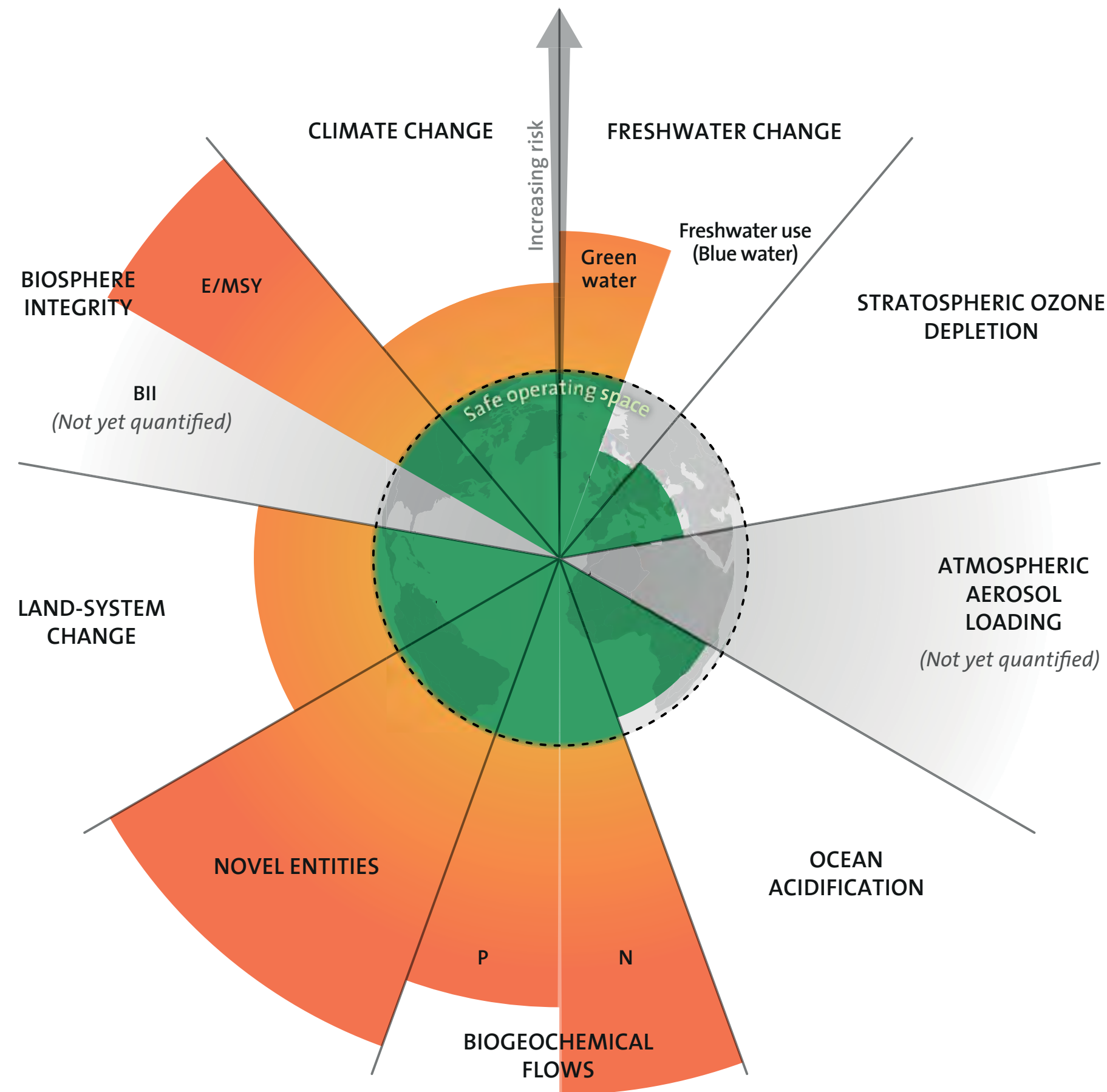


FIGURE 1: Planetary Boundaries. Licenced under CC BY-NC-ND 3.0
Credit: Azote for Stockholm Resilience Centre, based on analysis in Wang-Erlandsson et al 2022.



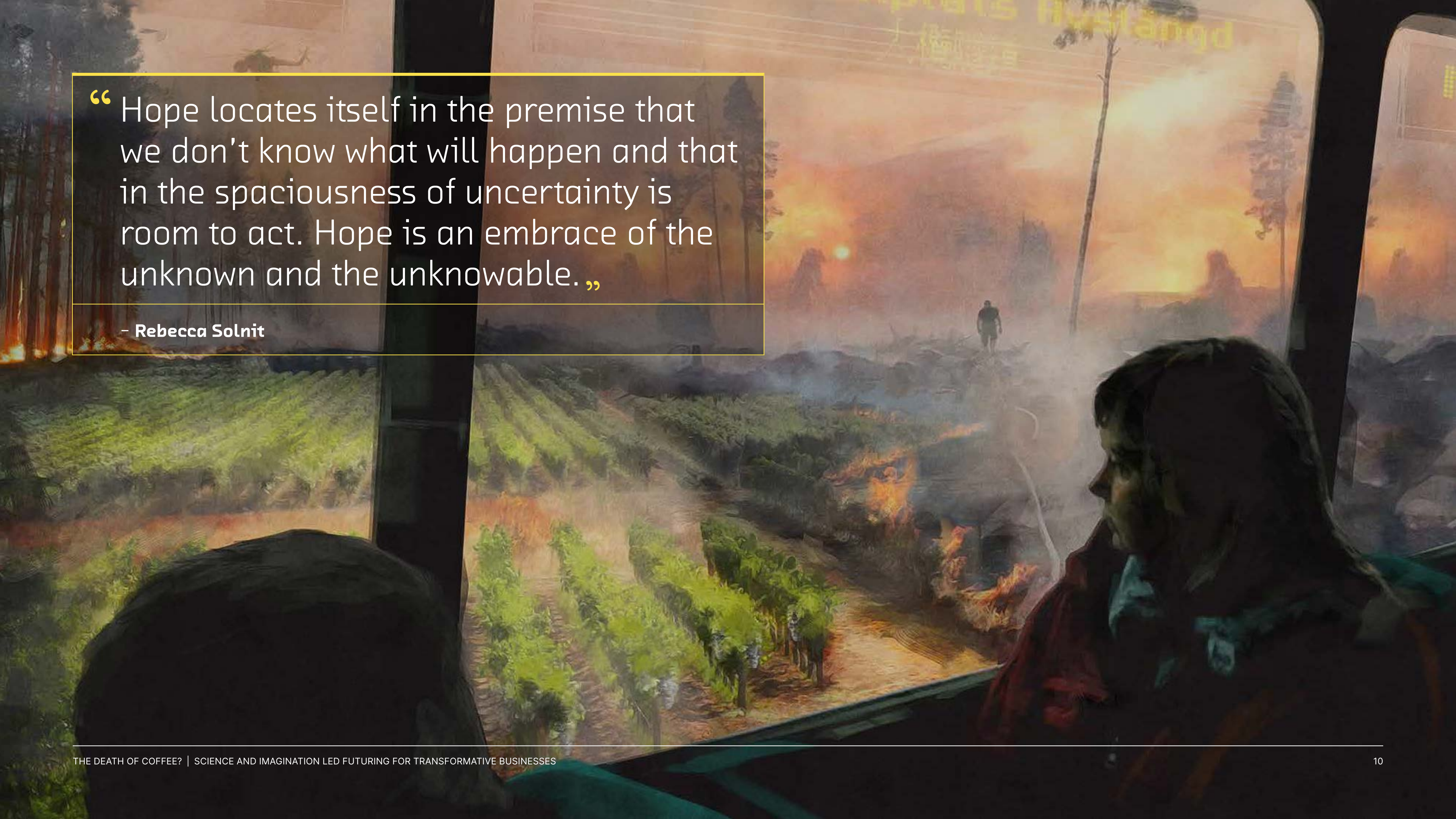
What does this human impact on the planet look like? In 2022, according to scientists, humans have now transgressed the thresholds of 6 out of 9 'planetary boundaries'. These include: biosphere integrity (biodiversity loss), global heating, water, flows of nitrogen and phosphorous into the environment, novel entities (such as marine plastic), and land use change (denoted as land system change).

If we have fifty years to change the trajectory of the planet and indeed humanity for the 10,000 years after that, how do we envisage and enact better futures? Drawing on the pioneering work of a large group of scientists, we can ask the critical question; "What are the seeds of a good Anthropocene" and how do we ensure those seeds grow and flourish?

\$1.8 trillion

is spent annually on environmentally harmful subsidies

- WWF Living Planet Report [2022]

A woman with dark hair, wearing a red jacket, is seen in profile from the chest up, looking out of a large window. The window shows a landscape with a fire in the distance. The scene is dimly lit, with the primary light source being the fire and the light coming through the window. The woman's expression is contemplative. The background outside the window shows a landscape with a fire in the distance, a person walking on a path, and a sunset or sunrise sky. The overall mood is one of reflection and uncertainty.

“ Hope locates itself in the premise that we don’t know what will happen and that in the spaciousness of uncertainty is room to act. Hope is an embrace of the unknown and the unknowable. ”

– Rebecca Solnit

EXCERPT

An excerpt from 'Hyperfragile', one of Planethon's Future Earth/Future Human Scenarios:

“ The death of the bees was mostly unintentional. Some of the other ways that biodiversity was manipulated were more sinister. The big four wanted to control and profit from the genetic wealth of planet Earth. ”



THE EXPONENTIAL MINDSET

WHY WE NEED FUTURES THINKING



* All of these four images are part of the Planethon 'Future Earth/Future Human' cli-fi prototype series of scenarios.



Many socio-economic trends, earth system trends and technological trends have all been on an exponential trajectory. This can often be a confusing situation when the world is changing very fast but can appear to be changing quite slowly. The implications of exponential change becomes clear with a simple example. Imagine you are standing on stage in a large room. If you take 30 linear steps in this large room, you will reach the other side of the room. But, if you take 30 exponential steps, that would be roughly 1 billion steps, which would take you 26 times around the earth. As the Economist so clearly states with reference to entering the Anthropocene: “Humans have changed the way the world works. Now we have to change the way we think about it, too”.

Fundamentally, futures thinking is necessary because the future does not exist yet, we make it and shape it by our actions and choices today. Often though, we lose sight of this fact. We are told by a loud few, those with a vested interest in maintaining the status quo, in not changing, that the future is already decided. The future, we are told, will be more or less like the present, only shinier, cleaner, more technologically advanced. We are also told the exact opposite., that nothing we do matters, that we are already doomed. Neither is the truth.



Many of the dominant narratives of the future are completely disconnected from the planet, disconnected from humanity and make no claim that the future will be better, fairer, more sustainable, more about human connection, only that the future will be abundant. Or again, that humanity is doomed and it is too late to change anything. Both narratives serve the status quo. The future is open, is contested and is not yet decided.

As the author and creator of the Anthropocene Reviewed podcast John Green states, “The only way out is through and the only way through is together”. Futures thinking can help unlock complex problems in a more uncertain world. Futures thinking is a way of thinking about what is possible more deeply, honestly and strategically. It also can help us to question assumptions, implicit biases and provide insights into what things need to change. Futures thinking is also about identifying what needs to die in order to give new ideas, ways of being, business models and more space to live and thrive.

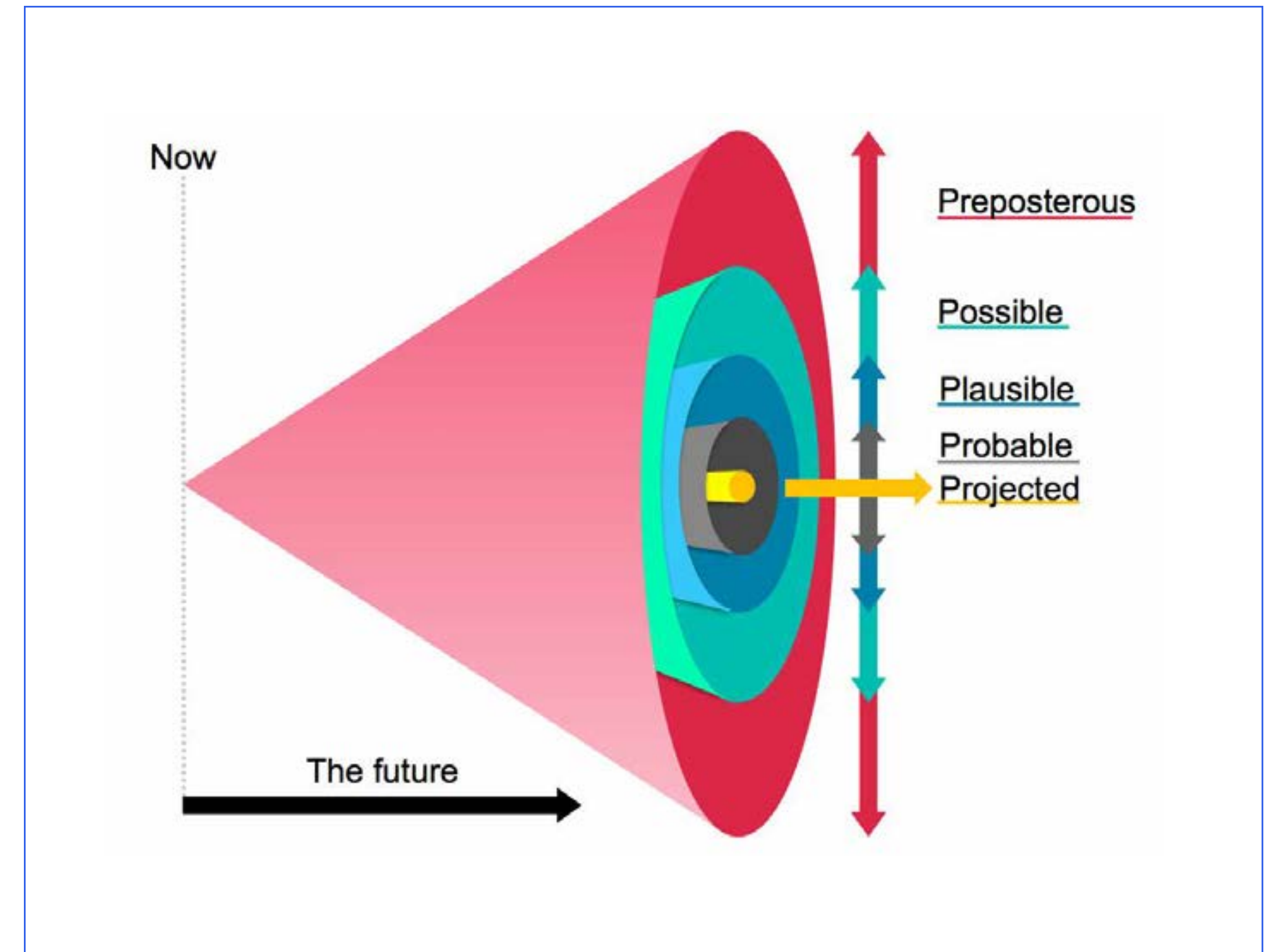
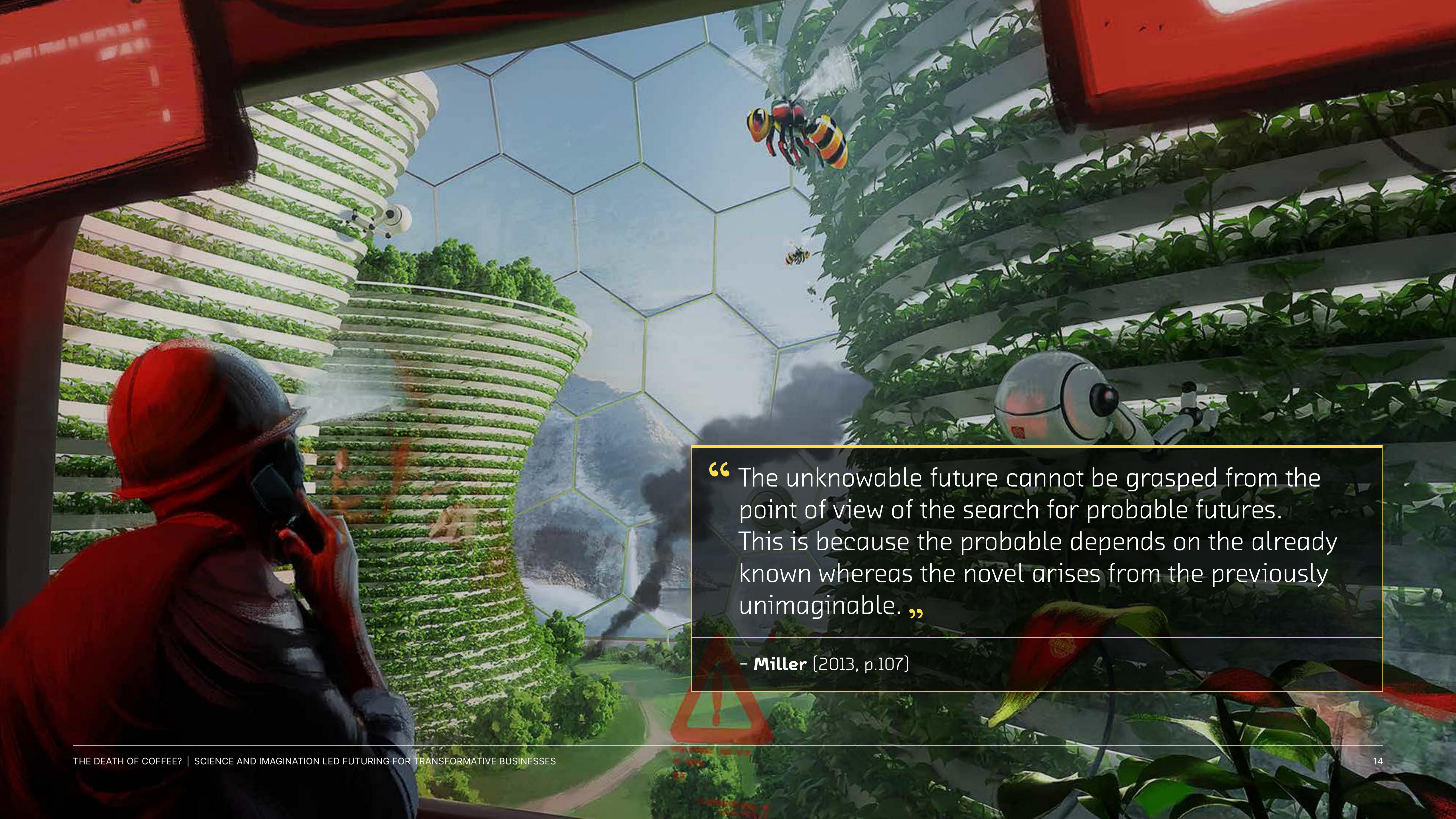


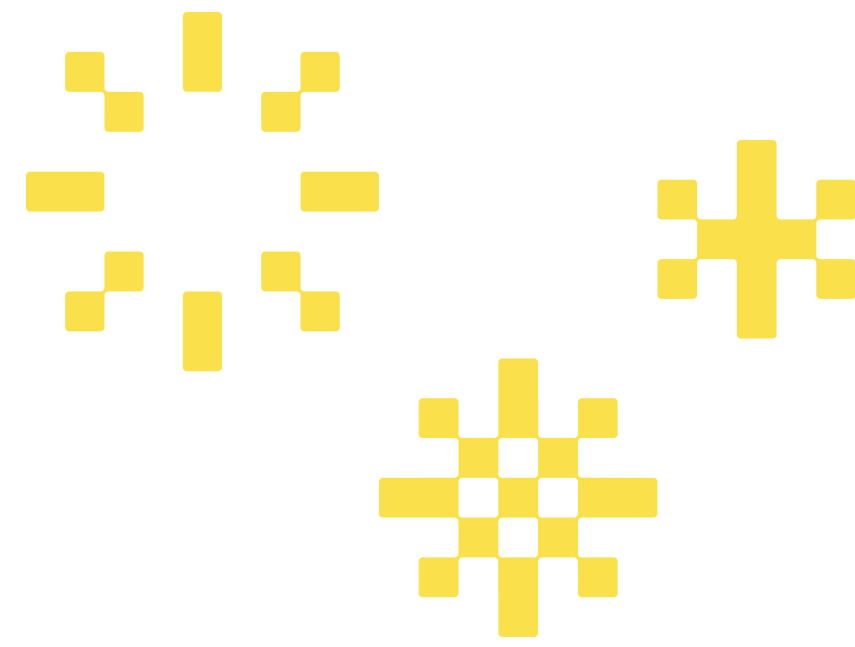
FIGURE 2: The Futures Cone is one of a larger number of structured futuring methods and is a useful way of thinking about and visualising the future. It is useful not only in envisioning diverse futures but in questioning biases and assumptions (Image: Mike Baxter).



“ The unknowable future cannot be grasped from the point of view of the search for probable futures. This is because the probable depends on the already known whereas the novel arises from the previously unimaginable. ”

- **Miller** (2013, p.107)

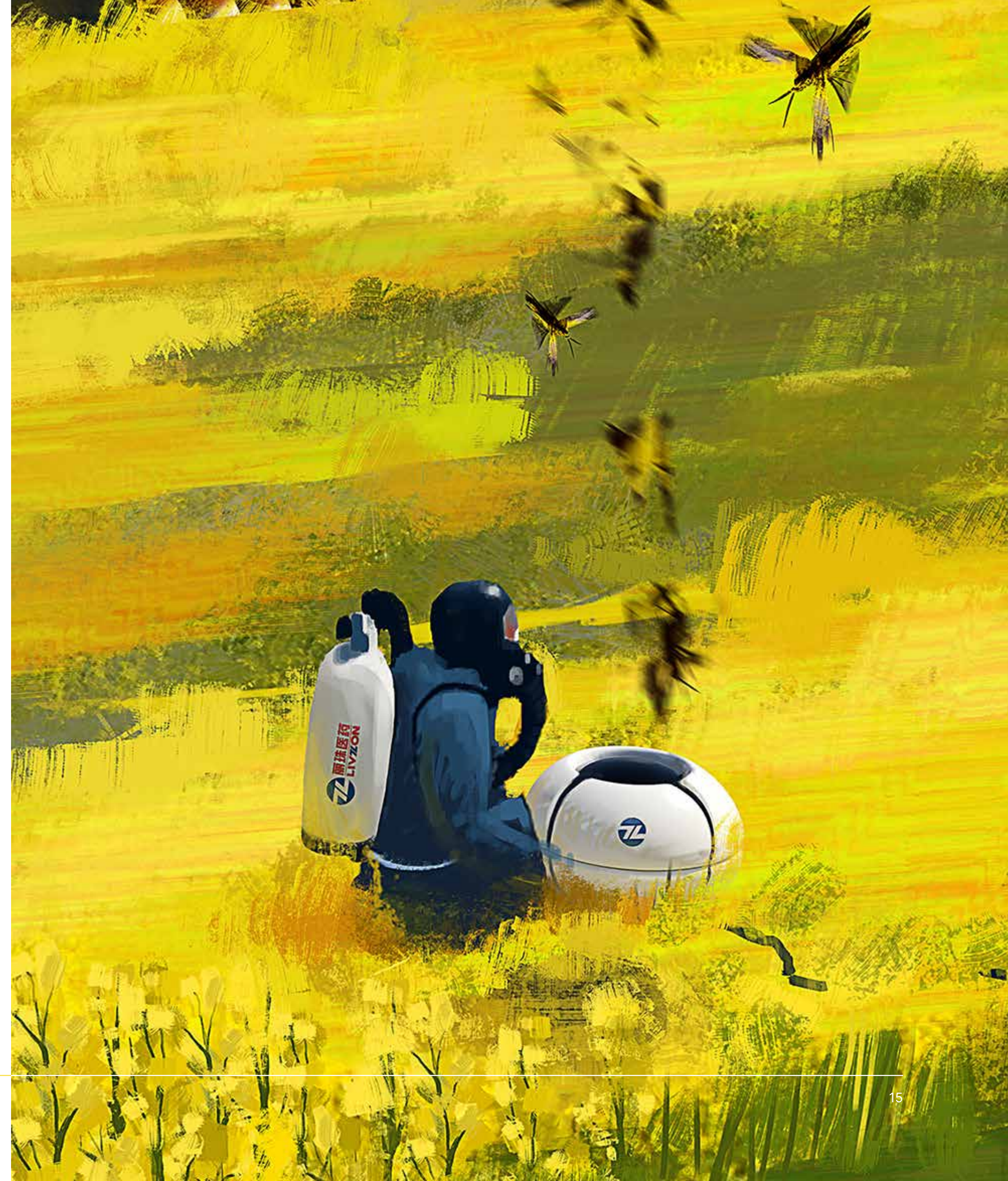
THE POWER OF IMAGINATION



“ Knowledge is empty without imagination, without spirit, without the heart... no civilization ever became great on knowledge alone. ”

- Okri (2015, p. 14)

We cannot relate to a future that we can't imagine. Imagination is much more than playing pretend, it is a cognitive function that needs to be nurtured and practised. Imagination has been shown to function as a type of freedom from or even resistance to reality. Moore and Milkoreit (2020) describe imagination as; "A reservoir of ideas protected from the challenges posed by various forms of rationality and can give rise to novelty and change. The ability of imagination to facilitate escape from reality by mentally generating alternatives, whether those are fictional worlds, utopian or dystopian futures is key for many change processes". Furthermore, recent research has shown a link between imagination and transformative agency, the ability to envision and create change in the world.

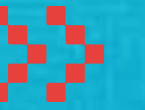




Imagination is especially important as basing future visions solely on current developments and underlying meanings prevents a necessary discussion of values and possibilities, inhibits novel ideas, creativity and a diversity of alternatives and reinforces the status quo. These tendencies can create an imagination gap, which limits the futures we are able to attain. Drawing on recent scientific insights, this imagination gap can be seen as having three dimensions as detailed in Moore and Milkoreit (2020). The first gap is around risk. There are significant and often incalculable risks that exist because of global environmental challenges, especially in determining their long term impacts on all aspects of society. The second gap identified by the authors is the 'lack of sociological imagination.' This is described as an inability to see the social structures that continue to drive and reinforce particular environmental problems. The third gap is less about the present and more about the "collective ability to imagine a rich and detailed set of possible futures and the various options and pathways that will lead toward them."

Individually, our imagination takes our experience and uses it to conjure future predictions – but often, what we know simply doesn't give us the tools to think accurately, let alone imaginatively about the future in a way that is able to disentangle biases, assumptions and the things that both individuals and organisations take for granted. In addition, recent research in cognition has shown that the process of creating memories and envisioning the future share many similarities and hence our ability to imagine is limited by our past, formative experiences and earlier lives. This is where a well-structured evidence base and structured foresight and futuring methods such as Planethon's cli-fi prototyping combined with participatory co-creation can be deployed to jump the gap and bolster imagination by working around individual limitations and biases as much as possible through facilitating collective imagination.

SCENARIOS & IMAGINATIVE FICTIONS



Scenarios are a structured form of futures thinking. Building scenarios can be an important tool for proactively thinking about and acting in a way that anticipates things to come. Scenarios can help individuals, communities, corporations, and nations to develop a capacity for dealing with the unknown and unpredictable, or the unlikely but possible. A scenario can be described as “a coherent, internally consistent and plausible description of a potential future trajectory of a system” (Oteros-Rozas in Merrie et al. 2018). However, we have just made the case for imagination and many scenarios lack any human element or any ambition towards storytelling.

Sci-fi and the broader genre of speculative fiction can let us dream, and it can also point out absurdities and highlight things that we take for granted in contemporary society. To head towards different, perhaps even better, futures, we have to be able to imagine what those futures might look, sound, smell, and feel like, and what the impacts and implications of different types of change might be. Frances Bell of Salford University’s Business School describes classic works of science fiction by Arthur C. Clarke, Octavia E. Butler, Isaac Asimov, Ursula K. Le Guin, and others as “applied fictions”: their books and short stories provoked discussions and dialogues about the future and technological evolution, about robots, the future of gender in society, and other speculative topics.

Image: © Simon Stålenhag/Radical Ocean Futures



Climate fiction has emerged over the last 20 years as a way for humans to explore their anxieties, fears and hopes for a future world that is already now being impacted by climate change. Science fiction, climate fiction, and for that matter, any speculative fictional narrative set in the future, can be considered a way to explore what could be: a scenario. Literature in general, Jan Oliver Schwarz of Aarhus University School of Business wrote, “can be perceived as providing a reservoir of futures. By creating scenarios in the minds of the readers, literature creates possible different worlds, or different perspectives and images on and of the future.” Fiction, Schwarz continued, gets inside human behaviour and humans’ inner worlds in ways other fields cannot, whether sociology, history, and even psychiatry. Literature makes “forbidden” or “unavailable” experiences come alive.

A specific approach for combining science and storytelling is science-fiction prototyping. Sci-fi prototyping came out of Silicon Valley. Brian David Johnson was the first “futurist” for Intel Corporation, and he wanted Intel engineers to think about the human implications of the technology they might develop. Now the futurist in residence at the Center for Science and the Imagination at Arizona State University (ASU), Johnson first developed formal methods of science-fiction prototyping for Intel engineers to envisage what the future would be like with their innovations in it. One explicit consideration they had to make was whether that future was one in which they – and we humans as a whole – would want to live.

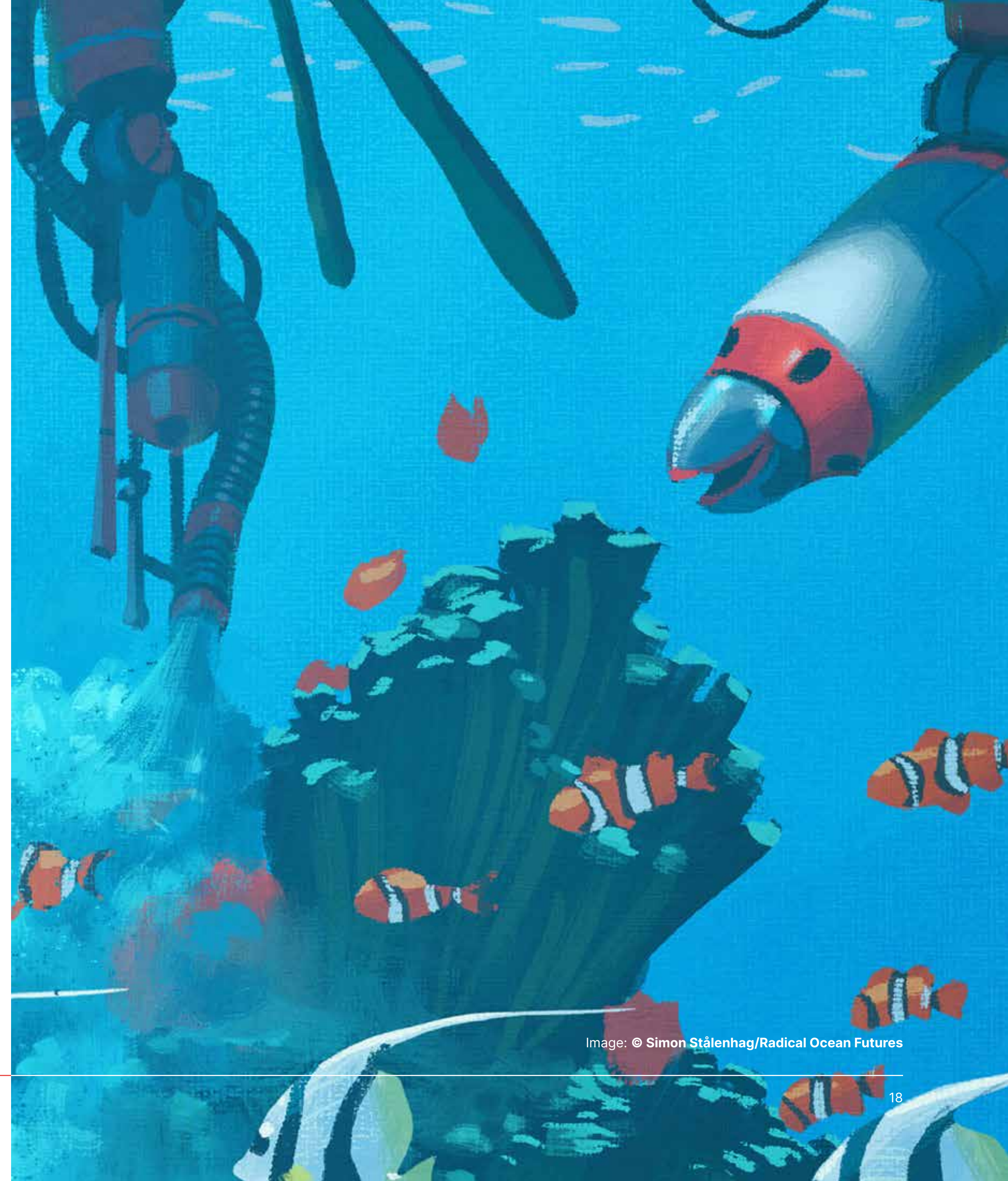


Image: © Simon Stålenhag/Radical Ocean Futures



Cli-fi prototyping adapted by the Planethon futures team is a people and planet centric remix of Science fiction prototyping that is better suited to crafting futures scenarios for a world in which humans are the main driver of climate and the environment. This approach is increasingly necessary as sustainability has moved from being a peripheral concern to being central for many businesses and organisations. It offers a way to structure creative thinking about alternate futures, while accounting for some of the dynamics of systems that are the heart of sustainability science.

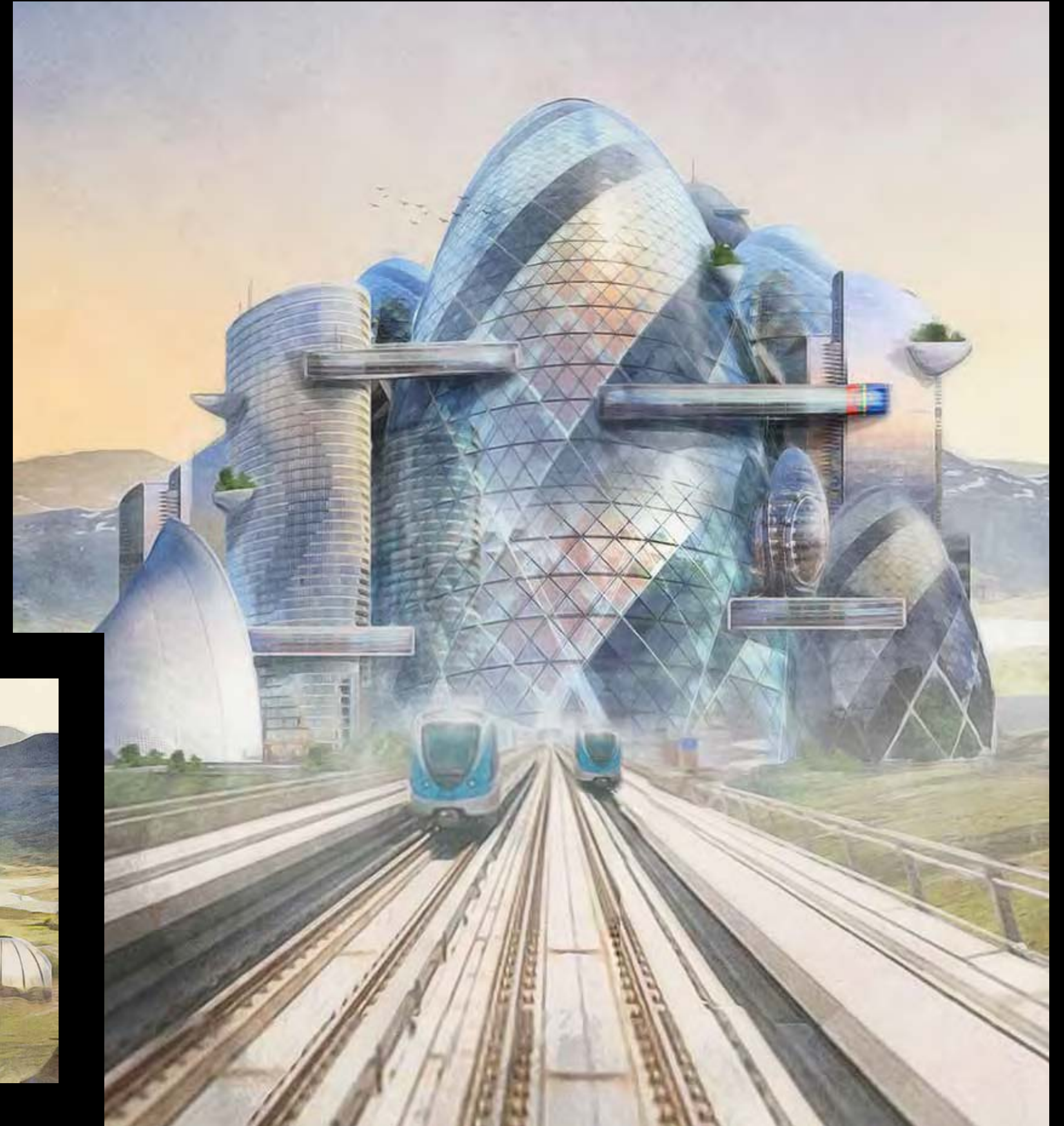
We know the stakes. We know the future is important and useful. We know that imagination matters. We know about scenarios and imaginative fictions. But, how do we go about using the future? What capability do we need to build? What are the benefits? These questions will be answered next.

“ We use Planethon Futures together with clients and partners across the globe who have chosen us as its innovation partner in the sustainability transformation – to provoke new ideas, potential developments products and to gain new perspectives of what is possible. ”

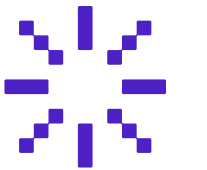
– **Senior Vice President**, Strategic Growth | *S&P 100 company*

An excerpt from 'Wild City', one of Planethon's Future Earth/Future Human Scenarios:

“ The wild city is in stark contrast to the model of urban development that still predominates, the smart city. Fleets of autonomous vehicles, optimised with algorithms, running over rivers of concrete, which separate isolated, segregated, socio-economically homogeneous areas of the city, pushing up against each other in tension, growing ever larger, sprawling ever further, still dependent on fossil fuels, the pattern of historic urbanisation, a political force in itself. While the wild city, through the interweaving of green space is able to regulate its own temperature, smart cities get warmer and warmer. ”



INTRODUCING FUTURES LITERACY



As “climate change is everything change” (Margaret Atwood), we increasingly find ourselves in uncertainty and changing dynamics. Dynamic environments and markets require dynamic rather than static capabilities, to learn and grow with change. Futures literacy is, as defined by Unesco, “the skill that allows people to better understand the role of the future in what they see and do”.

Being futures literate fuels visionary thinking, and builds resilience in a fast-changing and often surprising world. Futures literacy guides better decision-making, both when it is time to create and envision, and when it is time to respond to, and be proactive about, disturbances. It requires integrating a bigger perspective in the now to future proof ecosystem services, businesses, and pleasures.

Being futures illiterate on the other hand, can lead to self-damaging short-termism. An example of this is not saving for one’s own retirement today, leading to a pension in poverty, or working manually instead of digitising today to gain efficiency and leisure time in the future. The most alarming kind of futures illiteracy is the inability to transform today for a sustainable future, which ultimately can lead to our own extinction.

Futures literacy is thus the ability to embrace growing pains. The ability to turn pains into possibilities. You build futures literacy from the practice of framing, scanning, futuring, visioning, and designing the future.



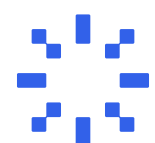
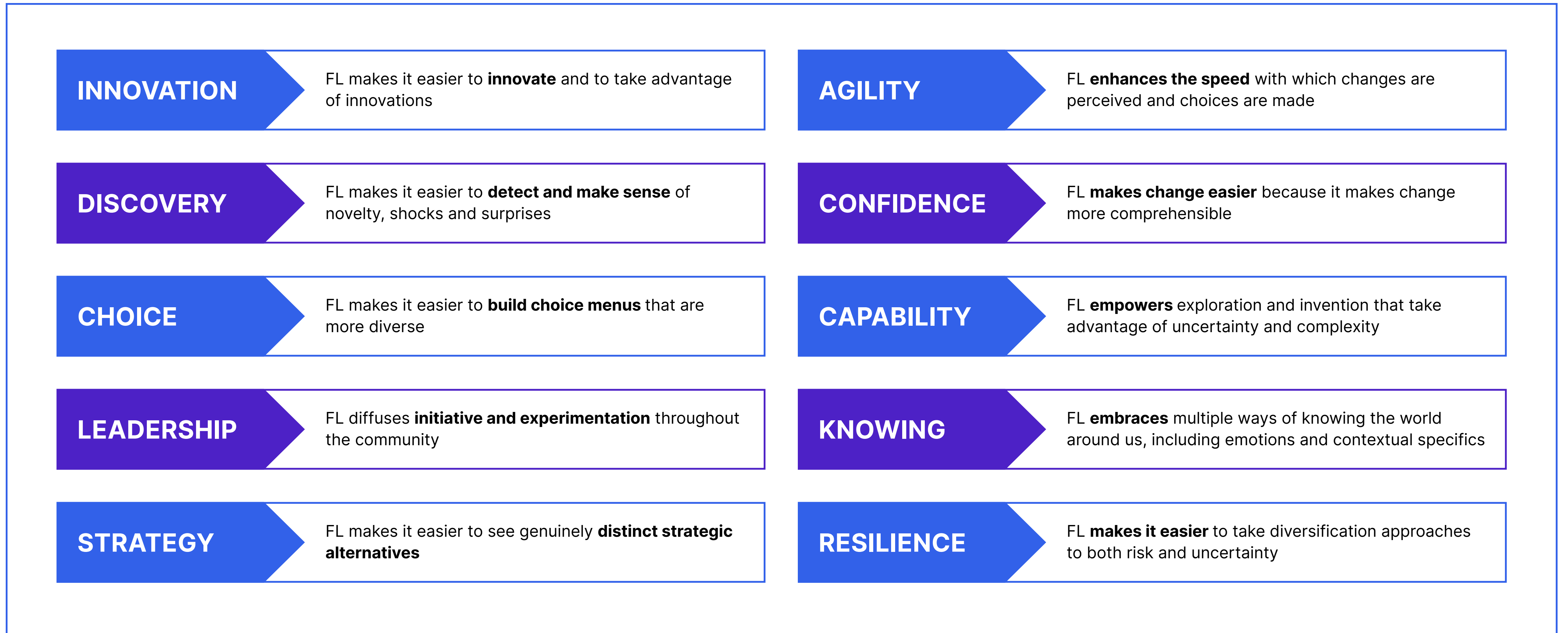


FIGURE 3: UNESCO, the United Nations Educational, Scientific and Cultural Organisation, identifies 10 essential organisational capabilities that are enhanced through building futures literacy. This provides support to the argument that futures literacy is a valuable strategic asset for a company or organisation.



OKAY BUT *WE* ARE NOT FUTURISTS, *WE* ARE A BUSINESS, HOW DOES THIS HELP US?

Organisations that succeed in inviting and being clear about how to leverage collective impact to make way for desirable futures, attract and retain top talents, clients, partners and investors.

9 out of 10 people

would like to earn less money to do more meaningful work

People who find their work meaningful are
less likely to quit their jobs **69%**

79% of people change purchase preference based on social
and environmental impact

- Harvard Business Review



As awareness about the state of the planet and the impact of human activities increase, there is also an associated increase in scrutiny of and scepticism towards sustainability efforts and messaging. Sustainability strategy, initiatives, and communication that are not anchored in science or an integrated future vision that all stakeholders can relate to, can be quickly dismissed and criticised.

This has made many organisations reluctant and cautious in doing and talking sustainability, in a way that hinders the radical action needed. Future scenarios and the process of cli-fi prototyping however, acknowledge the inherent unknown that is the future and invites all stakeholders: clients, co-workers, partners, investors, and the public, to contribute collectively, transparently, and tangibly to desirable futures.

FIVE WINS

WITH CLI-FI PROTOTYPING

Working with cli-fi prototyping has many benefits. Here, we summarise five key beneficial areas when future scenario work is applied with and for organisations, sectors, and even nations.

WIN N° 1

The first one is **inclusiveness and integration**. Cli-fi prototypes are a way of communicating science and complexity in a way that attracts and invites more people to take part in transformation and sustainability work. Communicating and understanding sustainability as everything change however, based on underlying trends of for example emissions, biodiversity loss and chemical pollution, is a way to invite and attract more people to understand and relate to challenges we are facing which can lead to multi-dimensional and unprecedented possible solutions.

70% of transformations fail due to lack of momentum and engagement



WIN N° 2

The second is **activation and advocacy**. Cli-Fi prototypes have the ability to reach people deeply, on a human level, to activate relationship building with, and action for, the future. Building and experiencing future scenarios is a way of getting to know the future, so that we can care for it as a friend rather than a stranger. It speaks to cognitive and empathetic intuitions to build community and advocacy around a purpose.

Companies with clear purpose beyond profit see reduced risk in turnover, higher and deeper levels of engagement

24%

Of executives surveyed by EY,

89% reported that a strong sense of collective purpose drives employee satisfaction

84% reported that it can affect an organisation's ability to transform

80% experienced it helps increase customer loyalty



WIN N° 3

The third is **determination and clarity**. Cli-fi prototypes clarify what the most significant changes and efforts that we can make today are, in order to make space for desirable futures. They give us a sense of direction and relevance in what we do today, that clarifies what our unique role and superpower is in the transformation. It builds both vision and proactiveness into today's business strategies. Further, it is an instrument that exposes implicit assumptions that are invisible from the lens of today, but absurd from the lens of the future.

Organisations with highly aligned business and innovation strategies, and pro-innovation culture,

have **30%** higher growth



WIN N° 4

The fourth is **innovation and creativity**. The true innovations are made up from what was once unimaginable. Using the future as a starting point for innovation and development opens up spaces for imagination without boundaries. Often, we are unconsciously restricted creatively by how things currently work. All the while the worst phrase in the language, as defined by Grace Hopper, is "We've always done it this way".

84% of executives surveyed by Accenture US Innovation considered their future success to be very or extremely dependent on innovation

WIN N° 5

The fifth is **capacity building**. Humans need a new set of qualities and abilities to navigate a dynamic, volatile, and uncertain environment. Working with future scenarios and specifically the participatory Cli-Fi prototyping process, builds futures literacy and a learning organisation in the now.

2 out of 3



say they are more willing to apply for (67%) and accept (68%) jobs from a sustainable company. However, **only half** say their employer provides learning opportunities for fostering sustainable practices in the workplace.

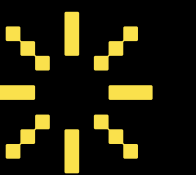




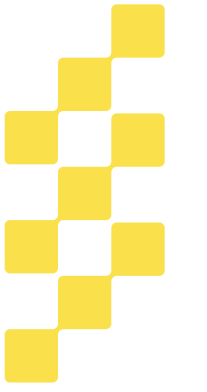
EXCERPT

An excerpt from 'Monopoly Mum!', one of Planethon's Future Earth/Future Human Scenarios:

“ Despite this rapid process of detaching economics from a reliance on carbon, which ended up in line with the 'roadmap for rapid decarbonization' (considered to be wildly ambitious by many in 2020), climate change was ever present and becoming more vicious. The symbol of this viciousness and the unexpected ways in which climate altered our world was a series of ever larger, ever more destructive swarms. As the climate envelope shifted, locust outbreaks become more prevalent in many different places and had impacts in a large number of fertile agricultural areas and were no longer confined to their desert homes as the areas in which these locusts could survive and thrive expanded rapidly linked to changing cyclone patterns and the global weirding of global weather. ”

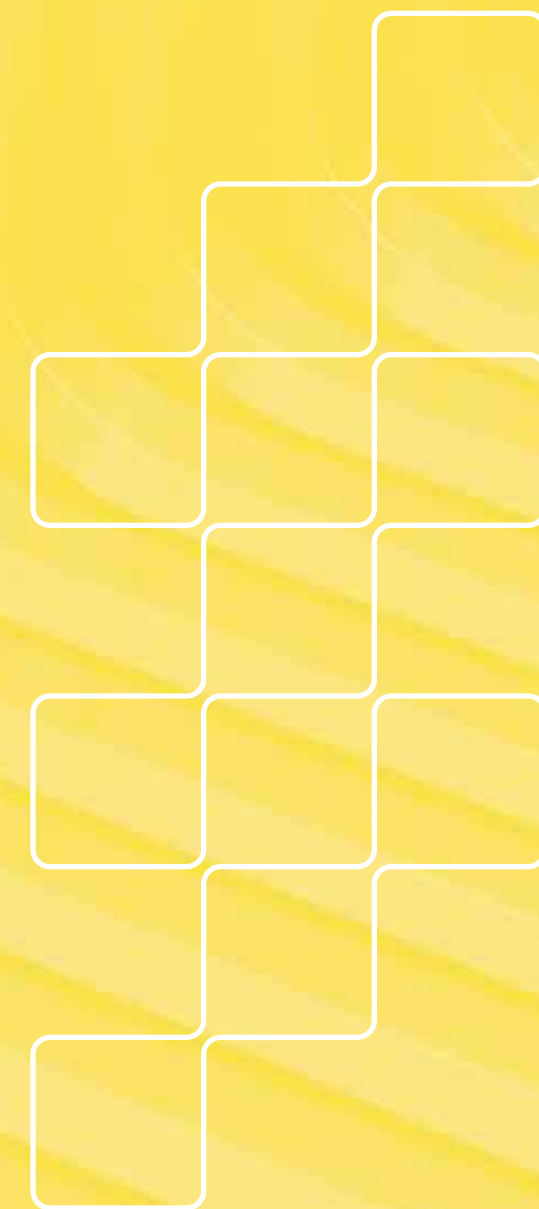


TECHNOLOGY & SUSTAINABLE FUTURES



We are in urgent need of harnessing imagination and accelerating futures literacy to close the gap between the enabling and disruptive ideas today and a sustainable future. The greatest transformative and development force in human history has been technological development.

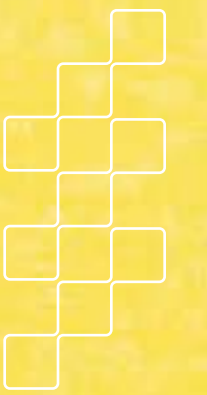
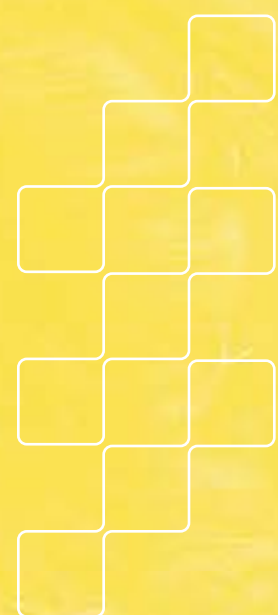
So why not leverage technology to transform unsustainability today into a sustainable future? There is nothing new about this; in fact, the so-called twin transition of the digital and the 'green', is widely recognised as an essential consideration in policy development today. But, technology can accelerate both unsustainability and sustainability. The same technology, such as AI, can drive very different results depending on how it is used. Many algorithms currently at work are fed and learn based on the biases and blindspots of yesterday and today, which then amplifies those same biases and blindspots today. All the while, sustainable futures require breaking away from biases and blindspots and shifting towards new patterns and new ways of seeing the world. To counteract this often unconscious process of baking in bias and blindspots, AI technology can and should be fed and learn from a much broader knowledge base including interdisciplinary science and alternate knowledge systems.





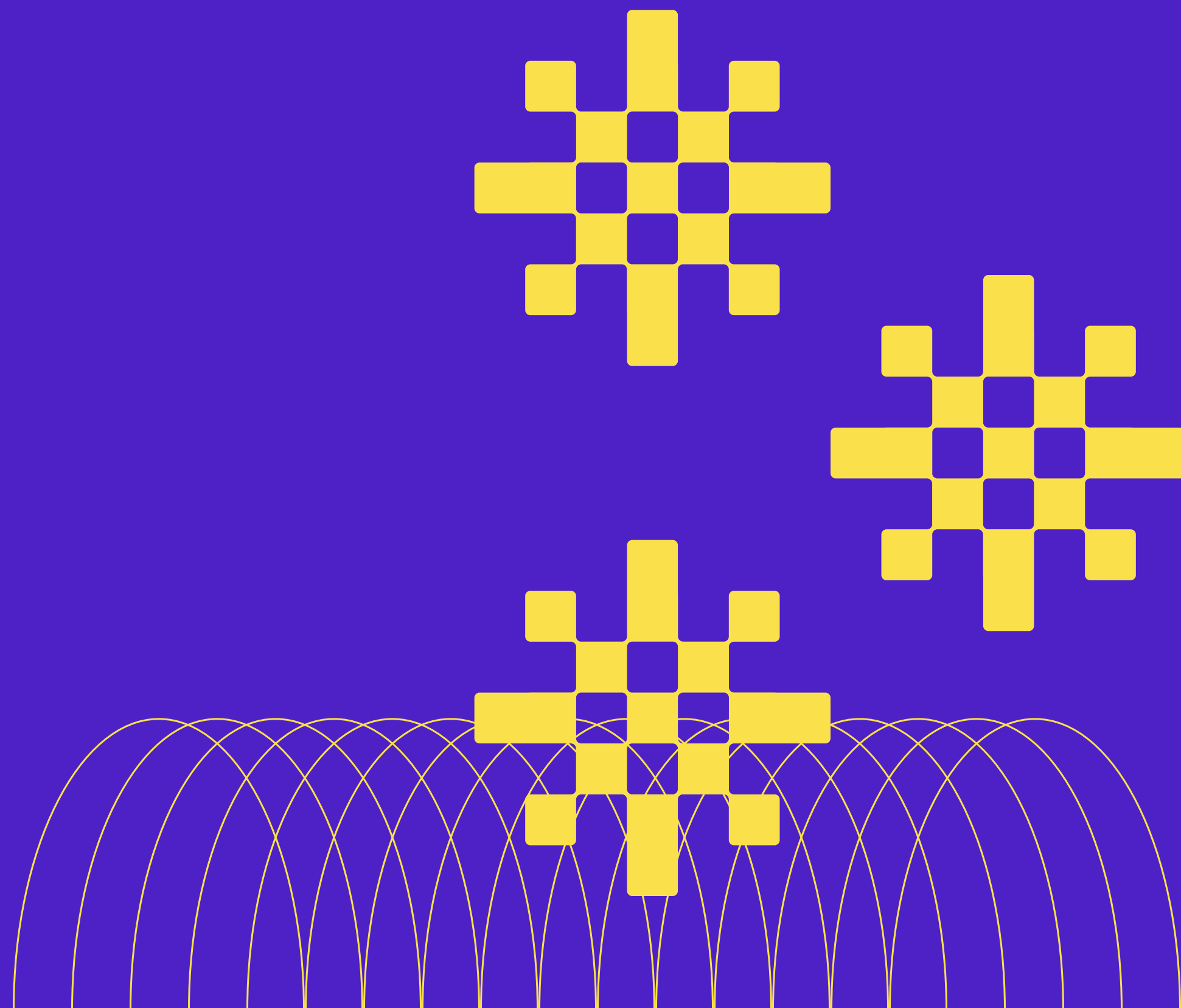
Technology and digital activity is also dependent on both energy and critical metals and minerals available only in some parts of the world, and this presents genuine challenges for pursuing digitalisation strategies disconnected from sustainability concerns. Cobalt provides a salient example. Cobalt is a key rare earth metal in many high technology industries and, despite rhetoric from some industry representatives, digital technology is not in fact decoupled from raw materials.

Cobalt has been delineated as a 'critical raw material' by the European Union. Global cobalt supply is still heavily dependent on the Democratic Republic of Congo. The Democratic Republic of Congo is politically unstable and cobalt is extracted at the cost of extensive human rights abuses and immense environmental damage. A next step considered for securing the future supply of cobalt is extremely destructive deep sea mining of cobalt nodules on fragile, biologically diverse seamounts.



Another example of risks with technology and digitisation when not considering a futures or systems perspective, is the rebound effect. The rebound effect is when efficiency gains don't lead to reducing resource use, but rather leads to an increased aggregated use of resources. Technology and digitisation are common vehicles for efficiency, and when we can produce a product or conduct an activity more efficiently, the effect may not be a decrease in input materials and energy, but rather work as an enabler to do more of it. Therefore it is necessary to connect the pace of digitalisation and the development of new technology to the sustainability of all of the different aspects that are necessary for enabling that development. A joined up approach to innovation is necessary so that technological innovation processes are both socially and ecologically literate.

APPLICATIONS OF FUTURES THINKING



These are some of the ways our partners are building their futures literacy:

- Imagine the future as input to setting sustainability/ impact strategy.
- Understanding the planet, society and humans in the future.
- Understanding emerging anthropocene risk and take a systems perspective to the future.
- Creating exponential solutions/products for the future.
- Backcasting and planning towards a preferred future.
- Educating and capacity building about the future.
- Brand/marketing purposes.
- Tool to envision and work towards preferable futures.

FINAL WORD

To conclude, we would like to remind you of FaceApp. The app that, for a moment in time, took over our social media feeds with our, our family's, friends', and celebrities', selfies – portraying our faces as they would look 40-50 years from today.

The idea and solution of visualising oneself as older started in a research project, in which scientists explored how to get people to save more for their retirement. To economists, it is a well-known phenomenon, and problem, that people value today higher than tomorrow. One cause of this is that our future self is a stranger while we know ourselves today very well. By letting people visualise and imagine their future selves, a relationship building process began. People who tested the visualisation tool could start to connect and empathise with their future selves and as a result, increased their retirement saving behaviour.

So if the solution behind FaceApp, which many of us might have known as a social media gimmick, could start correcting the skewed prioritisation between one's self today and one's future self by viewing a simulated image 40-50 years from now.





Can visualisations of environments, companies, societies, and ways of life, 40-50 years from today, start correcting the skewed prioritisation between environmental damage today and a sustainable future?

We at Planethon believe so. And, as this white paper has shown, we are not alone.

Future-prepared firms, defined as those with a corporate foresight practice, posted

33% higher profitability than the average company and
200% higher growth.



- McKinsey & Co.

“ Companies and investors must reduce nature- and climate-related risks and future-proof businesses and portfolios by immediately making commitments, taking action, and calling for change. ”

- WWF Living Planet Report (2022)

WHAT NEXT?



Are you ready to incorporate the uncertain future into your strategy? Are you ready to engage individual and collective imagination to envision and enact preferable futures? Get in touch and we would love to discuss how we can tailor our futures offerings to your specific needs.

The Planethon Futures team is a team of environmental scientists, process leaders, sustainability and business strategists. Connect with us at planethon.io or send an e-mail to hello@planethon.io

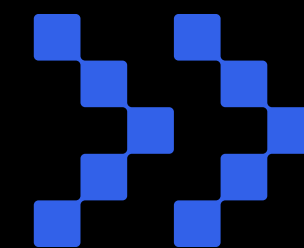
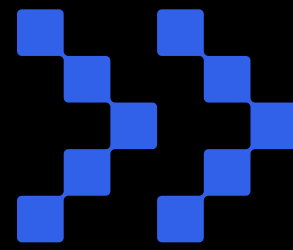
ABOUT PLANETHON

In 2018, the founding team of Planethon decided to take on the mission of making scientific insights more accessible, relatable and actionable. We created Planethon (a marathon for the planet) and a data-driven, science-based platform and business design process framework that enable sustainable investments, transformation initiatives and partnerships.

Some of the companies that have been working with us on futures are:



EPILOGUE



A short excerpt from the Spotify Original podcast 'Twenty seventy-two' | Episode: Ragna

Written by **Henrik Björn**



Performed by **Gizem Kling Erdogan**

Underlying scientific scenario: **'A Hothouse Without Coffee' by Planethon**



We sat by the fire, each holding a steaming cup. Grandpa called it coffee, but it was actually made from roasted dandelion roots. Over the years I had grown accustomed to the bitter taste, but really drank it mostly for Grandpa's sake.

He said that the decoction would have to do, and the colour at least was reminiscent of the original drink. "You probably wouldn't believe it. But you'd be glad to drink real coffee," he said. Nothing could make him more nostalgic than that mythical drink from a bygone era. "The winters are as long and dark as they used to be, but you can't have a good coffee break any more." There was no escaping the note of longing in his voice. I stirred the dark, cloudy hot water with a teaspoon. There was something about the ritual itself that I liked, sitting by the fire and chatting with a cup in my hand. But I could really do without the bitter taste. Grandpa laughed a bit when he saw me swallow a sip.

"The black gold from Colombia, to think it just disappeared," he said suddenly. "We didn't know how good we had it, because we didn't want to understand how bad it could get. When the heatwaves came, more frequently and hotter every year, people seemed to think it was a good thing. People could grow grapes in Luleå, have a pool year-round in Skåne and holiday at home – a staycation. I remember when we had a 'once in a thousand years' drought, for the fourth year in a row. And even then, we didn't do anything, other than slather on stronger sun cream." He paused and cracked a little smile, as if he had just thought of something funny. "It wasn't until the coffee ran out and the café chains began to close that the Swedes realised it was serious." He chuckled a little to himself. "Caffeine withdrawal. That was almost worse than what came next..."

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