WORLD MAJLIS

INSIGHTS FROM CLIMATE AND BIODIVERSITY WEEK

3rd TO 9th OCTOBER 2021

What if we could do more to save the planet?

**Deeply rooted in the traditions of the UAE, the majlis is one of the cornerstones of Emirati society, a space that welcomes friends and strangers to share news and ideas.**

The Expo 2020 Dubai World Majlis is an inclusive, open and informal conversation space, physical and digital; one that brings together diverse voices from all over the world to reflect on complex challenges for the well-being of people and planet.

WELCOME
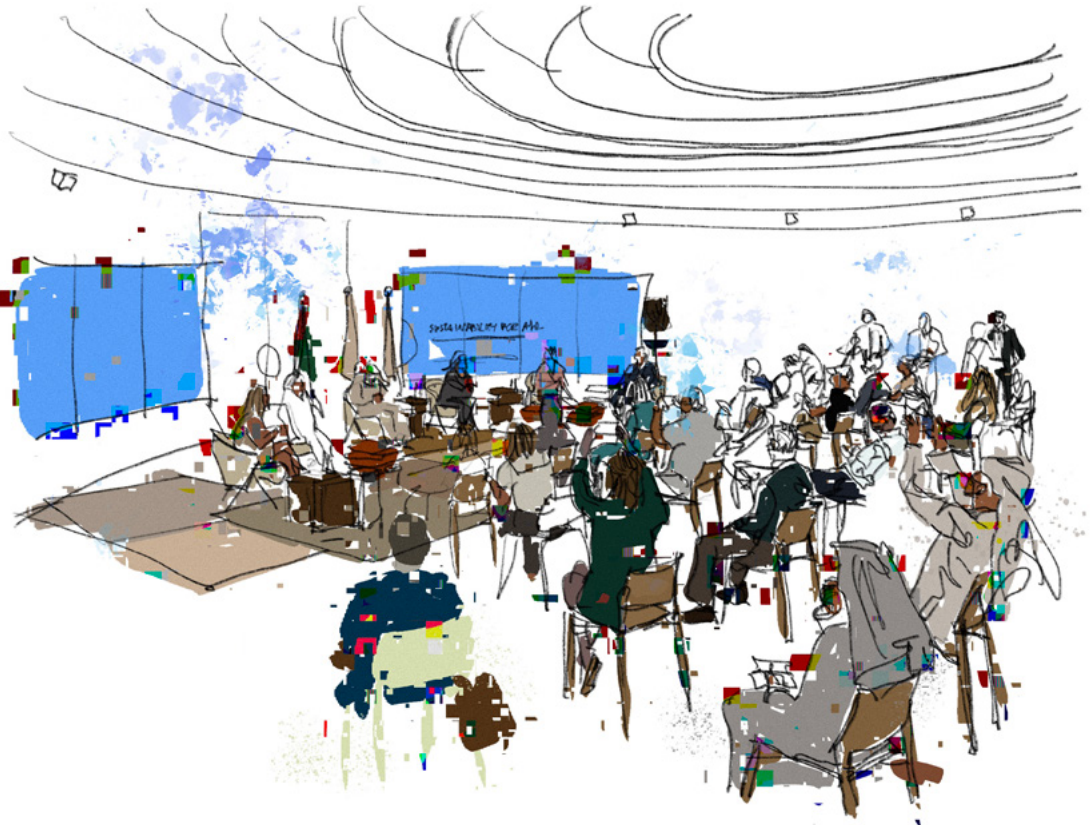
Between 3rd and 9th October 2021, Expo 2020 hosted four World Majlis to explore the theme of Climate and Biodiversity through the different lenses of people, planet and innovation.

1 **Nature's Game of Jenga**
Getting creative to fight biodiversity loss
In collaboration with Switzerland

2 **Mother Nature's First Defenders**
Women Leading the Fight to Save our Planet

3 **Sustainability for All**
Rewriting our Narratives for Balanced Living
In collaboration with the United Kingdom

4 **Earth 2.0**
Reengineering Planet Earth
In collaboration with the Maldives

WELCOME

The learnings from these conversations are summarised in the following pages, along with insights and challenges from the World Majlis, which can inform and inspire future exploration and conversations.

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SUMMARY AND CONTENTS

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In shaping the thinking of future climate leaders, economic curricula should be updated to integrate ecosystem service and shift away from models that only promote greed **[p24, 30, 33]**

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[p24, 30, 33]

Support research that decouples growth from consumption
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Encourage multi-disciplinary collaborations and research better connecting nature and technology **[p22, 42]**

Promote gender diversity **[p39]**

Ensure university knowledge supports the efforts of governments by providing better data for decision making **[p24, 45]**

New partnerships for a better planet

With nature - By looking at nature as having its own legal status, new partnerships between communities and nature can emerge

With cities and other small countries - Recognise the important role of cities and of small countries to build effective coalitions that can respond rapidly to climate challenges

With communities – create opportunities for citizens and local communities to participate in conservation efforts and even benefit from this, by creating small businesses

With finance – works with funding institutions to create global grants that can accelerate scientific development in relevant areas for climate solutions

With future generations - Establish dedicated governmental functions planning for future generations and apply "the good ancestor test" to policies

With universities – Universities can provide invaluable data to decision makers

SUMMARY AND CONTENTS

Connecting the ideas from 32
thought leaders from 20 countries
has sparked new lines of inquiry for
future conversations and research.

FUTURE INQUIRIES

Are we ready to accept that indigenous knowledge is as important as technology to help scientific understanding of the earth?

Do universities need to do more? Are they leading
or lagging?

Can indigenous knowledge become part of the scientific
toolkit or even school curricula?

Have we delegated our ancient ability of observation
and our rich language for the natural world to technology?

Have we are lost our ability to understand our planet?

What if the 4th industrial revolution was driven by the voices of biologists, health professionals and indigenous people on an equal footing of those of digital technology business experts and engineers?

Can our global economic models start from sustainability rather
than argue about whether it is valuable or not?

How many large companies are willing to provide testbeds for bold new solutions? And amongst those in highly regulated areas such as energy and resources, who will take the lead?

What are the unexplored engineering solutions based on nature?

What is the role of tech giants in joining global research efforts to understand our planet? Can they make valuable data available with no strings attached for the good of humanity?

Along with systemic thinking, the good ancestor test can be a critical part of a system of checks and balances to test the long-term viability of policies around climate and biodiversity

Can we increase the number of natural entities with legal status?

In a polarised world, can projects focused on local issues reconnect divided communities?

How can people in finance think more like Chief Financial Officers and less like accountants?

How do we quantify the ROI of local knowledge for investors?

Are there new models for fintech that work with nature rather than against it?

PARTICIPANTS

Nature's Game of Jenga

**Getting creative to fight biodiversity loss
In collaboration with Switzerland**

Venue: Terra – The Sustainability Pavilion
3rd October 2021

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Mother Nature's First Defenders
Women Leading the Fight to Save our Planet

Venue: Women's Pavilion
4th October 2021

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His Excellency Abdulla Shahid – Closing remarks
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Sinéad Walsh – Guest audience member
Climate Envoy for Ireland, Former Irish and EU Ambassador, Ireland
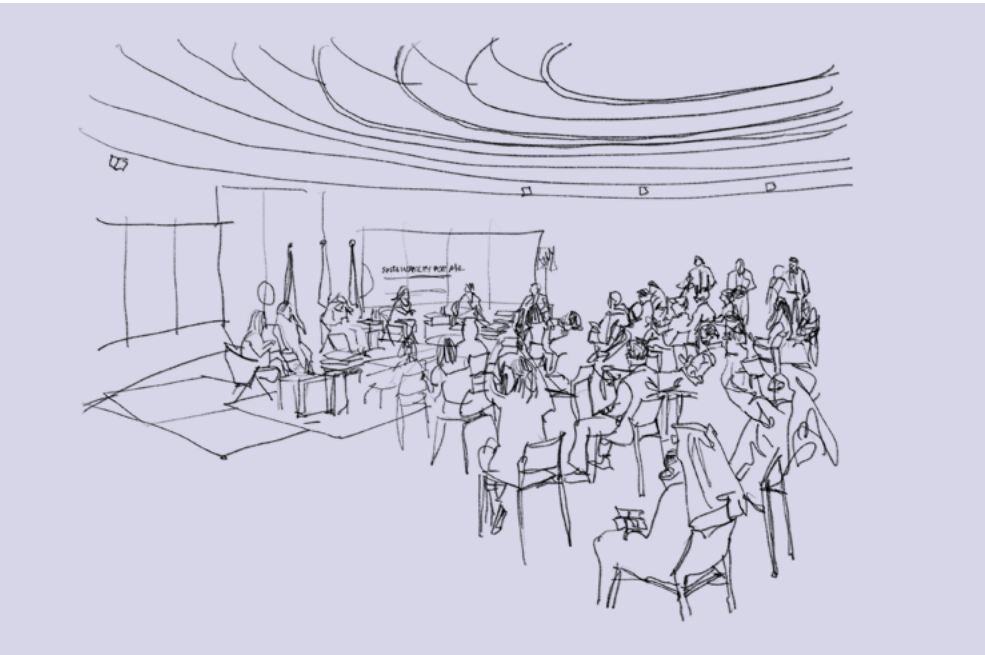
Sustainability For All

**Rewriting our Narratives for Balanced Living
In collaboration with the United Kingdom**

Venue: United Kingdom Pavilion
5th october 2021

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The Rt Hon The Lord Mayor of the
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Managing Director, E Treanor Media

Earth 2.0
**Reengineering Planet Earth
In collaboration with the Maldives**

Venue: Terra – The Sustainability Pavilion
7th october 2021

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Speaker of the People›s Majlis
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Joaquin Ruiz
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Amena Bakr
Chief Opec Correspondent
Moderator

THE CONTEXT

The Context

What if we could do more to save the planet?

Millions of years ago the earth was barren: rocks and volcanic ash. Over millennia every species that emerged has transformed the environment further, making it possible for other species to exist. Our very existence and that of future generations depends on this complex, infinite and interconnected web of life.

With the carbon cycle we are also undermining the water cycle and the integrity of ecosystems on which entire communities depend on for their livelihood and well-being.

Human intervention has disrupted that balance, depleting resources on a vast scale. We have lost half of the world's forests, which has resulted in the emission of over 400 trillion tons of CO_2 in the atmosphere, creating a significant impact on our climate. And while today carbon is the dominant driver of the conversation, it is only a small component of the ecosystems that we are impacting.

Our conversations need to connect climate and biodiversity to reflect how a warming climate creates a loss of species, which either disappear or move elsewhere. When we tackle climate change and biodiversity together, we have a better chance to find systemic solutions that can address the competing needs of nature, people and economy.

The emerging view of sustainability is going beyond the separate circles of economy, society and nature intersecting in the middle. It is one of an integrated system with humans in the middle or as part of it (depending upon the views), where nature supports society, which in turn supports the economy. And as a result of this majlis, the embedded role of technology should also be included as its purpose and impacts cannot be considered separately from the ecosystems where it is deployed or the knowledge it supports.

THE CONTEXT

Ahead of COP26, countries announced their 2050 zero carbon targets. However, given the current context, we must think instead about 2030 and accelerate solutions across science, technology, business, education and policy. It is critical that we decouple wealth creation from resources and consumption. We will not meet our commitments until we revise the way we extract, produce and consume.

Nature itself can help provide solutions that are affordable, sustainable and help communities prosper.

We are nature
Modernity has taken away our sense of innate connection with nature. Science has demonstrated that we are 10% of what we call human and the rest are bacteria and we have recently understood the full extent of mycorrhiza in the soil. We are one creature, part of the larger planet and the bigger universe.

There are currently many separate conversations about carbon, energy and conservation, which are mostly taking place in a silo. We need to bring these together to create the right feedback, information and insights into the systemic nature of our challenges.

THINKING DIFFERENTLY ABOUT CLIMATE

Thinking differently about climate

Climate change and ecosystems and biodiversity are connected. A warming climate creates a loss of species, which disappear or move elsewhere. Climate change is fundamentally about temperature, but the focus on carbon, instead, has led to a highly polarised conversation, and one where solutions are often only partial: some people love planting trees because they believe it is good for carbon, other want to exclude all aspects that are bad for carbon, primarily fossil fuel.

"I think this is why we need to be very selective: why do we do planting? Is it a planting for a greater purpose or not? And definitely in UAE, we had a great experience around planting, but again, I don't want to see more planting for no good reason."
HE Dr Sheikha Al Daheri

Understanding nature as a service provider
Nature provides humanity sources of food, fuel, water and fibres. It provides services that regulate air, soil fertility, water. It provides supporting services that prevent floods or avalanches. It provides even cultural services by inspiring the creation of beauty products, architecture, buildings. All these elements need to be given an actual value in our economies and the loss of these services comes with high costs. Also, there are already examples where nature provides infrastructure solutions that are not only cheaper, but more effective in the long run.

Tree planting is one area where we need to enrich our understanding. Without a purpose, without a plan that integrates nature into the economy of a community, without people to care for them, this is a simplistic and ineffective way to deal with climate change.

THINKING DIFFERENTLY ABOUT CLIMATE
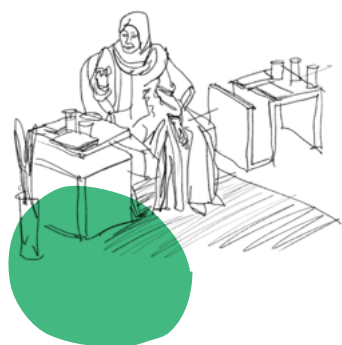
"There's a thousand different examples of where managing land effectively is really empowering, but only when it's done in an ecologically and socially responsible way for the local people and the biodiversity they depend on."
Prof Thomas Crowther

Trees are important for more than absorbing carbon. The process of transpiration helps to create clouds, reflecting heat back into space, and cooling the environment around them.

Integrated into the economic dynamics of a community, trees contribute to soil fertility, leading to better crops and healthier yields. They provide protection, whether it is in housing beehives to keep honey badgers away or in preventing soil erosion. Forests provide homes to a variety of plants, animals, insects, birds and more.

Tree planting works well in local communities, regions and farms where there are people looking after them and where they empower and sustain local economies and the biodiversity they depend on.

The conversation should be about revitalising ecosystems for the sake of the millions of services they provide. We are not going to restore ecosystems by planting trees. Our focus should be about protecting entire areas so that nature can recover naturally, or in collaboration with people.

"We focus all the time on individual things — whether it is trees or something else. But it is the emergent power of all of these things working together that have an impact far bigger than anything we look at."
Sir Tim Smit

THINKING DIFFERENTLY ABOUT CLIMATE

Decoupling growth from consumption

If we only talk about decoupling growth and carbon, many of the solutions and economic models will be focused on the transition from fossil fuel to clean energy, which is limiting. We must also focus on decoupling growth from consumption, and to do so we need to rethink how we address waste and create circular economic opportunities from it.

Focusing on society's wellbeing

As the European Union's Porto Declaration demonstrates, we need to shift the way we see economic development into new objectives, which in turn will influence technology and how we pursue these goals.

This thinking is analogous to building a new transport strategy based simply on shifting to electric vehicles. In Wales, the transportation strategy is led by a public health specialist who does not start by focusing on mobility solutions, but looks at well-being and needs in different neighbourhoods.

Applying cross-discipline thinking

Governments need to bring everyone together from a variety of backgrounds, including lawyers, engineers, scientists and social scientists, to properly address the systemic nature of the areas they are trying to regulate. Biologists need to work with people who have different skills on potential solutions: engineers, veterinarians and doctors. Think like a crossword puzzle – moving horizonally and vertical.ly It was this kind of thinking that led a team at Bicocca University to use cancer imaging technology to visualise the spread of plastic on beaches in the Maldives.

Respecting nature's sovereignty

Ecosystems own their own processes and know best how to evolve and adapt. The indigineous view is that human ownership of land does not respect this; it imposes a different way of knowing on the ecosystem, one that often loses the complexity of the processes at play. Acknowledging this sovereignty rather that imposing human sovereignty on land is a vital shift in ensuring that biodiversity is protected over the long term.

What is growth?

"We need to find a different meaning for the word growth. Growth in health, regeneration, education. What is the economy for? At its roots "economy' is about the welfare of all, but today we connect it to whether we are rich enough, and not whether we are healthy or educated enough."
Her Excellency Inés dos Santos Costa

THINKING DIFFERENTLY ABOUT CLIMATE

"I called the doctors in my university who are working on imaging analysis and said 'I know you are able to analyze a metastasis, but if I gave you a picture of the beach with some pieces of plastic, isn't it something like a metastasis? Would you be able to quantify plastic the same way?'

If I had decided to speak with another biologist about that piece of plastic he would have said ‹oh a piece of plastic, what can we do?› And nothing would have happened. So you really have to change your position, speak with other people and share what you find; and then use open-source. You need to think like an open source."

Professor Paolo Galli

PLANTING GOOD HUMAN BEINGS

Alone, any one system for human knowledge, whether from a world leading University or an indigenous tribe, is limited.

We need to "decolonise" ourselves from the way we have been taught.
Gerrard Albert

Planting Good Human Beings

In order to successfully manage the environment, we need to start managing people to be better. Underpinning this is our education systems, formal or informal, and the values they teach. Our formal education systems are highly inadequate for the world we live in: they do not train children to grow and look after things their lives depend on.

Role of universities

Education systems appear to be disconnected from the values that we need. In the case of first-year economics curricula, students are taught that greed is good, when in their early years at home, across cultures, they are generally taught that sharing is good – even as many never learn about their basic connection to nature. The value of 'homo economicus' is reversing the values we need to live sustainably on earth.

Students are given a classical understanding of a discipline in the first years of university and only at the level of Masters and PhDs are they able to learn about the latest ideas. This needs to change rapidly and provide a diverse understanding early on.

Schools need to also start teaching the economic value of clean air and clean water. Ultimately the notion we have all been brought up with that these resources are free is not true and we need to embrace and encourage this new way of thinking.

Universities also have a role, and even should have an obligation, to work for the public good by helping entities like Environment Agencies and others that currently don't get any help. Their research should help governments monitor ecosystems and other areas that support public health and well-being.

University teachers should themselves teach their disciplines in a positive, outcome-oriented way, which is more effective in terms of engaging students in becoming part of the solution.

PLANTING GOOD HUMAN BEINGS

Role of indigenous knowledge

Indigenous knowledge can teach values based on a profound inter-connection with the environment, and their knowledge based on observation can even support the scientific process.

Values

The Maori values have driven the people's successful effort to work with the government to protect their river and give it legal status.

Accept that the river, like any other ecosystem, is at once physical and metaphysical; accept that people are innately part of that ecosystem.

We should not even be arguing or have doubts about where human beings sit in that picture and whether we have an obligation to ac-cept that nature has a life force and an authority. We need to look after it and learn from it.

Indigenous value teach children that "you go to the river to give before you take". That if you take from nature, you also need to give back to nature. The healing of nature is if everyone can find a way to cooperate and be led by the same value set.
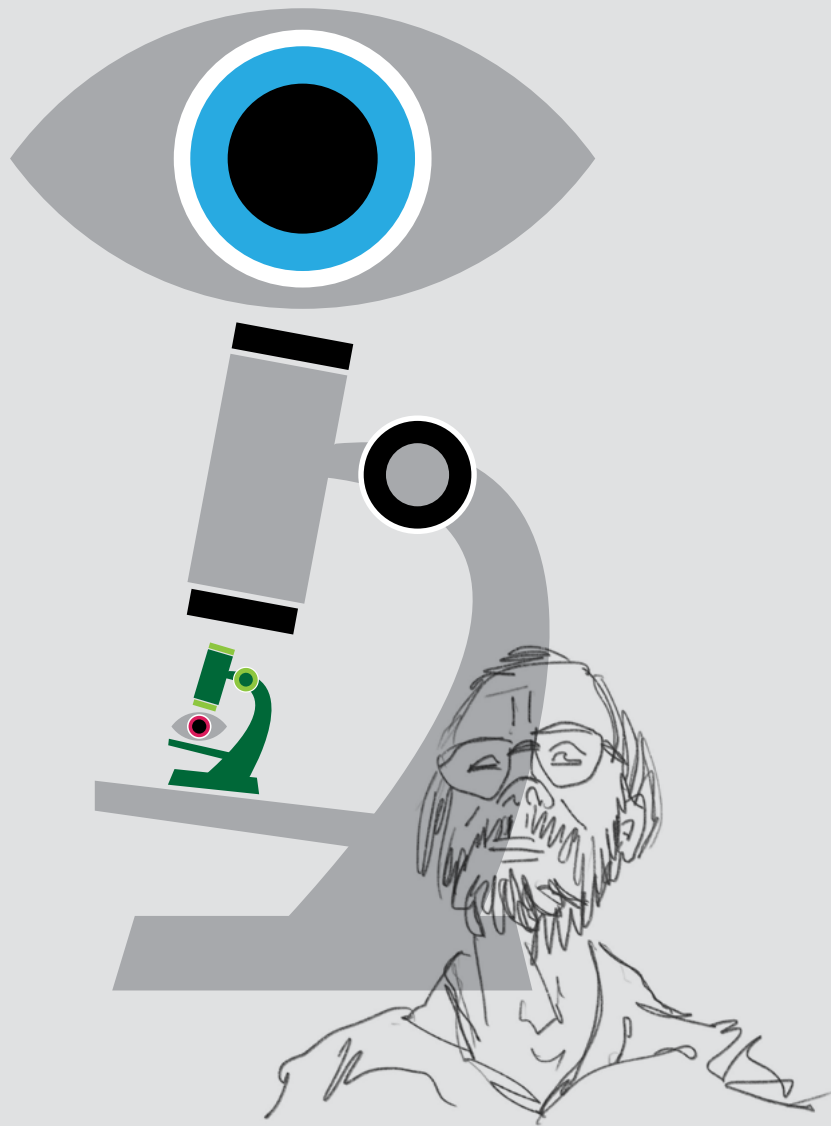
Observation

Indigenous communities are very oral, and with the technology of the written word some of this knowledge may have been lost.

While the written word remains hugely important, it is essential that we do not lose the capability of observation.

Everyone is capable of it, but is it possible that we have delegated this important element that makes us better understand nature to technology, and thus created a big gap in our knowledge?

Science after all is about observation, and when it comes to nature, indigenous knowledge can be become part of the scientific toolkit.

"Although the "sustainability" term is something that emerged in the last few decades, I believe that our ancestors, and the indigenous people around the world, knew sustainability but they couldn't label it that way. My grandparents for instance used the term Himma, which in English means 'protected area'. And they were alternat-ing between different places to allow a certain place to recover."

HE Dr. Shaikha Salem Al Dhaheri

PLANTING GOOD HUMAN BEINGS

"Can we get out of this pickle or not? My answer is absolutely yes. It is us that got ourselves where we are today. But we must remember the difference between 'science' and 'engineering': Science studies the world as it is and engineering thinks about a world that never was. One of the reasons that we're in this pickle now is because when the industrial revolution began, engineering did not pay any attention to science. In other words, we have engineered a world without thinking deeply about the consequences of what we were doing engineering-wise."

Prof Joaquim Ruiz

PLANTING GOOD HUMAN BEINGS

While most of most of the world's corals can live up to 32 degrees Celsius before they get stressed and begin ejecting the algae that live in their tissues, in the Middle East coral seem to have developed a 'super gene' that helps them cope in higher temperatures. So how could they be supported?

"Corals go back to the time of the dinosaurs. I'm an optimist. I think if they survived from that era to us today, I believe that somehow, they might not look like they do today, but they will find a way to cope."
Dr. Reem Almealla

"It's about going to where the fish's muna is: muna is status or authority or knowledge. A fish has muna in its own right and it needs to be dealt with and considered in its own right. That fish knows where to live in a place, and I can't put my knowledge on that. Anthropomorphism can only take me so far. I can see the fish and characteristics through a human lens, but actually you have to drop that and just go to the fish's sovereignty."
Gerrard Albert

Role of nature

Our understanding of the world around us takes place through the human lens; it is bounded by how we perceive the world. What if we reconnect with our awareness of nature and the filters that biology has gifted us with – how we hear, how we see, how we smell, how we express ourselves? Changing our perception of how we relate to nature helps establish, formally and informally, shared values that are good for the environment.

Every animal, every plant in nature has authority. For example, the fish needs to be considered for its own knowledge of how it exists in its environment. Rain, storms and avalanches are much more powerful than us and force us to adapt. If we accept and trust that nature is capable of doing its own things, we can make a major contribution.

These values need to become institutional through the work of governments: creating social and legal contracts that allow people to take as much as they need, but then give back and give that resource the time to heal itself.

PLANTING GOOD HUMAN BEINGS

PLANTING GOOD HUMAN BEINGS – SOLUTIONS

Connecting science and indigenous knowledge

The Pirarucu in the Amazon, is an endangered fish that comes up for air every 20 minutes because of its ancient lungs.

Amazon

In the Amazon, local fishermen count how many of the large Pirarucu fish come up for air in a 20 minute period, and use this count to estimate the number of fish in that area. By adopting their technique, which is 98 percent accurate, scientists found a faster and less expensive method for counting fish then the mark–recapture techniques. At the same time it allows fishermen to participate in decision-making and contribute to effective management of the species. Over the last decade the population more than quadrupled. There are now roughly 330,000 Pirarucu with over 400 communities involved in managing them. Today, fishing the Pirarucu is banned in Brazil unless within areas with community-based management agreements.

Portugal

In Portugal, where the Atlantic coastline is one of the most high-energy in the world with 100 foot waves, the challenge is enormous: 13 sq km of land have been lost because of sea rise and coastal erosion. Hard engineering approaches have been replaced with "native"-based approaches that map the hydrodynamic of all the coast, sand banks and reservoirs. This understanding helps identify the best areas to place the sand to promote restoration, while buying time to plan solutions for communities with a potential to be displaced.

UAE

In the UAE, the knowledge of fishermen about where the fish migrate has informed the development of policies and regulations that ultimately have led to the recovery of some of the fish stock.

**Emerging World Majlis
insights and challenges
for future conversations.**

Are we ready to accept that
indigenous knowledge is as
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Do universities need to do more? Are they
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Have we delegated our ancient ability
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our planet?

PLANTING GOOD HUMAN BEINGS

No matter how much we improve formal systems of knowledge, champion traditional structures of information, and observe the teachings of nature, we still need to prioritise people's fundamental ability to look after their livelihoods and that of their families.

CLIMATE PROSPERITY

Affordability and accessibility

Planting better humans through shared value systems will not happen without taking into account the fundamental need of people to first worry about their survival. Making a living will always come before conserving nature, unless conservation and environmental protection are part of the way we create opportunities for communities.

It is hard, if not impossible, to ask poor people to become poorer. We need a plan for "Climate Prosperity" where we shift the emphasis from extraction to recycling, from consumption to services, from old industrial models to 21st century models and from species-only protected areas to ones where people and nature collaborate for the well-being of ecosystems.

Most current business and industrial models are about 75 years old, based on products rather than services. Market settings are also based on old models and do not yet reflect how to value the new business models based on services, with the value of 'nature's services' still being out of reach.

For sustainability to reach everyone, even climate change deniers or people who just don't care, affordability and accessibility are essential. Innovation is key to achieving them quickly if we open up markets and supply chains and invite the entrepreneurs to offer solutions.

CLIMATE PROSPERITY

The 4th Industrial Revolution coupled with the effects of Covid is further accelerating digitisation, which is key to a planet friendly 21st industry. But this is only a slice of the bigger picture: alongside digital technologies, an industrial model for the 21st century is one that should focus on products of quality not on quantity; durability and not built-in obsolescence; on experiences and services rather than gadgets. This industry can deliver opportunities for a better life, which is what everyone wants, above and beyond consensus on climate change.

With the further understanding that nature is itself the ultimate service provider, it can become an integral part of our economic frameworks, business models and technology solutions, for instance by providing cost-effective infrastructure to solve climate-related challenges or embedding the hidden cost of natural resources into emerging economic models.

CLIMATE PROSPERITY

### 1. Empowering local economies with biodiversity

It is possible to build restoration communities with economies supported by biodiversity.

2. Shifting from products to services

We need to shift to the notion of 'as a service' to change our patterns of consumption from ownership to sharing. This is slowly happening from fashion to mobility to airplane engines.

3. Imagining new supply chains from waste

Waste is the new resource. Products coming to the end of their lives still have valuable materials in them. Instead of going to landfill, new supply chains around extracting value from these products are key opportunities for circular economy.
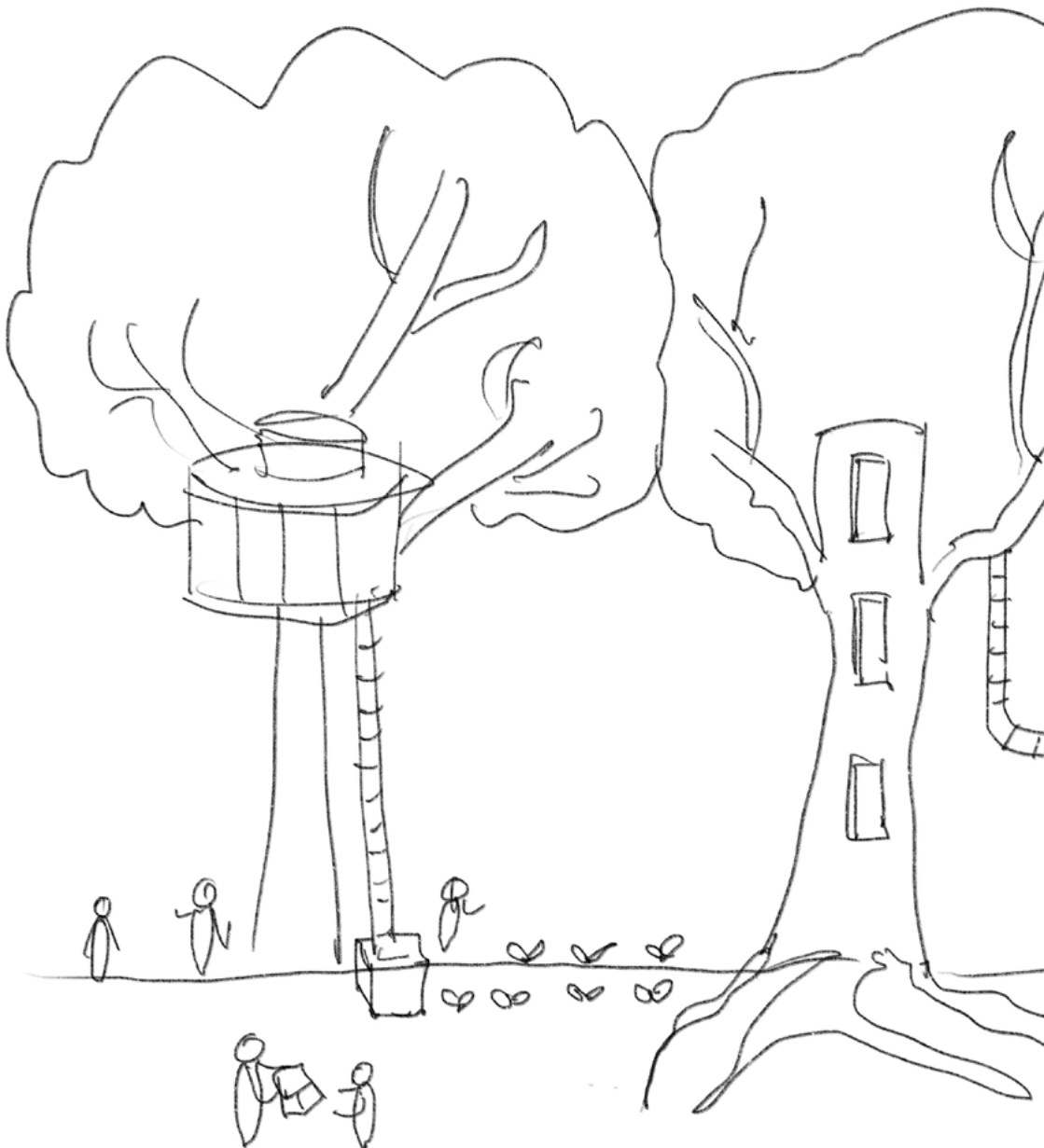
4. Role of large corporations

Technological and operational innovations can help reduce the carbon footprint both at home and in the countries where they operate, as well as aligning with their national government efforts to curb impact on the planet.

5. Role of consumers vs. 'refusers'

People have an important role to drive change by actively choosing which products or services to buy. The 4th R to be added to Reuse, Reduce, Recycle is Refuse. It drives change through consumers by 'refusing' to buy an unsustainable product in the first play. This is part of the strategy of Wales and it highlights the importance of information on labels.

"We are just not going to make it to zero-carbon if we don't start tackling waste and those embedded emissions in waste products. But also we need to make the transition to regenerative systems, to make sure that biodiversity is not further degraded. I'm very much promoting the social economy as a new economic framework that covers off carbon. It covers off the carbon prices. It tackles consumption and it tackles biodiversity."

Lisa McLean

CLIMATE PROSPERITY
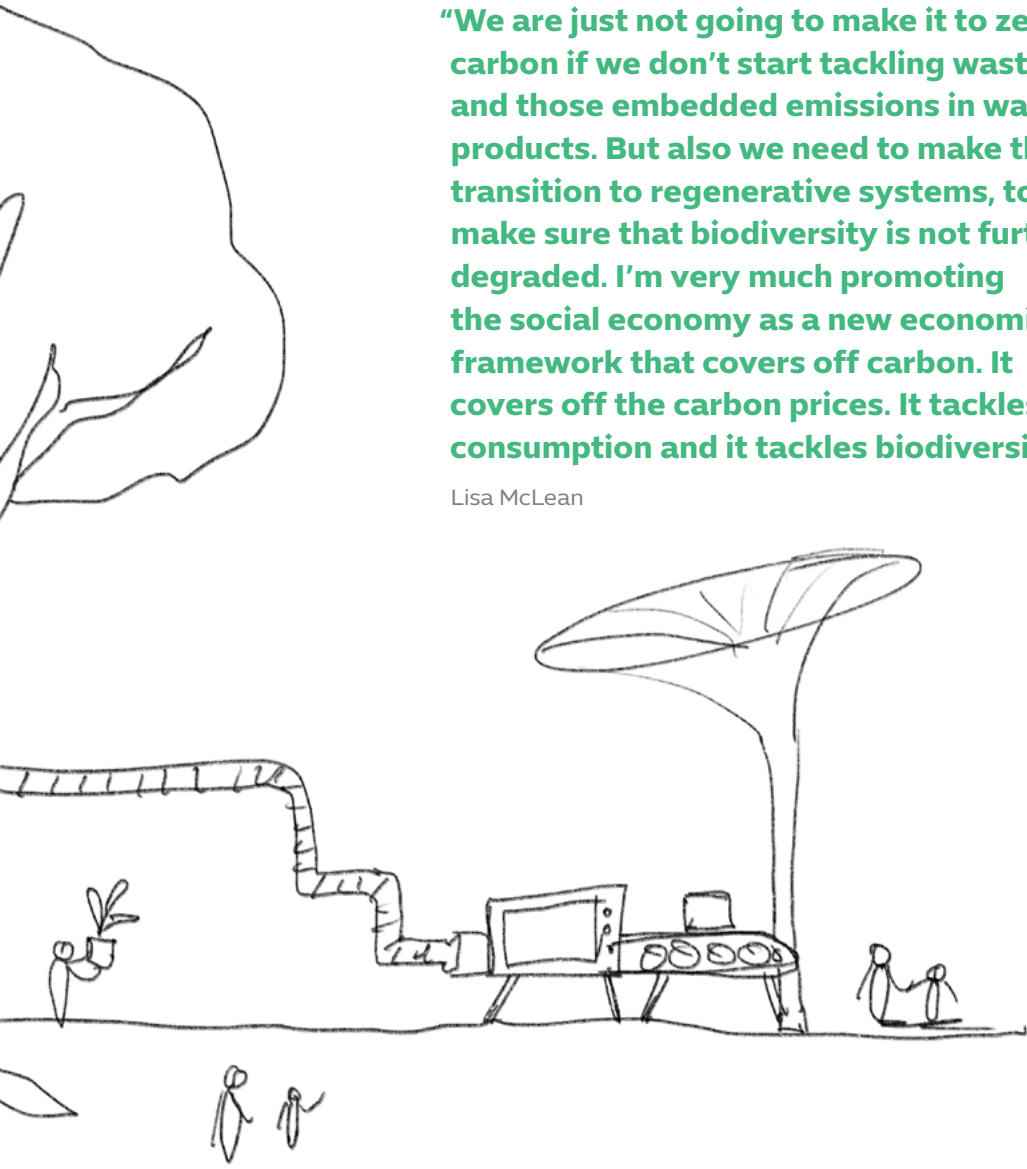
Examples of new models for business

CLIMATE PROSPERITY – SOLUTIONS

Empowering local economies through biodiversity

Eden Project

The Eden project is an example of these areas. The transformation of a barren landscape – a former clay mine with no soil or plants – has become a destination for education and discovery of the natural world but also a vibrant economic ecosystem connecting businesses and suppliers. It started in Cornwall and there are now many Edens around the world.

Amazon

In the Amazon, the initial idea of a primatologist to protect a particular monkey required a vast area. However, the protection of one species did not justify removing 10,000 people and therefore brought in the community as part of the solution.

Creating new businesses based on waste as a resource

New Zealand

The initiative of a nurse in New South Wales to collect used plasic needles from her hospital and transform them to build small wheels for other businesses has snowballed into a major business which gives a new life to a waste product and generates jobs.

Upgrading strategies and operations of large companies

DP World

For DP World, sustainability in business means continuity by ensuring stability and efficiency of supply chains, which have become very fragile during the pandemic.

Technological innovations, such as hyperloop, help connect cargo at the speed of an airplane in a sustainable way.

Operational innovations that reduce carbon footprint, such as the 'box bay', which produces 60 percent savings in terminals by reducing the land used, the number of cranes and the amount of emissions. This is both a commitment at home as well as in the communities around the world where DP World operates.

Align with UAE government efforts to increase use of green energy.

Emerging World Majlis insights and challenges for future conversations.

Nature and biology have a role to play. What if the 4th industrial revolution was driven by the voices of biologists, health professionals and indigenous people on an equal footing of those of digital technology business experts and engineers?

Can our global economic models start from sustainability rather than argue about whether it is valuable or not?

CLIMATE PROSPERITY

Given the rapid unfolding of climate change, loss of species and habitats for people and nature, loss of economic opportunity and health, we need to rapidly accelerate all solutions.

Accelerate to 2030

Many governments are committing to 2050 for genuine change, but we can't take that long. We need to focus on 2030 as an important milestone and start making changes through innovation, technology, policy and financing. We need to address both 'hardware' – our infrastructure – and 'software' – our society.

Sharing knowledge faster

Networks of people and projects are powerful accelerators of solutions. Connecting people and projects provides access to ecological insights and allows shared learning. In fact, many projects struggle because biodiversity restoration is really hard and people are often working in isolation.

Using nature's technology as infrastructure

Current technologies for adaptation and protection of shore lines, like breakwaters, are 1930 technologies and still funded by international institutions like the World Bank and the IMF. These technologies are not only expensive but create further climate problems by preventing the migration of sand.

Leverage the natural functions of nature. For example, reefs naturally protect shorelines by reducing wave energy and stopping coastal erosion. They are also a valuable ecosystem with positive economic impact: bait fish live there and is a key resource for fishermen to fish in the deep ocean. Their beauty also supports community livelihood through tourism.

A promising way forward is to use these reefs as nature's infrastructure alongside software and biological engineering. In a joint project with Bicocca University in Milan, the Maldives are restoring these reefs by fertilising and helping the coral grow faster. It beats the alternative, which is too expensive for many small coastal countries to handle.

"Just a couple of hours ago, our leadership has announced strategic initiatives towards Net Zero. And what that means is that, instead of just announcing theoretically, by 2050, is going to be based on milestones and clear initiatives. That's going to aim to that target, which is part of our global responsibility, but also providing opportunities for economic growth and jobs."
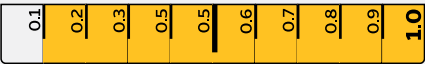**HE Dr Nawal Al Hosany**

A comparison in cost between using outdated technology and natural elements to reduce tide errosion.

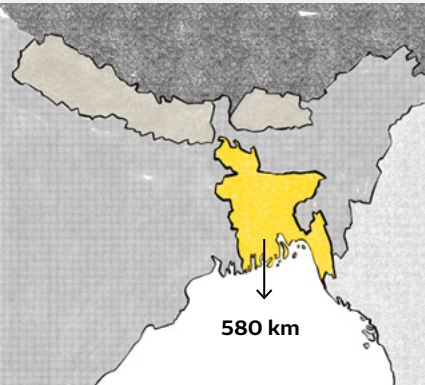# Outdated technology vs natural elements to reduse tide erosion.
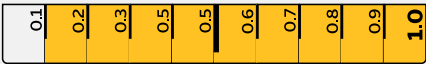
Building Breakwaters

1m (meter) **= $5,000**

| 0.1 | 0.2 | 0.3 | 0.5 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1.0 |

BANGLADESH Model 1

580 km

580,000 m x $5,000 =
$2,900,000,000

VS

Growing Coral Reefs

1m (meter) **= $20**

| 0.1 | 0.2 | 0.3 | 0.5 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1.0 |

BANGLADESH Model 2

580 km

580,000 m x $20 =
$11,600,000

"There are over 2000 islands in the maldives. Iimagine how much that would cost?"[1]

Key finding:

Man made objects not only damage nature but are high in cost. Nature provides us with a more cost effective and sustainable solution:

NATURE ITSELF

1. Source: World Majlis, HE Mohamed Nasheed in conversation

ACCELERATE TO 2030

Leading innovation with challenges, not solutions

We need a challenge-led approach to innovation that starts by answering a bigger picture question, rather than second-guessing a solution. For instance, a question about a city's mobility strategy may not be best answered by jumping to conclusions about what type of vehicles we deploy, rather what does the community need to move around in a healhty and economically viable urban environment. As demonstrated in Wales, the solutions are radically different.

At the same time, the supply and demand of technology and innovation need to take into account the natural world, given this is where they are ultimaltey applied in the world around us.

Driving disciplined and structured innovation

Spark-connect-accelerate can be considered a scientific method for innovation: spark an idea, connect the right people, and accelerate it up. Testing out new ideas such as hydrogen fuel, green spaces in built environment and mobility innovations is key. Then the role of established companies is to help take these ideas to scale.

Large industry can actively support, if not lead, this process by creating "sandboxes", testing innovations in a safe space and helping connect innovators with regulators faster. This was successful with fintech.

Promoting data and open source

Data and technology are both critical. Monitoring provides good data, good research and good solutions. Particularly open sources. We need to run technology as an open source, but also think about its social aspect, which gives us the purpose of those technologies. It is essential in the areas of new supply chains, as we need to find where the waste is happening so that we can look for new resources to create new circular supply chains.

Integrating the role of women

The role of women is vital to action on climate and biodiversity, for the simple reason that it makes sense to allocate 100 percent of human potential to this urgent cause, rather than 50 percent.

Policies that promote family planning and support women to set up businesses in communities near protected areas have helped to reduce the strain on ecosystems. Many of these businesses also support conservation goals.

"Create a space that allows us to test something without the regulations, but in a safe space. The large companies have the ability to do that. They have the ability to work with regulators who could create the sandbox. We can test the new technology, show them that it works, show them that it's safe, and then get through the system faster if this is a race. Now that's what some companies are doing."
Dr Amy Hochadel

Sharing household items like lawnmowers or paint strippers through the Library of Things helped accelerate action around broader challenges.

"What we've actually recognized is that by embedding those community responses, you're actually connecting people together. You're helping to tackle things like loneliness and isolation and you're having these multiple wins. It's both about what you just decided to do to reduce consumption, how you've decided to do that and have these multiple wins."

Sophie Howe

ACCELERATE TO 2030

ACCELERATE TO 2030 – SOLUTIONS
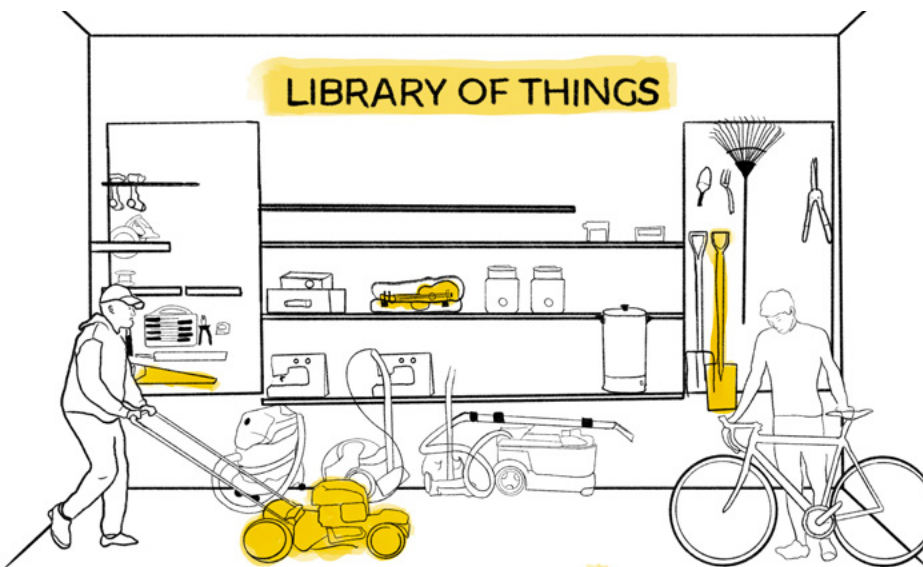
Solutions to accelerate progress to 2030

Use nature as a solution

Owl for Peace

The Owl for Peace project brings people across Israel, Palestine and Jordan together to harness the power of a bird of prey to control the local rodent population. An Israeli farmer had the idea of building nest boxes in the middle of fields. One box would raise the family up to 10 chicks a year. That family can kill up to 6,000 mice a year. Over years, this idea spread and became a national project, which quickly spread to neighbouring countires. Today there are 4,000 boxes in Israel and growing numbers of projects in Palestine and Jordan.

Share knowledge faster

Restor Project

Restor is a science-based open data platform to support and connect the global restoration movement with 74,800 sites.

It is like a google map of restoration and conservation projects that helps connect people across the world.

https://restor.eco

Engineer great connections between nature and technology

Arizona

Agrovoltaïcs, developed at the University of Arizona, is about growing food underneath solar panels in desert environments, harvesting the sun twice: once for electricity and the other for photosynthesis of the plants. Three things become possible at the same time:

1. You create microclimates

2. The electricity that is produced by the solar panels can be used to either clean up water or to pump water

3. And finally, by growing food into shade, or by having shade, the humidity in the soil remains longer, and you actually need less water for growing the same amount of food.

Lead with challenges

Wales' Mobility Strategy

The government of Wales appointed a public health specialist to lead its transportation strategy. It did not start by assuming that the solution was to introduce new types of vehicle, but first explored how people lived and moved in the different neighbourhoods. In the af-fluent areas people lived longer, and in the poorer areas lifespan was shorter due to people being less active and pollution, amongst other factors. The result was a strategy of 'active mobility' in the poorer areas, the addition of green infrastructure, which together provide physical and mental health benefits for people
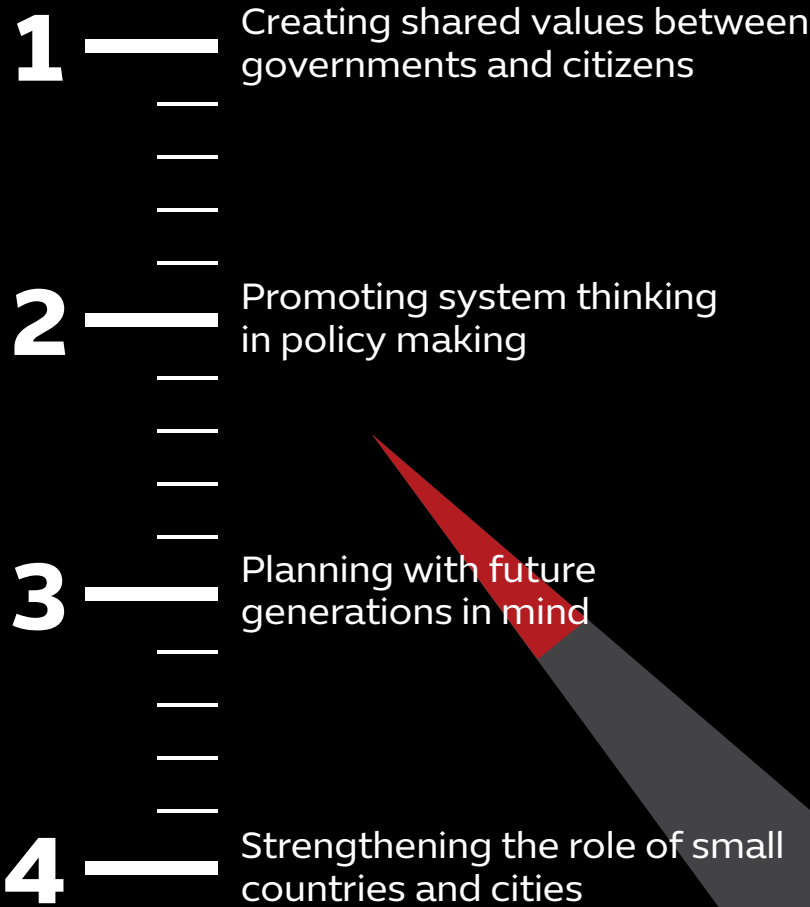
**Emerging World Majlis
insights and challenges
for future conversations**.

How many large companies are
willing to provide testbeds for
bold new solutions? And amongst
those in highly regulated areas
such as energy and resources,
who will take the lead?

What are the unexplored engineering
solutions based on nature?

What is the role of tech giants in joining
global research efforts to understand
our planet. Can they make valuable data
available with no strings attached for
the good of humanity?

ACCELERATE TO 2030

CRITICAL ROLE OF GOVERNMENT

1 Creating shared values between governments and citizens

2 Promoting system thinking in policy making

3 Planning with future generations in mind

4 Strengthening the role of small countries and cities

Governments have a critical role to play in supporting an accelerated timeline. Everyone is part of the solutions, but governments can be a powerful enabling accelator.

Critical Role of Government

While no single government can fix biodiversity loss or climate change, every government has a role to play to create the conditions where communities can make the change.

Political leadership gives people permission to support and change behaviour. At the same time, politicians and policy makers need to keep learning.

There may be different opinions about how much people around the world understand personal responsibility, but even if everyone did, it would still not matter if governments and corporations don't get on board and create the right policy conditions. What exactly can governments do?

1 Creating shared values between governments and citizens

Establish

Legal status for natural entities
People think giving the status of a legal person to the river in New Zealand is environmental legislation. While it certainly is a contract between indigenous people and a government, more importantly, its essential purpose is to establish a shared value set.

Promote

Participation
Legislation is not enough, especially because at times it cannot be implemented adequately. Therefore participation of people is key. Without creating the conditions for people to participate, you could not have conservation of large biomes like the Amazon. The conditions for participation can be created primarily by making the creation of biodiversity solutions part of the livelihood and the creation of jobs.

Encourage

Collaboration
Environment agencies cannot race alone. They set directions, but we rely on other departments for implementation. Universities have a role to play, some even believe it is a duty, to be more proactive in supporting these agencies.

CRITICAL ROLE OF GOVERNMENT

2 Promoting system thinking in policy making

Redesign

The architecture of policy making

Currently the architecture of policy making is very linear. We look at technologies as saviours, but they will not be effective if we are not changing how we develop and implement them. This helps expand the understanding between cause and effect of solutions. For instance, Wales focuses on the interconnectedness of areas for policy that are not always obvious, but the impacts are evident, for instance connecting waste and mental health.

Provide

Better data to policy-makers

Science has a big role to play to provide data to policy makers. The latest IPPC report has been effective in sharing a greater unde standing. Researchers are not always good at communicating, but the last two reports of IPCC have made significant difference. The report on 1.5 degrees Celcius was published almost 3 years ago, but that visualisation of the curve of temperature has helped drive the commitment to carbon neutrality so this is a good example of colla oration with countries. Universities can play a leading role here.

3 Planning with future generations in mind

Assess

The Good Ancestor Test and long-term thinking

We need to think about the future and how our actions are enabling future generations to even exist on this planet. After all, 50,000 years ago there were only 100 billion people alive. In 2021 there are 7.7 billion, and 50,000 years from now, there will be 6.75 trillion people yet to be born. Short termism in political cycles, with many countries working on election cycles of about 4 years and subsequently developing short term budgets is at loggerheads with those realities. To plan for the long term, we also need to look at trends that influence policies and solutions accordingly and some of these are aging populations and mental health.

The Wales Commission for Future Generations is a first in the world, and it drives how all policies go through the good ancestor test: Are we helping or hindering our future generation to lead a good life?

"To create a good policy you need an engineer an economist, a scientist, a lawyer, a sociologist; this combines all the views you need to have to bring up a policy that integrates economic, environmental and social."
HE Inés dos Santos Costa

"How do we look to those future trends to the next generation and consider how the things that we're doing today will help to take those trends into account but also ask, are the decisions that we're taking today going to help or hinder future generations to meet their own needs? I like to call it the good ancestor test. Are we being good ancestors or not?"
Sophie Howe

4 Strengthening the role of small countries and cities

Integrate

Small countries and cities as accelerators of solutions
Groups of small countries and cities can have a very large impact. Global partnership of countries, such as the Climate Vulnerable Forum, which includes 48 countries are developing a climate prosperity plan that can further accelerate the transition from less extraction and more recycling and link climate solutions to economic outcomes.

Protect

Communities
Urban planning can bring nature closer to people by creating pockets for people to reconnect with the environment. Protected areas near towns and cities help achieve this.

The construction industry is one of the largest emitters of CO_2, since up to 50% of emissions comes from buildings. Carbon is therefore a built environment problem, not just an energy problem. There has to be a strong focus on the role of the built environment, especially given that solutions are well within reach: we know how to retrofit net zero and net positive districts, how to build them and how to run them at less cost. This has benefits on both jobs and health.

Cities are where a big part of the climate battle is fought as it ultimately comes down to their being directly responsible for many of the causes of and the remedies for environmental harm and healing. There are lots of local leaders, not just mayors, but businesses and others that can champion these efforts with national leaders.

"Don't think about 'housing estates' think of biospheres".
HE Mohamed Nasheed

CRITICAL ROLE OF GOVERNMENT

Examples of new models for governance

Empower local economies through biodiversity

Library of things

A Shared Library of Things – Instead of everyone in the street owning a lawnmower, the solution has been to set up a 'library of things' that can be borrowed as part of the community; set up repair cafés. By embedding these community responses you tackle loneliness and isolation by bringing people together.

Create shared values

Whanganui River, New Zealand

In 2017 New Zealand accorded legal personhood to the Whanganui River, placing the river at the centre of human interaction rather than beholden to it. This move was motivated by the desire to respect the indigenous value set of Whanganui Iwi (tribe), called Tupua Te Kawa.

Gerrard Albert said that this agreement: "What it's actually about is establishing a value set that is shared: accepting that the river is at once is physical and metaphysical; accepting that people are innately part of the river's environment."

This is part of a wider trend towards offering nature legal status. In 1992, Switzerland became the first country to constitutionally recognise animals with a provision warranting the protection of the "dignity of the creature."

In 2008, Ecuador became the first country to incorporate the Rights of Nature into its constitution, followed by Bolivia in 2010.

In 2018, Colombia recognised the legal rights of the Colombian Amazon.

In India, the Ganga River, the Yamuna River, and their related ecosystems have legal rights.

In 2019, Uganda became the first African country to recognise the rights of nature.

**Emerging World Majlis
insights and challenges
for future conversations**.

Along with systemic thinking, the good ancestor test can be a critical part of a system of checks and balances to test the long-term viability of policies around climate and biodiversity.

Can we increase the number of natural entities with legal status?

In a polarised world, can projects focused on local issues reconnect divided communities?

CRITICAL ROLE OF GOVERNMENT

Any solution, from the micro to the macro, requires money that is willing to take a risk on bold solutions that can match the urgency of the challenge.
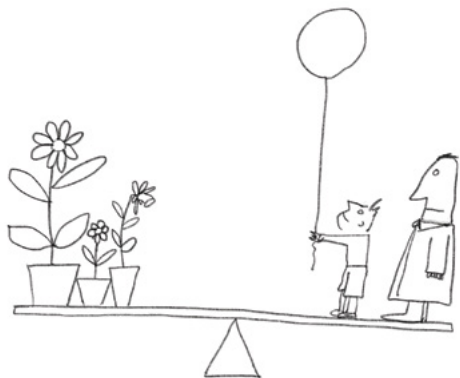
FINANCING

Financing

Greening finance and financing green, and eventually that word green many not be necessary, because everything will be focused on green.

A prosperity plan for all

In order to get to the net-zero objective quickly, private and public finance must come together. In the transition, fintech, green tech and asset management firms are going to be critical. We also need to work with fossil fuel entities who can play an important role.

Create a 'just transition' through finance, by taking into account that every country is different with specific problems and challenges. However, the similarities of fundamentals remain the same.

The most climate-vulnerable countries are debt-ridden and spending 20% of their budget on debt repayment and if they are spending 20% on adaptation, they risk default. They need help, urgently, and part of that comes in the form of debt restructuring.

Sovereign funds can become the conduits for capital to come in and invest in green technologies

There is a strong link between finance, science and policy investments. Providing a global grant for rain enhancement proved to generate patents, papers and accelerated new research and solutions.

Scale up investments to provide conditions for local people to participate in conservation.

FINANCING

Challenges for investments

Funding is not reaching the right places.

Invest in solutions that are economically sustainable based on nature.

We need to make improvements through technology so that we can increase the efficiency of agriculture by halving the amount of land and doubling the amount of food so that we can allow other ecosystems to regenerate

Investing in technology is key to make change happen fast. We have technologies but they are not around yet as we need innovation in business models, finance and strategies

Invest in new business models that bridge the existing generation gap with the future consumers, who are protesting and having a different view of consumption and ownership

Emerging World Majlis insights and challenges for future conversations.

FINANCING

How can people in finance think more like Chief Financial Officers and less like accountants?

How do we quantify the ROI of local knowledge for investors?

Are there new models for fintech that work with nature rather than against it?

*Communicating climate challenges is not
only about traditional media, but also
about finding new ways for everyone
to interact with the natural world*

Communication

**Transparency and optimism are important drivers
in our communication and media. They can play a key role in
balancing the need for urgency with a constructive narrative.**

Role of media

Coverage of the climate crisis by media – who generate traffic, readership and viewership by negativity – may be drawing attention to problems, but it's not really helping. The "if it bleeds, it leads" narrative is not constructive. Communication and information are key to explain to people how do or can tackle challenges. This will help local practitioners to find solutions.

Learn from your garden

To comprehend nature's role in our lives, sometimes stepping outside is more important than reading news stories. Even small actions like gardening or bird-watching are helping people reconnect. Scientists point to taking part in these activities as children as the starting point for building lifelong obsessions with the natural world.

Outrage and optimism

Better awareness of nature can motivate outrage at the destruction of the natural environment. But this outrage needs to be channelled into schemes for positive action. This starts with personal changes: wasting less and living more sustainably. We need optimism, good and fast decision-making and real leadership.

"Outrage is categorically needed to push those systems into the right direction because they're totally devastated. But there's also a need for optimism. And that optimism is at the scale of us. It is at the personal level, at the community level. Optimism, when combined with outrage, has the potential to drive positive actions... breaking the big systems, but facilitating the little ones."
Prof Thomas Crowther

COMMUNICATION

*Building into solutions the lessons of how
we got here is possibly an important step
towards managing the existential risks
we are facing today.*

Risks

We have engineered the world without thinking of the consequences of engineering, the complexity of the natural systems impacted and even the long term health of people.

We must speak to other disciplines because engineering has big ethical consequences. Everything – even the climate – can be manipulated and terrorized.

The consequences of the gases that we have produced are going to create a new biodiversity that we don't know about yet. So we have to find a livelihood for that climate biodiversity – a procurement order for a planet B, and how we can migrate from where we are now and how we can move as easily as possibly to that. If we can genetically modify a polyp or a coral, there is a big impact on biodiversity, but we have genetically modified grain to ensure less people are going hungry – so what are the possibilities?

If we play with nature and genes, we need legislation and regulation, and that is why politics should be in the forefront of this. Politicians need to provide manifestos that outline a prosperous life, but also that explain the consequences of what happens when we genetically modify things, as these are ethical questions.

RISKS