



INSIDE

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ISSUE 2



Adaptation

IT'S NOT A MAGIC WAND

The reality of humanity's ability to bear the effects of climate change was somberly laid out by UN Climate Change executive secretary Simon Stiell: "Adaptation alone cannot keep up with the impacts of climate change, which are already worse than predicted," he said. "Adaptation actions are still crucial and are critical to upgrade small-scale, fragmented, and reactive efforts. But the potential to adapt to climate change is not limitless."

A ROLE FOR THE PRIVATE SECTOR

As disasters become more frequent and severe, governments are looking at how to build private-sector support for adaptation. People need help responding to the results of climate change they're dealing with now, rather than over-focusing on mitigation and the future. Dr Mahmoud Mohieldin, UN Climate Change high-level champion for Egypt, explained it this way: "For climate adaptation, we need to have more serious attention to public-private partnerships, which can enhance the private sector's contribution. The private sector globally doesn't contribute more than 2%, when we dig into private-sector contributions, they mainly come from institutional investors and philanthropies, so there is a great deal of work we need to push when it comes to adaptation."

[National Adaptation Plans](#) (NAP) identify medium- and long-term adaptation needs for countries, then outline

how to develop and implement programs to address these needs using an "iterative process that follows a country-driven, gender-sensitive, participatory, and fully transparent approach." The [NAP Global Network](#) recommends governments "should establish and maintain four key enabling factors: capacity development, financing, institutional arrangements, and information sharing."

A side event at COP with speakers from Zimbabwe, Eswatini, St. Lucia, and Liberia explored how NAPs can accelerate action, but Anne Hammill from the International Institute for Sustainable Development cautioned that a NAP is "just a piece of bigger and more consequential stories unfolding in countries," saying that adaptation efforts shouldn't be judged on the presence or sophistication of such a plan.

THE POWER OF SOCIAL

A COP27 [social media campaign](#)—"It's simple, but it will make a difference"—was launched to show how women can drive behavioral change and environmental sustainability. Spearheaded by the National Council for Women, in cooperation with the United Nations Women Egypt, the campaign focused on the essential role of women in preserving natural resources and adapting consumption habits with simple ideas that can be applied at all levels.

TURNING RISK UNDERSTANDING INTO ACTION

In a Global Climate Change Alliance Plus COP side event delivered from the EUROCLIMA+ pavilion, Stantec's Catherine Paul highlighted the importance of having a deep understanding of climate-related hazards and vulnerabilities as a basis for developing clear and logical pathways towards adaptation.

Rising surface temperatures, changes in rainfall patterns, growing incidence of floods but also droughts, coastal erosion and ground salination from sea level rise, and growing intensity of tropical storms are just some examples of the climate hazards with which human populations and natural systems increasingly must grapple. Understanding them and the associated vulnerabilities is essential for setting clear adaptation objectives and devising effective trajectories for achieving them, considering also the other key external factors that are likely to influence climate resilience and adaptive capacity. "To guide adequate adaptation actions, effectively monitor their results and learn from experience, robust 'theories of change' on adaptation, bringing together all these elements in a coherent framework, are required," Paul explained.





Adaptation

PLEDGES AND COMMITMENTS

The Sharm el-Sheikh [Adaptation Agenda](#) aims to mobilize between US\$140 and US\$300 billion from public and private sources to fund 30 adaptation outcomes that it says must be reached by 2030 to protect 4 billion people living in the most vulnerable communities in Africa.

These outcomes represent the first global plan that brings together state and non-state actors to collectively achieve a set of adaptation outcomes across food and agriculture, water and nature, coasts and oceans, and human settlements and infrastructure.

In his highly anticipated speech, US President Joe Biden announced a commitment to double investment in the [Climate Change Adaptation Fund](#) to reach up to US\$100 million. Included in the funding will be support for early warning systems in Africa, strengthening food security, and support for a new training center in Egypt to transition to renewables across the African continent. The British prime minister announced a tripling of the UK's climate adaptation budget to £1.5 billion.

John Kerry, US special presidential envoy for climate, said the US was "totally supportive" of moves to address loss and damage and "100% ready" to discuss the issue in detail.

The European Bank for Reconstruction and Development (EBRD) launched the [Climate Adaptation Action Plan](#). This marked a shift for the bank that has previously done more in the mitigation space with the private sector. "We don't have one single answer on adaptation; our response is a combination of a number of different tools and approaches," said Harry Boyd-Carpenter, EBRD managing director, climate strategy and delivery. "We increasingly see adaptation not as a cost but rather as an investment that protect economic development and preserve the competitiveness of our clients."

European Union climate policy chief Frans Timmermans announced that the bloc and four member countries (Denmark, France, Germany, and the Netherlands) will provide over 1 billion euros for climate adaptation in Africa. This sum is a starting point and other countries are welcome to join. Timmermans also added that the EU will provide 60 million euros for loss and damage.

ELLIOT GILL **Market Sector Lead for Urban Drainage and Flooding, UK**

I was interested to learn about the emphasis at COP27 placed on adaptation. My professional interest is how we should be adapting urban drainage infrastructure and systems so that people and the environment in cities are protected, as much as possible, from increasing flooding and pollution risks. In the UK, water and sewerage companies are currently completing a round of long-term planning investigations. The goal is to generate recommendations for how urban drainage infrastructure should be improved to better accommodate high intensity storm events, which are set to become more commonplace due to climate change.

One encouraging emerging theme in the solutions, with a planning horizon in the 2050s, is to implement more retrofitted blue-green infrastructure, managing storm runoff at source to mimic natural processes. Whilst

there is still a requirement to add capacity to conventional grey urban drainage infrastructure, the use of supplementary blue-green infrastructure will not only help us adapt cities to cope with more extreme wet weather, it will also introduce a wider set of benefits. These include urban cooling and improved biodiversity and well-being for citizens. Moreover, it will contribute to the creation of simply better places and communities. This is our singular climate change challenge and opportunity!

The technical challenges can be overcome, but collectively we need to raise our game to improve institutional arrangements so that utilities and municipalities can plan and deliver in close collaboration.





Adaptation

CATHERINE PAUL Technical Lead for Climate Change, Belgium

In climate action, there is a waning, but still existing, bias towards mitigation. Since the adoption of the UNFCCC in 1992, mitigation has tended to get more attention and resources. Provision of adaptation finance remains largely driven by the public sector, because financial returns can be greater in mitigation. Adaptation is more likely to focus on “soft” activities like institutional strengthening and capacity building, or it may involve returns in the form of avoided losses that are more difficult to quantify.

At COP26 last year, parties adopted the Glasgow–Sharm el-Sheikh work program on the global goal on adaptation. The program aims to enable the full and sustained delivery of the Paris Agreement’s adaptation goal; improve the assessment of progress toward adaptation; help parties enhance the planning and

implementation of their adaptation actions; and establish more robust systems for monitoring and evaluating them. Four workshops have been held so far this year. The third focused on methodologies, indicators, data, and metrics for the monitoring and evaluation of adaptation.

The work I’m involved in for the European Commission focuses on taking stock of the experience of the European Union’s Global Climate Change Alliance initiative to create a practical guide on the monitoring and evaluation of adaptation.

Improved monitoring and evaluation systems are needed to guide adequate and effective adaptation actions, attract more financial support in developing countries, and stimulate greater investment in adaptation everywhere. This comes with challenges, but efforts are underway to identify and disseminate good practices for sound frameworks at international, national, subnational, and specific intervention levels.

Whatever the outcomes of COP27, we need scaled up implementation of effective adaptation actions, tailored to the needs and circumstances of stakeholders, and underpinned by gradually improving monitoring, evaluation, and learning systems.

NATASHA JONES Director of Landscape Architecture, UK

Adaptation is the adjustment by people and natural ecosystems to actual or predicted climate-change effects. Urban climate resilience is the capacity of our urban places and systems, including social and environmental systems, to handle adverse climate impacts, whilst maintaining urban functions and structures for our communities and continuing to evolve through adaptation, learning, and transformation.

Among the target outcomes identified in the [Adaptation Agenda](#), many are already translatable to the UK’s natural and built environment sector and are being put into effect. The London Resilience Strategy aims to explore collaborative ways to promote water-saving measures and increase water resilience. The incorporation of multifunctional sustainable urban drainage systems (SuDS), delivery of biodiversity net gain, and ecological reanimation through integrated constructed

wetlands are helping facilitate new housing developments within the UK’s planning requirements. Public transport trams in Birmingham, UK, are running on grass beds, providing visual amenity and contributing to urban cooling. Edinburgh’s Design Guidance includes Nature-based Solutions as natural windbreaks. Green infrastructure brings together provision for community amenity, people’s health and well-being, biodiversity, and SuDS.

The common thread amongst these is the cross-sector, cross-discipline collaboration. For innovative and successful adaptation outcomes, and to leverage our legacy of urban resilience, I believe a whole-systems approach is needed from the outset of projects. This means natural and built environment professionals working together with clients to identify tangible climate adaptation and resilience objectives at the beginning of each project; and private sector clients partnering together with the public sector authorities, to drive greater and equitable change for local, place-based climate resilience initiatives.





Agriculture and Food Systems

COP27 is the first COP conference to feature agriculture on the agenda. Climate and food are intrinsically linked. Consider the 37 million people facing starvation in the Greater Horn of Africa after four consecutive droughts, Pakistan's agricultural regions being underwater after catastrophic flooding, and summer heatwaves in Europe drying out and reducing crops. In addition, Russia's war in Ukraine is causing global shortages and increased prices in wheat, oilseeds, and fertilizer.

The food industry is also responsible for over a third of emissions. But despite a whole day dedicated to finding solutions, [individual agribusiness interests](#) took precedent and focused on technology fixes as the main solution. Critics had warned that progress would be minimal, as the voices of small-scale and family farmers (estimated to feed up to 70% of the world) were drowned out by wealthier businesses.

Reports from inside negotiating rooms told of boardroom style pitching from agribusinesses and climate technology entrepreneurs. These focused on how to improve industrialized agriculture, meaning increasing public-private support for fossil fuel fertilizers and technology solutions for climate resilience. In response to global agribusiness solutions, Betty Chinyamunyamu, CEO of the national smallholder farmers association in Malawi, said farmers were part of the solution and should not be just considered as recipients.

Low-lying island nations refused to quiet their voices or demands for help. On a panel, a representative from the Marshall Islands—one of only four low-lying coral atoll nations in the world—described climate change as the greatest security threat in their region. High tides already flood the islands, not just during storms, and the sea level has risen 0.3 inches a year since 2003, triple the rate of other global sea level rates. In many coastal areas, people will have to move to higher ground (even relocating capital cities as [Indonesia is doing](#)). But for some islander states, this is not geographically or financially possible. Taneti Maamau, President of low-lying island nation Kiribati, set out a bold plan that calls for money from wealthy countries to physically raise the islands so they can avoid being submerged by the ocean.

FARMING IS NOT A FAMILY AFFAIR

On a Commonwealth countries panel, Clay Sweeting, minister of Agriculture and Marine Resources of The Bahamas and a former fisherman, highlighted that the island nation imports between 90% and 95% of the food consumed by its people, compelling it to invest more than US\$1 billion each year. It also struggles with a lack of generational succession in agriculture. "Eighty percent of our farmers are older than 60 years of age. We have lost a generation for food production, and we urgently need to design public policies to close this gap. Another disadvantage is that while most of the population lives on the island of New Province, almost all of the agriculture

takes place on other islands in The Bahamas." He said attracting new generations to the farming industry would require innovation, technology, and [sharing knowledge amongst Commonwealth countries](#).

GOING UP

During a panel on sustainable consumption, Climate advocate Tahmina Supti said, "Vertical farming has the potential to significantly increase food production while reducing the environment footprint of the agricultural sector by reducing land, water, chemical, and fertilizer use and increasing efficiency." Tahmina joined her voice to others linked with The Global Youth Leadership Center, raising the potential of vertical farming, alternate proteins, and other proven solutions needed to provide food in a changing climate, calling for governments to provide the focus, space, and subsidies to make innovation happen at scale.

PLEDGES AND COMMITMENTS

COP27 Presidency host Egypt and the World Health Organization launched [the Initiative on Climate Action and Nutrition \(I-CAN\)](#) to "integrate the global delivery of climate change adaptation and mitigation policy action and nutrition and sustainable food systems." This would support bidirectional, mutually beneficial outcomes. The multi-stakeholder, multi-sectoral initiative will be implemented with the support of the Food and Agriculture Organization (FAO) and the Global Alliance for Improved Nutrition.





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The announcement followed the launch of the [Food and Agricultural Sustainable Transformation Initiative](#) (FAST). FAST will act as an accelerator to transform agrifood systems to deliver triple wins: “for people, for climate, and for nature.” Worldwide, less than 12% of national policies consider climate, biodiversity, and nutrition, while only 32% of National Action Plans include adaptation actions related to food safety and nutrition.

Farming for food is [one of the biggest sources of carbon emissions](#), but it isn't as prevalent in international or national reduction plans. The UN Food Agency will launch a plan within the year (by the time of COP28) [to make world food systems more sustainable](#). Over 40 investors with a combined investment of US\$18 trillion have urged the FAO to publish a plan to reduce emissions.

An initiative between the US and United Arab Emirates to help agriculture adapt to climate change has doubled investment commitments to US\$8 billion and extended its target reach this COP. The [Agriculture Innovation Mission \(AIM\)](#) was initially launched last year. At COP27, AIM representatives announced that 42 governments had committed to US\$7 billion of investments and US\$1 billion in innovation initiatives. These are aimed at farmers with small holdings in developing economies, the development of new technologies, agro-ecological research, and reducing methane emissions.

Thirty organizations from the world's food sector called for urgent additions to an agreement on the role agriculture

plays in tackling the climate crisis. In a [letter to the COP27 negotiators](#), signatories said the [Koronivia Joint Work on Agriculture](#) should include food systems approaches. In the letter, they stated: “If the Koronivia Dialogue concludes weakly this week, and does not adopt a strong food systems approach, there is a real risk that food systems will remain a low priority within the UNFCCC and that we will have lost a major opportunity to put food systems at the heart of the global climate effort. COP27 is therefore a make-or-break moment for the food systems and climate agenda.”

A group of 14 food-trading companies launched a roadmap to eliminate deforestation from supply chains for beef, soy, and palm oil by 2025. Firms include Cargill, Bunge, Archer Daniels Midland, Louis Dreyfus Company, JBS, and COFCO International. Environmental campaigners say this isn't soon enough and deforestation has to end now. Greenpeace Brazil said that some of the companies had previously promised to do this by 2020 but had failed to deliver.

Climate change is causing conflict amongst herders, but a new initiative aims to reduce this on the Niger-Benin border. The [US Advancing Climate Security Through Sahel-Climate Advocacy and Peacebuilding with Pastoralists](#) initiative intends to reduce the risk of farmer-herder climate change-related conflict in communities along the border by concurrently increasing herders' access to political participation to forecasts of rainfall, droughts, and other environmental factors.

Regenerative agriculture has its roots in Indigenous traditional ecological systems and its approach encompasses the soil, people, animals, and environmental health. Ten organizations encompassing Indigenous and regenerative agricultural practices are to receive over US\$11 million in grants from the Rockefeller Foundation. The grants will be used to rapidly scale this approach by 2030 from Indigenous agroforestry in the Amazon to carbon-market financing of smallholder farmers in Africa and elsewhere. It stands as a counter to agricultural expansion, which is [responsible for almost 90% of global deforestation](#).

Canada reiterated its intention to fund a new C\$10 million initiative of the FAO, which aims to promote climate-smart agriculture and agriculture biodiversity practices. Beneficiaries include rural communities in Aswan, Beheira, and Kafr El Sheikh, Egypt, so that they can expand their capacity to adapt to climate change.

During a session called Seed to Scale, the Global Resilience Partnership (GRP) launched a new agriculture innovation challenge for East Africa. GRP is partnering with Shockwave to host the challenge named [Resilient Agriculture Innovations for Nature](#). Winners will be connected to investors and receive tailored mentoring and communications support. Opportunities to apply will close January next year.

Egypt signed a partnership with Nexus of Water-Food-Energy program to support the implementation of climate projects with investment worth US\$15 billion.





Agriculture and Food Systems

SHAGHAYEGH MIRMASOUDI

**Senior Research Advisor,
Research and Innovation
Services,
Canada**

Building more sustainable agriculture in a changing climate is different across Canada. Canadian regions are, and will be, experiencing climate change impacts on agriculture and the food system differently. Finding the best solutions for each region is complex and depends on various factors, including social, economic, and political aspects.

The Canadian agricultural system benefits from adaptation to the effects of climate change. Currently grown products of one agricultural region could come from another region in the future, increasing its resilience from west to east. Canadian agriculture can also reduce greenhouse-gas emissions by relying on renewable energy resources, incorporate Nature-based Solutions by using Indigenous knowledge, and

increase soil carbon-storage capacity by changing agricultural practices.

It is different when we talk about small-scale and large-scale farms, as they are facing different challenges. Small-scale farmers and ranchers might not have the same access to information and cutting-edge technological advancements that can be leveraged for climate-change adaptation. Older generations working on smaller farms in Canada is another issue, as 54.5% of farm owners were 55 years of age or older as of the 2016 census. That number rose to 60.5% in 2021. The percentage of young farm operators was 8.6%, down from 9.1% in 2016. Smaller farming enterprises require more sophisticated climate-change communication. To reach out to them and understand their problems, credible local and Indigenous liaisons are needed.

LESLIE J (BUTCH) AMUNDSON

**Principal/Cultural Resources
Technical Leader,
Canada**

In the prairie provinces of Canada (Alberta, Saskatchewan, and Manitoba), we recently participated in a project to identify current level of Indigenous participation in the agriculture sector, interest in and feasibility of future Indigenous participation, and establish an information resource to support the development of government programming. As Indigenous Nations are reclaiming lands negotiated in Treaty but historically withheld from them, they are reestablishing a land base in the agricultural zone. With an interest in increasing participation in agriculture to achieve sustainability and economic equity; to practice environmental stewardship; to advance food security and sovereignty; and to include cultural knowledge to the cultivation of traditionally harvested foods, Indigenous peoples are

facing external challenges to these aspirations.

Apart from the capital and technological capacity required to participate in agri-business, climate-change driven, extreme weather necessitates building resilience into production systems to deal with both excess water and drought, sometimes within a single growing season. This, as well as escalating land prices, require producers to invest more money into irrigation and drainage infrastructure. For example, a First Nation in southern Alberta that has been farming since the 1800s and successfully exporting hay internationally, has increasingly struggled from drought and erosion in the past few years and have concerns that climate change will continue to create sustainability issues. They would like to expand irrigation, but funding is limited. They are contributing to solutions by using solar projects on older farms, allowing land to remain productive while it reverts to native grasses to restore the topsoil. Indigenous people also deal

with a legacy of soil/land degradation of their now returned lands by past intensive agricultural practices, such as over-grazing, continuous cropping, burning trash, and overcultivation, as well as impacts from industrial practices like oil and gas development with its effects on land, air, and water quality.

Indigenous Nations express interest in and are actively developing greenhouses, even north of the typical agricultural zone, to provide a means of improving food security and provide a sustainable way to produce fresh, local foods considering climatic factors and limitations with growing seasons. Greenhouses also provide training and employment and can be an economic driver through direct sale of bedding plants, for instance.

Climate change and cost of production create challenges not typically faced by colonial settlers, who benefited from agriculture in Canada for over 100 years. Though progress is being made with return of lands and innovative solutions on a small scale





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(such as greenhouses and resting the land with solar farms), we must support initiatives to diversify crops, collaborate on funding applications, develop training programs, and help with engineering innovative solutions. The Food and Agriculture Sustainable Transformation Initiative and other funding aimed at sustainable practice, could provide some of the scarce capital required for Indigenous peoples to develop the infrastructure required to create sustainable, secure, and resilient production systems that allow them to compete in the global agriculture market, while promoting economic opportunities for their community members.

SORCHA PEREN Planning Advisor, *New Zealand*

It took many COPs for agriculture to finally be discussed formally in the context of climate change. The 2022 session was the beginning of much-needed dialog on how climate change impacts everybody's daily lives—what we eat. This topic is a wicked problem from how our food systems become sustainable, the vulnerability of land and coastal environments, the justice and danger in environmentalism, extreme weather events of flooding and drought, the equity or lack of it in Indigenous people's representation in decision making, food security, cost of food, emissions, and agricultural knowledge. All of these were discussed over the day.

New Zealand's experience of coastal inundation, food security, access to mahinga kai, changing land use, and extreme weather events impacting our communities are not new conversations in the planning profession. What is not often seen

in policy planning but more in compliance with resource consents, are the challenges for when justice is required. COP conversations proposed that countries were held accountable for emitting and directly impacting the loss of land and low-lying food-producing areas and nations. The debates discussed avoiding climate emissions to support people's land and agriculture, yet the balance required for supporting our food crisis still needs to be taken into account. The voice of humanity rather than country was persistent. The majority of the pledges were around food and agriculture, not land.

Funds announced in supporting the transfer of knowledge and resilience to farming do offer a plan to respond to the challenges we all face. These discussions incorporated technology and innovation to solve matters of the climate crisis. But how successful can that be without sharing knowledge or even land with our communities, our neighbours, or the most vulnerable to climate change?

It was warned it will take time, yet we need it now. The required resource for climate resilience to our food system is a challenge for the 70% of small-scale farmers who produce our foods globally.

It is not convincing how equity has been considered in discussions, and if the money from funds, policy, or programs will be enough? Indigenous Peoples who attended with official UN credentials as observers this year are demanding to be considered as part of the negotiations. Maybe equity in land and agriculture is the answer to influence 30 by 30.





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PEOPLE BEFORE COUNTRIES

Indigenous lands are globally vital for conservation, with statistics showing they overlap about [40% of all terrestrial protected areas](#). COP27 president Sameh Shoukry praised the value and experiences of Indigenous representatives to help transform global pledges into tangible reality on the ground.

At COP27, Indigenous representatives attended with official UN credentials as observers. But they are demanding to be considered part of the negotiations as of next year. “We existed before the nation-states did; we have the right to be part of the debate,” said Gregorio Díaz Mirabal, a representative of the Kurripaco people in Peru, who led the proposal.

Goals are simple. “We are trying to keep our lands clean, and we are trying to keep our water and air clean, and that is not only for us but for the whole planet. This is the message we want to bring to COP27: there are ways to live in which we can live together in harmony with biodiversity and humanity,” explained Zebajaga Aqurina, chief of the Apik Oroum, an Indigenous community in Brazil’s southern Amazon.

RECOGNITION WHERE ITS DUE

A protest during land and agriculture day highlighted the murder and imprisonment of environmental land defenders. Figures show [over 200 such activists are killed](#) every

year while trying to protect their homes and ecosystems. Indigenous communities are victims of more than a third of that number, despite representing only 5% of the population. Most of these land conflicts involved climate-damaging industries, from deforestation by agribusinesses to mining. Describing COP as “an important moment for the democracy and human rights community,” Matthew Hale, a senior program officer for Emergency Assistance Programs, encouraged organizers to recognize the important role land and environmental defenders play.

Around 112 countries now support the [30 by 30](#) initiative to conserve 30% of the planet’s land and oceans by 2030, up from 70 countries a year ago. But the efforts of countries trying to prioritize safeguarding nature are still woefully unrewarded, despite universal gains. “We are providing a free service to the world without benefiting much from it,” observed Tanzanian President Samia Suluhu Hassan.

JUSTICE NEEDS TO BE SERVED

Preventing communities losing their land because of the climate crisis was a key theme of the climate justice pavilion. Wearing a t-shirt proclaiming “badass Pacific feminist,” one speaker on the Feminist Action for Climate Justice panel pointed out that no dollar figure would ever be able to compensate for land lost to the seas.

The [Forest and Climate Leaders’ Partnership \(FCLP\)](#), a voluntary partnership of 26 countries, committed to “accelerating momentum” to halt and reverse forest loss

and land degradation by 2030. Panelists discussing adaptation with co-benefits for livelihoods and mitigation called for people-centred approaches that address land and Indigenous rights.

Among those speaking in various pavilions, 11-year-old Indigenous climate activist [Licypriya Kangujam](#) called out skewed priorities of some world leaders on Twitter. “Just to build a statue in Gujarat state of India along the Narmada River, more than 75,000 Indigenous tribal people from 72 villages had displaced/affected, submerged their fertile lands in water, destroy the future of their children and destructed our ecosystem. Our leaders must stop compromising our Indigenous rights and our nature with profits.” Her tweets also mentioned Biden’s avoidance of loss and damage in his speech.

The importance of land rights were spelled out in a [manifesto](#) for COP by the International Land Coalition, including how land rights are intrinsically connected to the main themes of the event and policy recommendations.

FOR PEAT’S SAKE

The forest and land-use sector can provide [up to one-third of the emissions reductions](#) needed to avoid the most severe impacts of climate change. Opportunities to provide climate mitigation, adaptation, and sustainable development benefits identified by the [World Resources Institute](#) included reducing deforestation (particularly primary forest), reforestation, and paying more attention



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to carbon-rich mangrove and peatland forests, which can store two to three times more carbon per area than upland forests.

Northern hemisphere peatlands contain approximately [33% of global soil carbon, in 3% to 5% of total land area](#). Care-Peat, an Interreg NW partnership of European knowledge institutes and nature organizations, shared findings from a project aiming to prevent about 8,100 tonnes of carbon emissions from 7 pilot sites (approximately 645 hectares). “We are saving around 20 tonnes of carbon dioxide emissions per hectare, per year in comparison to a drained peatland that is grazed by sheep. In future, this carbon could be sold, and our research suggests it can be economically viable and perhaps even profitable for farmers to adopt these practices,” said a Care-Peat spokesperson.

Meanwhile a study from University College London came with an important message for COP27 leaders: the potential for billions of tons of carbon to be released from the [Congo peatlands](#) from a drying climate.

ALL THE LAND, ALL THE SPACE?

The climate justice movement raised concerns about land clearance for renewable energy projects. “The renewable energy sector is at risk of replicating the abuses of the profit driven extractive model. If we’re talking about climate but not talking about inequality and human rights, then we’re not talking about a just and sustainable energy

transition,” Jessie Cato, natural resources programme manager at the Resource Centre, was [quoted](#) as saying.

The opportunity agrivoltaics presents for multi productive uses of land, with renewable energy alongside agricultural activities, was raised and featured in an energy cooperation agreement between Israel and Germany signed at COP27. “Israel will learn from the German experience in increasing the introduction of renewable energies into the electricity grid, managing the grid, and formulating a hydrogen strategy,” said Lior Schillat, Israeli Energy Ministry director-general. “At the same time, Israel will assist Germany in everything related to the protection of critical and cyber infrastructures and knowledge-sharing in the agrivoltaics field.”

PEACE IN OUR LAND

Climate change-induced conflicts, natural disasters, and environmental degradation are further spurring insecurity and vulnerability. The Climate Responses for Sustaining Peace (CRSP) Initiative was launched on agriculture and food systems day to ensure integrated climate responses contribute to sustainable peace and development. The initiative aims to contribute to the realization of the 2030 Agenda for Sustainable Development and Agenda 2063: the Africa We Want, as well as to the implementation of the Africa’s Silencing the Guns initiative, and the African Climate Change and Resilient Development Strategy and Action Plan (2022-2032). CRSP has been developed by

the Cairo International Center for Conflict Resolution, Peacekeeping and Peacebuilding.

PLEDGES AND COMMITMENTS

A \$2 billion fund to assist in landscape restoration in Africa was announced by South Bridge Investments and the Arab Bank for Economic Development in Africa.

The International Monetary Fund and Bangladesh reached an agreement on a US\$4.5 billion loan to establish macroeconomic stability and mitigate disruptive changes to protect the vulnerable.

Many pledges and commitments made at COP27 related to land use for [Agriculture and Food](#).





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DAVE GARNER

Senior Associate Sustainability Consultant, UK

When we focus on Indigenous lands, we look at how to protect them, the people who manage them, and who the lands support. I think we miss the why—not “why protect Indigenous land” —but questions such as why is it so high in value to the globe? So biodiverse? Why does it hold so much carbon? So pristine? Then look at how we can bring the why into how we protect and manage land across the world. There is much to be learnt from Indigenous communities about how to manage our land through the value we place on working with the environment to provide the food, water, air, biodiversity, and carbon capture needed.

A continuing trend is that the agricultural and food systems side of COP27 is focussed on technology solutions, achieving more from what we have and making farming more efficient and resilient. In parts

of the world this may be the right focus, however, in many other parts, we need to look at consumption rates and how agriculture can be undertaken in greater harmony with the environment.

One interesting development is the growing recognition of the importance of peat for carbon capture. While this is great, I do wonder why it has taken so long. We’ve known the negative impacts of peat harvesting for 50 years and have suitable and sustainable alternatives. But it is still commercially harvested in the UK (albeit with a 2024 ban on domestic horticultural use).

We’ve been trying to get rainforest nations to protect their natural assets for the world’s benefit since 1992, but in the UK haven’t been looking at our own peat lands. Why have we not been as focussed on peat? Is it not as attention grabbing as a rainforest? I don’t have the answers, but I know we all need to look at ways to work with nature in our own landscapes to capture carbon. This will provide

us with the moral foundation and legitimacy to encourage others to manage their land in the interest of the world’s climate.

CHRIS BERRYMAN

Technical Director, Environmental Consulting, UK

What do you or your organization think of when the word “soil” is mentioned? For many in the construction sector, the narrative has been towards muck, muck shifting, and an inconvenience to a project which needs to be resolved, often as an afterthought to design and planning. The mood is slowly changing in the UK, where a number of professional and industry organizations are working to bring soils up the political and environmental agenda. We need to start thinking more of soils as a finite resource—playing a crucial role not only to sustainable economic growth but as a vital component in terms of carbon retention and biodiversity net gain. Once compromised, disturbed, or reused unnecessarily, so much value can be lost.

The challenge in the UK is that surplus soils, where generated

during construction, are frequently seen as a waste. And particularly in England, there is limited impetus through the planning process to consider the management of soils early on. What often happens, even with clean and natural soils during construction, is that handling and site activities degrade this critical asset, and a significant quantity of soils is simply discarded from UK construction projects, with program and commercials overriding true sustainability.

This is where the conversation is slowly changing with organizations such as the Society for the Environment, Construction Industry Research and Information Association and others coalescing across the UK to raise the importance of soils. To see the true resource value of soils will ultimately require political decisions to be made that reconsider how we view such surplus materials (as a waste) in the first place. We also require greater attention to be mandated at early project and planning stages to ensure





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the resource is first and foremost preserved or used in the most sustainable manner, ideally on the site of origin.

Soil is a bulky, heavy, and expensive material to transport, and aside from these obvious carbon savings, those associated with simply preserving and protecting the resource are too often overlooked. The narrative is changing, and 2023 could look to be the year where soils are seen nearer the top of the UK environmental agenda.

BEN KWOK **Senior Planner,** **UK**

Sometimes, it is easiest to avoid the big problems. Deal with the small “easy wins” with the hope that the sticky issues will sort themselves out. The beauty and the point of a COP is to bring these issues to the fore and advance dialogue on extremely difficult topics. Rightly so, COP27 has elevated the consideration of climate justice and an equitable transition to a global system that limits climate change.

One such facet of a just transition has stemmed from concerns about land clearance for renewable-energy projects. Against the backdrop of an ever-increasingly uncertain global energy outlook, marred by exogenous shocks to commodity prices, leaders of developing nations have called for considerations of more than just bottom-line price thoughts for sourcing energy.

A global energy transition seeking to limit the warming potential of our fuel sources fundamentally requires the mass deployment of renewable technologies, likely to be principally solar photovoltaic and wind power. So far, the transition in developed countries has been one largely of private actors and developers seeking to deploy renewable-energy projects within the institutional frameworks that they are afforded—permitting systems, planning systems, and/or legal systems.

The problem herein lies as to how—and at what speed—developing countries can make meaningful transitions. The problem in developing countries is different and, with the danger of over-generalizing, the issue of decarbonizing energy networks is married to providing secure energy at the point of consumption.

COP27 discussions have highlighted a myriad of issues relating to land. Some are legal and political issues, such as uncodified land-right frameworks and Indigenous

constitutions. Others are, on the face of it, simpler but have arguably as important consequences as to what land is used for, be it land-intensive energy systems or growing food (yes, agrivoltaics is possible but is it possible at a sufficient density?).

There will always be an opportunity cost associated with development, but concerns are growing that the renewable-energy space may follow the (largely) destructive extractive industries, such as minerals extraction, in many developing countries. This is also not to forget that the extraction of precious metals themselves are needed to support large-scale renewable deployment.

The answer remains very much at the core of UNFCCC in the recognition that in acting to limit climate change, individual nations have common but differentiated responsibilities. Whilst those responsibilities has been subject to a multitude of academic discourse about what exactly it means in practice, the core thematic of ensuring that developing

countries are supported financially and with political governance rings true here. Developing countries must be afforded agency to develop decarbonized energy networks as they see fit. Yet, sensitive recognition of the landscape within which they are to act will be central to delivering a just transition.





Water

For the first time in COP history, water was a dedicated agenda theme. In the opening session, one panelist described how on a COP visit to Aswan, Egypt, they had learned that before passing into the afterlife, souls are asked: “Have you polluted the Nile? Did you pollute our water?” Since ancient times, communities have understood that water is life, our most precious resource.

SLOWING THE FLOW

Discussions on water day ranged from scarcity, water wars, integrating water-management systems, storage facilities, water-management capacity training, new forms of diversification, local community education programs, protecting peatlands, efficient water collection methods, taking less away from the environment, and holistic approaches that managed users located upstream and downstream. One panelist said: “100% of our aquifers are shared, water is too precious to use once,” imploring industry and communities to find ways to conserve resources.

WELLS RUNNING DRY

Droughts have become [29% more frequent](#) across the globe since 2000. Kiribati declared a state of emergency due to severe lack of fresh water. Average rainfall in Jordan has fallen by half in 50 years. Kin Tupou VI of Tonga reminded the conference room’s audience of the devastation of January’s tsunami. From Libya, we heard how despite

having Africa’s longest coastline in the Mediterranean and 95% of Libyans living beside it, water is becoming scarcer, soil more saline, and erosion getting worse. An [investigative report](#) published on water day showed the devastation of desertification in the Middle East’s Fertile Crescent, which sweeps from the Mediterranean to the Persian Gulf.

WATER WARS AND FUTURE REFUGEES

An expert from India described how if we continue business as usual, we should [expect 700 million people to experience drought](#) for 6 months or more of every year. The current number is 408 million. “We could expect an increased likelihood of water wars, with great consequences for humanity,” the expert stated.

A youth activist described how people are fleeing areas impacted by devastating droughts, either to cities or further afield if they can. His work includes asking locals about actions needed to encourage young people to stay in villages and work on the land. Through education, young people need to know the importance of agriculture, water, shared knowledge, and pollution, he said.

EQUITABLE ACCESS TO WATER

Colette Pichon Battle, US climate justice and human rights lawyer, set out how the frequency and intensity of storms and floods are challenging not just our systems but who we are as nations and humans. “Our natural water systems

are being overused and polluted by industry, and in my area it’s oil and gas,” she said. She explained how water supply and provision is divided along racial lines. “It is the poorest and blackest people in the US who are lacking access to the very thing that sustains our life,” she said. “How are front-line communities in charge of their water? How are we keeping resources accessible? How do we make sure that in the changing climate crisis, the most vulnerable have access to the one thing which is life? ... Let’s keep water public.”

LET IT RAIN (WITH SOME HELP)

In some areas of the world, rain is being engineered out of clouds to help with acres of parched farmland. In China’s Yangtze River basin, where farmland areas received 40% less rainfall than usual this summer, cloud-seeding programs are providing some rain relief. In August, 211 operations were carried out alone for over 1.45-million-square kilometres. But experts say cloud-seeding is not a long-term solution, yet other options, such as digging new wells and switching crops, are not proving to be fruitful. The United Arab Emirates has been carrying out cloud seeding for decades.

AND WHEN IT POURS

Leading up to COP27, Google launched FloodHub, which allows users to see flood forecasts. It uses artificial intelligence to generate models to display warning and





Water

danger levels for rivers and basins. Users can zoom into inundation maps to find information and focus on highly specific areas, such as a village. They can also understand the current and forecasted flood situation in their area instantly, in a more visual format.

PLEDGES AND COMMITMENTS

As we headed into week 2 of COP27, global leaders were also gearing up for this year's G20 Summit in Bali. G7 president Germany announced the Global Shield initiative to provide insurance and disaster protection funding after floods or droughts. The first countries to receive the funding will be Pakistan, Ghana, and Bangladesh. Other initial recipients include Costa Rica, Fiji, the Philippines, and Senegal.

The world's three largest rainforest nations—Brazil, Democratic Republic of Congo, and Indonesia —launched a partnership for forest preservation. It comes after a decade of on-and-off talks about a trilateral alliance. The partnership will pressure wealthy countries to help finance conservation to stop the rapid destruction of rainforests and regrow areas for greenhouse gas removal. The alliance also states that countries should be paid for reducing deforestation and maintaining forests as carbon sinks. By releasing water vapor into the atmosphere, rainforests contribute significantly to rainfall. Further deforestation of our rainforests will decrease rainfall and trigger droughts, leading to a vicious loop of more fires and deforestation.

A new partnership between the World Meteorological Organization and Egyptian Presidency was launched, which centers on embedding water management in national climate-adaptation efforts. The initiative is now open for governments to commit to and sign up. It sets out decreasing water loss and waste and improving water access, collaboration on water-related climate adaptation, and recognizing the connection between action on water and delivering key climate goals.

The European Bank for Reconstruction and Development announced its support for six Egyptian projects, which are winners in the country's [Initiative for Smart Green Projects](#). The winners will receive a comprehensive package of technical support, training, and business-advisory services. The competition was open to the country's governorates and paid special attention to development projects related to women.

AND A LITTLE SIDENOTE WITH SOME "EGGSELLENT" NEWS

Scientists at Princeton have found a way to remove microplastics, and even salt, from water—by using [egg whites](#).

STEVE MUSTOW Environmental Consulting & Consenting Director, UK

It's great to see that water is now a dedicated agenda theme at COP. It's also surprising that it has only just been included given the strong links between climate change and the water environment. With more frequent and severe droughts predicted, and the Earth's population expected to increase by 2 billion in the next 40 years, climate change is likely to have a huge impact on water resources and, therefore, on people. It is also likely to lead to an increased risk of flooding in some areas due to more intense rainfall, as well as effects on water quality and aquatic life through factors such as flow changes, temperature increases, and increased erosion.

In the UK, the water companies are already working on mitigation solutions, such as a greatly increased use of Nature-based Solutions to slow the flow during rainfall events



Water

and improve water quality. These range from measures such as sustainable urban drainage systems to the use of artificial wetlands to treat wastewater. Such approaches require collaboration with councils, landowners, environmental regulators, and other parties. We see additional benefits from these measures, including combining recreation with wildlife protection and biodiversity.

We need to see more of these measures incorporated into our developments and built environment—to make sure our places and spaces are as resilient as they can be to rising water levels, extreme weather events, and other consequences of climate change. Where we create resilient places, the communities who live and experience them can be stronger and more empowered to deal with the impacts of climate change. The wars of the future could be about water supply, and we need to install protections of our most precious resource now.

DARIUSH ABELEHKOOB Graduate Sustainability Consultant, UK

COP27 took place at time when the UK water industry is steadily more focused on addressing its climate impact and grappling with the effects of climate change itself. Work to quantify associated emissions from both built infrastructure and operations has been guided by the UK's Office of Water Services (OFWAT) Net Zero 2030 Routemap. Furthermore, the opportunities for circular-economy implementation are becoming more obvious. The hope is that by achieving these objectives, the environmental footprint of the sector can be minimized.

The water sector has its own part to play in achieving net zero targets but is also one of a long list of climate-change victims. As the sector moves forward, climate resilience is increasingly important, and this was a common theme throughout COP27 Water Day. It was noted that

climate trends are much easier to predict globally than local climate events, providing a planning and adaption headache. Furthermore, numerous innovative solutions were presented to address problems ranging from drought to sanitation. However, many of these are energy and resource intensive and, therefore, unsustainable—particularly if conditions worsen. Similarly, it is possible that adaptations that are effective now may no longer be applicable in a warmer world.

The first ever COP Water Day took place in a host country that is classified as in a state of water poverty—defined by the World Bank as the minimum rate to meet the water and food needs of its citizens. Water Day's addition to the program is a welcome and important step in what is quickly becoming one of the most alarming results of climate change. The link between global warming and climate change is now reported with high confidence. This is no more evident than in the increasing frequency and intensity





Water

of high-impact climate events—for example, extreme drought in Europe and flooding in Pakistan. Since the turn of the millennium, there has been a 29% increase in droughts and 24% increase in the proportion of the global population exposed to flooding. Combined with an increasing global population, a trend dominated by population growth in the developing world, water resources will continue to be strained for decades to come regardless of mitigating action. As such, it is clear that the decisions we make in our country are often most acutely felt by those already most vulnerable around the world.

BABAK BOZORGY Regional Technical Director – Water , UAE

Population growth and impacts of climate change have increased the stress on water resources across the world. That is especially true in the Middle East and North Africa region, the most water-scarce region of the world. Home to more than 6% of the world's population and 12 out of the 17 most water-stressed countries, the region contains just above 1% of the world's renewable fresh water.

Due to the region's semidry-to-dry climate, surface water resources are either ephemeral or nonexistent. This results in severe stress on groundwater resources, which have been continuously depleting over the past decades, causing critical issues such as land subsidence and sinkholes and lack of equitable access to water, leading to social and political conflicts and mass migration. On the other hand, due to the hydrologic characteristics

of the catchments and impacts of climate change, the severity and consequences of floods have also increased in the region.

Both situations have left the lower income layer of societies as the most vulnerable to the water stress and impacts of climate change in the region.

To tackle the challenge, some countries in the region—such as the United Arab Emirates and Iran—have been carrying out cloud-seeding research and implementation for decades. However, determining the effectiveness and efficiency of the methods and technologies of cloud seeding needs more detailed monitoring and research.

Groundwater recharge, stormwater reuse, water recycling and reuse, and agricultural reforms have also been studied and implemented across the region. Agriculture is one of the largest consumers of freshwater resources in the region, and conventional methods of irrigation

only result in loss of massive amounts of fresh water each year. Change and improvement in crop patterns and irrigation methods in the region can play a major role in preserving water resources for the environment and the future generations. However, a fundamental change could be a serious social and economic challenge, which needs focus, attention, will, investment, and collaboration by the governments of the countries in the region, especially for transboundary surface and groundwater resources that are the major water resources in the region.





Gender

When we tackle the climate crisis we must do so, at every stage, on behalf of *all* the population, especially the most vulnerable.

There are nuanced needs, vulnerabilities and affects, and we aren't all on the same starting line. But we are all required to find, be considered in, and implement solutions. As such, *Inside SCOPE* this year does not repeat the standalone theme of gender. Instead, we strive to consider the different impacts and needs of a diverse population as we respond to every theme of the event.



Energy

TURN IT ON, THEN FIX IT

Over 600 million people on the African continent do not have electricity. “Africa wants to send a message that we are going to develop all of our energy resources for the benefit of our people, because our issue is energy poverty,” said Namibia’s petroleum commissioner Maggy Shino. Macky Sall, Senegalese President and chairman of the 55-member state African Union, agreed with Shino: “We are in favor of a just and fair green transition, instead of decisions that harm our development.”

The debate rages about the merits, or otherwise, of natural gas as a transition fuel. Following the European Union’s (EU) categorization of it as such earlier this year, EU finance commissioner Mairead McGuinness said “we need to move with all the means at our disposal. That may mean accepting imperfect solutions.” [Climate Action Tracker](#) countered with a report released at COP27 estimating that planned gas expansion could increase emissions by over 1.9 GtCO₂e (a 235% increase in capacity) per year in 2030.

BALANCE OF POWER

Germany, France, and the Netherlands pulled out of the [Energy Charter Treaty](#), a 1994 agreement that protected foreign energy investments and allowed private companies to sue governments over policy changes that might hurt investments. Italy, Spain, and Poland have also exited the agreement that has been described as “weaponized” and “archaic.”

While the responsibilities of rich countries to help the poorest often dominate these climate summits, coal-reliant middle-income countries are crucial to transition. The US\$8.5 billion Just Energy Transition (JET) plan announced by South Africa last year has been hailed as an exemplar approach. Crispian Olver, executive director of the South African Presidential Climate Commission, said that lessons learned through their process included the importance of being consultative and inclusive.

THE NITTY GRITTY

The UN launched [Climate Trace](#), a global inventory of greenhouse-gas emissions produced by a coalition of academic institutions and energy data experts that’s been classed the most detailed inventory to date.

A new report from the International Energy Association concluded that to hit net zero emissions by 2050 and keep to 1.5°C, [we need to reduce coal use by 90%](#). The report found that “if operated for typical lifetimes and utilization rates, the existing worldwide coal-fired fleet, excluding under-construction plants, would emit more than the historical emissions to date of all coal plants that have ever operated.” The findings highlight the enormous imbalance between current coal-related generation load and emissions. Every model demonstrates that to avoid severe impacts from climate change we need early and significant reductions in coal-related emissions.

US President Biden announced US\$20 billion in new investments targeted at reducing methane emissions and made a joint declaration with the EU, Japan, Canada, Norway, Singapore, and the UK committing to immediate action to reduce the greenhouse gas emissions, particularly methane emissions. This reaffirms their commitment to the Global Methane Pledge to reduce collective anthropogenic methane emissions by at least 30% from 2020 levels by 2030.

Portugal became the newest member of the [Beyond Oil and Gas Alliance](#), a group of countries committed to banning new domestic oil and gas drilling. Members of the alliance, which was formed at COP26, include Costa Rica, Denmark, France, Ireland, Sweden and Wales, plus Greenland, Washington State and the Canadian province Quebec.

CARBON PRICING

Norway will increase carbon tax to €200 per ton by 2030. The US proposed a system to help finance the phaseout of coal through the sale of carbon credits. To boost Africa’s participation in voluntary carbon markets, the Africa Carbon Markets Initiative (ACMI) was established. By 2030, ACMI aims for 300 million carbon credit production, equivalent to US\$6 billion in revenue.



Energy

WHICH WAY THE WIND BLOWS

Botswana is doubling its renewable energy target, and Norway is doubling climate finance. The US launched the Energy Transition Accelerator to assist developing nations with renewable energy until 2030/35. Mexico announced plans to deploy an extra 30GW of wind, solar, geothermal, and hydroelectricity by 2030. But Climate Action Tracker data shows [Mexico's emissions are projected to continue rising to 2030](#).

The Global Offshore Wind Alliance, launched by GWEC, IRINA, and Ministry of Foreign Affairs of Denmark, has nine countries signed up as members aiming to drive a six-fold increase in offshore wind.

Israel and Jordan signed a memorandum of understanding (MoU) moving forward a proposal signed at COP26 that will see Jordan build and export 600MW of solar power to Israel, which will export back 200 million m³ of desalinated water. BP meanwhile signed an MoU with Mauritania to explore large-scale, low-carbon hydrogen production, including the feasibility of onshore wind and solar farms required for electrolysis. Getting in on the action, the EU signed three green hydrogen deals with Egypt, Kazakhstan, and Namibia.

France announced that all parking lots bigger than 80 vehicles should be covered with solar panels in the next 5 years. Estimates show the move will generate energy equivalent to 10 nuclear power plants (11GW).

NO WAITING IN THE LOBBY

The UN Economic Commission for Africa cancelled the Team Energy Initiative after a review of its partners revealed involvement of a fossil fuel lobbyist and convicted fraudster from the African Energy Chamber.

The fossil fuel industry turned up en masse to Egypt, with 636 representatives registered to attend—smashing the previous record and up by more than 25% on numbers in Glasgow last year.

The US Bureau of Energy Resources announced the launch of the Women in Energy Strategy, which aims to increase women's access to energy-sector opportunities. It also announced US\$1.5 million for Climate Change and Women in STEM in the Indo-Pacific Region to increase women's participation in the global clean energy workforce.

Diversifying the energy workforce will allow the sector to draw on a wider, deeper pool of talent than energy has historically tapped into. Example projects already showing the benefits of a just energy transition is [EmPower: Women for Climate-Resilient Societies](#). The scalable model has benefited more than 2,000 women and helped more than 400 build climate-resilient livelihoods since 2018, offering implementation lessons learned for discussion at local, national, and international level.

NO MORE COAL, BUT MORE COAL

India's Prime Minister Narendra Modi said his country is "committed to clean energy and environment" despite the government's push for coal production. It recently launched its largest coalmine auction—the sixth since 2020 when India privatized its coal industry but points out that developing countries are far more reliant on coal, while the other fossil fuels the West uses remain unsanctioned.

Indonesia is set to receive US\$20 billion to help shut down coal. The Indonesia JET Partnership is "probably the largest single climate finance transaction or partnership ever," said a US Treasury official. Similar deals with Vietnam, Senegal, and India are in the pipeline, but a hint of caution says wait and see if rich donor countries and South Africa's JET can agree on how funds should be spent.



Energy

SELEN İNAL **Business Development** **Manager, TurSEFF,** **Türkiye**

Over the past few years, countries in our region have increasingly felt the necessity for a green transition. As of 2022, it has reached its highest point so far because resources have been constantly decreasing in the world and in Türkiye, or access to available resources has become more restricted. In light of this, it is more critical for COP27 leaders to walk the talk.

The urge to accelerate renewable energy and energy-efficiency investments is not only to limit carbon emissions and prevent their disruptive consequences environmentally. It's also key to stay competitive in the market for the private sector, due to increasing electricity prices and securing energy supply for the governments in Türkiye and the region. Despite positive regulatory developments (such as latest amendment on the unlicensed

electricity generation regulation, newly introduced energy storage, and charging station licensing regulations), and increased interest in green investments, in 2021 66.6% of Türkiye's annual gross electricity generation was provided by thermal power plants, higher than 59.6% in 2020 and 57.6% in 2019. The dependency on fossil fuels creates a pricing and supply risk for the Turkish electricity market, which is vulnerable to price increases in coal imports and shortages of natural gas with rising commodity prices.

Moreover, the upcoming Carbon Border Adjustment Mechanism within the scope of the EU Green Deal significantly elevates carbon leakage risk imposed on Türkiye's exporters' ability to compete in the EU market, and the EU is Türkiye's largest export market with 41% share. Thus, the decarbonization of the manufacturing industry and integration of carbon markets carry utmost importance for Türkiye. The ability to speed up the green transition of the energy sector will be decisive to turn risks into opportunities.

For those reasons, we highly recommend clients seriously consider green transition of their enterprises and take the necessary steps to adapt rapidly. With regards to companies in Türkiye, self-consumption and energy-efficiency investments may be prioritized to stay commercially competitive. For energy-efficiency, a first step is to conduct an energy-efficiency audit listing possible investments, and to prioritize them according to payback periods - depending on capital expenditure and potential energy savings. Those green investments offer an important solution for businesses to reduce electricity costs and be less affected by electricity prices, and payback periods have become relatively short, making them very attractive if decision makers of enterprises are awakened to that fact.

AYÇA ESEN ÖZTÜRK **Energy Efficiency Expert,** **Türkiye**

Countries are making more ambitious climate action plans to reduce emissions and reach net zero 2030 targets, but more action is needed to get there.

While developed countries are working to reduce energy consumption and increase renewable energy applications by using new technologies to reduce their emissions, we are faced with the reality that millions of people in Africa do not have access to electricity. On one hand, people need energy, but on the other, collaboration is required so that energy generation is the most sustainable it can be. The climate-change crisis is a world one, and there is no place for fossil fuels anymore.

In Türkiye and many other countries, energy prices have increased dramatically because of political issues and restrictions on energy



Energy

supplies. Investing in renewable energy and reducing energy consumption has become even more important, and I hope that the outlook for future deployment stays strong and focused from previous years.

Investment in the energy sector also needs to focus on renewables and energy efficiency so businesses, facilities, and the basic systems that power our economies run on renewables in future. Turning our attention and investment to renewables is key to maintaining energy supplies, security, and to ensure we move away from coal and fossil fuels. It just needs to happen faster and further.

Türkiye's installed renewable capacity is 54.3%, the majority of this being solar, and with new monthly offsetting regulations, the demand for rooftop solar energy has increased. But despite the increased demand for renewables, high interest rates and difficulty in accessing finance are one of the biggest obstacles to installation. We need incentives

and new green financing models and mechanisms to meet these challenges. In Türkiye, legislative arrangements also need to be improved in line with green transition and decarbonization targets, and their scope should be determined properly.

Türkiye is trying to create a development path that takes climate priorities into account more than in previous years. In some areas, more steps are required than others, but it can be said the country's general trend is parallel to global climate trends.

BRIAN MASHFORD

Senior Vice President, Mining, Minerals, and Metals, USA

When we talk about energy and the energy transition, the conversation should start with mining. We cannot build the necessary renewable energy infrastructure without mining. And the mining industry must meet the demand for critical minerals and metals while operating in a responsible and sustainable way.

To that end, many in the industry are reconsidering what it means to mine successfully and responsibly. Now, in addition to considering maximum throughput and revenue, miners must think about their environmental footprint, community acceptance, and workforce inclusion. Over the last few years, we've seen a spike in demand for sustainable mining and net zero mining services. Mining companies that have committed to ambitious net zero, carbon neutral, and corporate social responsibility goals now need plans. Then, they need to put those plans into action.

In doing this work, mining companies ask questions like: How can we reduce energy consumption and emissions? Can we replace a conventional energy source with a cleaner one? Is there a way to be better water stewards during the entire mining life cycle?

The world needs the minerals and metals that enable modern life, and we need mines that produce those resources responsibly. The big win comes when we all accept mining as a crucial part of daily life and essential to a greener future.



Energy

COURTNEY KAINS
Sustainability Engineer,
Australia

MARK PRICE
Associate Director, Energy,
Australia

The undeniable message from COP27 is that fossil fuels are a cause of climate change, not the solution—with calls to end the use of coal and shine a spotlight on the compromising planned expansion of gas.

During the summit, Australia has gone from 59th to 55th place out of 63 in the Climate Change Performance Index. However, this week its government elected to not join the statement on international public support for the clean energy transition partnership and has yet to end international public finance for fossil fuels or set an end date for fossil fuels. With current global 2030 targets set to only limit our warming to 2.4°C above preindustrial average, this policy response is insufficient. This is where the private energy sector has a valuable opportunity to

not only be a player but to thrive as a leader in this space.

Global power demands are going to increase as a result of population growth and electrification of assets. A focus on future-proofing our solutions is required. Avoiding emissions in the first place is the very best way to mitigate contribution to the world's annual greenhouse gas emissions. Energy generation is a key area that can provide solutions that mitigate, not just adapt.

Companies will need to be prepared to be transparent and accountable moving forward with their energy production, demand, and sources. They will also need to acknowledge that renewables will increasingly be their customers' baseline expectations. Those customers will expect a ramping up of existing technology implementation as well as looking to innovative technologies and solutions.

An existing myriad of technologies and innovations, as well as new ones constantly emerging, offer

a solution for the energy crisis. However, it seems that the key question is whether or not we can fulfil the commitments made within the allocated time, with ongoing labor, professional, and material supply-chain shortages? Additionally, it is crucial that solutions and support are shared in a just and socially responsible manner that addresses climate change as a global issue. These setbacks can drive us even further to explore the social and diverse opportunities that could overcome issues and progress the green transition, such as close engagement with Pacific nations and empowering women in STEM.

This opportunity is a unique one where the private sector can step up, shape the future and lead solutions that go above and beyond government targets, and showcase their innovation and social responsibility. The time for finger pointing and blame throwing is over—COP27 is the Implementation COP. We need to see solutions and actions that keep the 1.5°C target possible.



Accelerating Climate Empowerment

INTEGRITY CALLS

Greenwashing: the process of conveying a false impression or misleading information about how an organization's operations and projects are sustainable and green. Sound familiar? It should with numerous greenwashing cases in international courts against banks, governments, and the fashion and aviation industries.

This COP27, the UN High-Level Expert Group on the Net-Zero Emissions Commitments of Non-State Entities asked for net zero pledges with a high bar of credibility to stop the sham of greenwashing. Calling for red lines to stop support for new fossil fuel exploration and overuse of carbon offsets in each country's new climate action plans, the group is set to create an international task force of financial regulators to enforce climate integrity. Will integrity be the new climate battle ground, with public and private sectors fighting to prove every step they take?

AT GREATEST RISK

Climate change is the "most consequential threat multiplier for women and girls, with far-reaching impacts on new and existing forms of gendered inequities," as stated in a [UN report](#) from UN special rapporteur Reem Alsalem. She said that "women, environmental human rights defenders, Indigenous women and girls, women of diverse gender identities and sexual orientations, older women, women with disabilities and women in poverty and those forcibly

displaced are at particular risk and yet often fall through the protection gap."

This COP27 agenda featured a gender day (shared with water). Half the day was dedicated to panels like Women, Climate Change, and the Voices of Civil Society featuring the international participation of women leaders who have made vital contributions to decision-making on dealing with climate change. UN Women executive director Sima Bahous stressed how "climate change and gender inequality are interwoven challenges. We will not meet the 1.5 degrees Celsius goal, or any other goal, without gender equality and the full contribution of women and girls."

UNHEALTHY PLANET, UNHEALTHY HUMANITY

"President Biden must declare a climate emergency. People are sick; they are dying because profits are valued more than our lives," said Sharon Lavigne, who led a successful grassroots campaign to stop the construction of a toxic plastics plant in USA's [cancer alley](#) in Louisiana. "We put him in office. He needs to listen to frontline leaders. President Biden, please meet with me today at COP27; listen to us."

The floor of COP27's conference center has seen a variety of protests during the two weeks. Doctors, nurses, pharmacists, scientists, and medical students staged a protest to highlight how climate carnage is killing their

patients. One doctor performed CPR on an inflatable globe while international peers shared personal experiences, before collectively collapsing to the floor in Sharm El-Sheikh. The rise in deaths globally was attributed to the climate crisis, which in turn causes fatal air pollution, malnutrition, and a lack of access to healthcare. The prescription? Climate justice, end fossil fuel subsidies, and for "1.5°C to stay alive."

ACCESS DENIED

Reports stated that COP27 Wi-Fi in Egypt had been blocking Human Rights Watch and other key news sites, including Al Jazeera, since the start of the conference. Two days into the event, these were unblocked. But the test will come once COP27 has closed, negotiators have left the country, and the global media's spotlight is focused elsewhere. Will Egypt keep access alive or put back the blocks?

THE MOST HIGHLY SURVEILLED COP?

Authorities banned protests at the main conference center (just as are they banned in the country), although many took place inside and outside the blue zone, with security not shutting them down immediately. Protestors said they were shunning the [official designated protest area](#)—a car park in the desert. For many activists, it had been crippling expensive to attend COP27, as well as challenging to obtain the correct accreditation. The four who briefly interrupted President Biden's speech had their summit passes taken away and were escorted out of the venue by security.



Accelerating Climate Empowerment

On November 12 to mark Global Day of Action, thousands of people took to the streets of their home cities around the world. In the blue zone at COP27, hundreds of people formed a protest inside as authorities banned protests on the streets of Sharm El Sheikh. They chanted slogans such as “no climate justice without human rights” and labeled the UN climate summit “lost and damaged.” The global observance day aims to highlight how the climate-change crisis mostly impacts people and places not responsible for it.

Media organizations from nearly every continent called for a windfall tax on the biggest fossil fuel companies. In a [joint article](#) coordinated by the UK’s Guardian newspaper, signatories proposed funds raised should be redistributed to vulnerable, poorer countries.

IMPACTING FUTURE GENERATIONS

A UNICEF poll of nearly 250,000 respondents showed the impact of climate change on hope. Almost half of young people in Africa said they have reconsidered having children because of the crisis. Globally, two in five said climate change has made them reconsider their desire to start a family.

IT’S ... A BOY? A GIRL? THE EIGHT BILLIONTH BABY IS BORN

In the World Leaders Summit, UN Secretary-General António Guterres said the eight billionth baby was about to be born. He questioned if that baby could ask delegates and world leaders their response to: “What did you do ... when you had the chance?” In week two, the global population reached eight billion.

REPRESENTATION MATTERS ... BUT DID IT AT COP27?

Blue zone for world leaders and delegates, green zone for ... shopping? Reports from inside talked of attendees stuck in the green zone thanks to slow accreditations or authorities restricting access.

How COP27 treated Indigenous people was “an insult,” said one Kulkalgal activist from the Torres Strait Islands who was in Egypt to fight for his home.

Jason Boberg, a member of the disability caucus and a founder of the disability climate action network SustainedAbility, said people with disabilities must be included in action plans. “It’s really crucial for disabled people and organizations to be included, so they can get more resources from countries for climate action and prepare for climate emergencies,” he said. Examples include accessible relief shelters and the creation of

registries for disabled people to help governments deliver extra assistance to the right places in the lead up to extreme weather and in the aftermath of a weather event.

Activists, charities, and politicians warned that too few women were participating in COP27 climate negotiations. [Analysis by the BBC and Women’s Environment and Development Organization](#) showed that women made up less than 34% of country negotiating teams. This COP is one of the lowest concentration of women at a UN climate and last week’s inaugural photo showed 110 leaders, 7 of them being women.

STUDENTS CALLING FOR CHANGE

After a weeklong sit-in occupation against fossil fuels, authorities at the University of Barcelona have launched a mandatory course on the climate crisis for students from 2024. A training program on climate issues also will be mandatory for all academic staff. It is thought to be the first in the world from an academic establishment, although student activists said the university didn’t agree to implement their other demand to reject funding from oil company Repsol and other businesses that profit from fossil fuels.

Calls from students across UK universities are getting louder and being heard. A campaign by grassroots student activist group People & Planet, active in dozens of universities, calls to ban fossil fuel companies from careers



Accelerating Climate Empowerment

events. Birkbeck, University of London was one of the first to answer and issue a statement declaring it will “not allow fossil fuel companies to attend careers fairs or take part in sponsorships or advertising.”

POLLING THE PEOPLE

Results of a poll in the UK during COP27 showed that 49% of people said the UK had a responsibility to provide climate funding to poor countries. 31% said it did not, and 20% said they didn't know. The results were similar regardless of political affiliation, but 65% of people aged 18-34 were in favor of support for climate funding to vulnerable countries, whereas amongst those aged 65-74, only 37% were in favor.

Another poll carried out halfway through COP27 showed 48% of people said acting to stop the climate emergency would be good for the UK economy, while 38% said it would be bad.

A separate poll across all G7 countries found 65% of people agreed with richer countries paying more of the costs of climate action because of their historical responsibility for emissions. 11% disagreed.

HANNAH MORGAN Graduate Environment Planner, UK

Sessions at COP27 have demonstrated the importance of not just education and spreading awareness in civil society, but also listening to and learning how civil society is adapting to climate change and driving climate action. But these discussions have been overshadowed by barriers to participation at COP27, including the high financial cost of attending, reported intimidation by Egyptian authorities, and high surveillance. Furthermore, despite growing awareness of the links between climate change and gender and the gender-themed day at this COP, there have been reports on the [lack of women participating in COP27 negotiations](#).

It's important to remember that people have different priorities and views. This is particularly vital as the built environment does not meet everyone's needs equally. For example, in the UK, built-environment

professionals have historically been white male, reflected in the way that places are designed. We must therefore acknowledge and encompass divergent requirements in the design of climate-change mitigation and adaption measures as we progress.

The drive and power of civil society has been demonstrated through climate protests globally. In 2019, they led to the declaration of local and national climate emergencies in the UK. Similar calls are now being made in the US for President Biden to declare a climate emergency. Climate protests continued at COP27 within the conference walls. However, there is longstanding debate on whether individuals are able to influence systems, or whether it is the system that influences the individual. Ideally, there needs to be action on both parts.

Moving forwards, civil society has a key role to play in climate-change discussions and action, but there must be more meaningful and

inclusive dialogue and engagement between civil society and governments. Global discussions provide useful knowledge-sharing but accelerating climate empowerment will depend on the local context and requirements. There is an imperative need for genuine action and not just discussion—a point echoed around COP27.



Accelerating Climate Empowerment

JAMES JACKSON

**Assistant Structural Engineer,
Buildings,
UK**

Integrity is the very backbone of climate action in the coming years. Beyond simply providing targets and holding actors to their commitments, integrity in climate data collection and reporting affords humanity the chance to act in genuinely sustainable ways. Without this integrity, our ability to quantify harms, design solutions, and bring markets to bear on these solutions is hamstrung.

The carbon-offset market is an example of misleading climate data that enters the consumer market.

That carbon offsets can be purchased for as little as £5.75 per ton from airline providers sits directly at odds with the cost of carbon capture—sitting well at over £100 per ton. This price gap is indicative of a market that lacks integrity—the true cost of the ton of carbon you emit is that of the carbon removal, but by treating carbon avoidance as an equivalent

to carbon capture has misled consumers in all industries.

Integrity in carbon data, then, can be seen as identifying the true cost of carbon emissions to society and the actual price that must be paid to remove, nullify, or repair this harm. The basis of this costing is data collection. Where do the bulk of our emissions come from? What benefit do these emitting activities bring to humanity? And how much harm does the carbon emitted in the course of these activities inflict? In answering these questions accurately—and putting values to them—we open ourselves up to a range of market-based climate solutions.

Measures that have the ability to make large scale impact—like emissions taxes and trading schemes—rely on this information to function effectively. With a functioning and accurate system of quantifying carbon and its true costs, as designers we can begin to reward and incentivize sustainability in our own projects and designs.

SADE AKINDELE

**Corporate Sustainability
Engagement Advisor,
The Netherlands**

We need to keep diversity, inclusivity, and equality at the heart of this transition towards a more climate resilient future. This means understanding that the devastation caused by climate change impacts vulnerable communities, such as young mothers or those who identify as LGBTQ+, to make sure they don't slip through the protection gap. It also means engaging with diverse peoples from project onset for their perspectives to be woven in through designing solutions.

But what I would argue is most needed is to maintain consideration for diversity throughout the design journey. Rather than a single say at a single moment in time, we need to involve a diverse array of people and skills throughout project lifecycles. Considering what these diverse groups believe is needed to equitably address pressing challenges, bring

in diversity of thought, and give new skills and new perspectives a seat at the table.

Yes, we are going to need the best and brightest scientists, technologists, and engineers to accomplish the ambitious UN Sustainable Development Goals. But we also need to communicate strategically and effectively the changes required, collaborate in healthy ways with one another, and be mindful of the people for whom the solutions are being designed at the forefront of it all. The roles traditionally held by woman need to be elevated and brought along the solution-development journey in equal weighting. We can bring forward the change more effectively and equitably for our planet in a way that will be more resilient to the future.

What can you do to act on this? Bring a new voice to the conversation—someone in a position (and with a background) that you would generally have not considered to prioritize, and make their voice heard. Then, be

amazed at the creative ways you'll be able to change the world for the better.





Biodiversity

The UN named 2021-2030 “the decade of ecosystem restoration,” saying now is the time to protect and revive ecosystems around the world [for the benefit of people and nature](#). It aims to halt the degradation of ecosystems, restore them, and conserve those that are still intact.

IF A TREE FALLS AND THERE’S NO ONE TO HEAR IT...

In the Democratic Republic of Congo (DRC) this October, the opening ceremony of the COP27 preparatory work saw Young UNICEF ambassador Emmanuel Jidisa join his voice to “that of all the children of the DRC in order to shout out what the forests have been trying to make us understand for two decades, they are dying,” he said. “We must save nature to save ourselves”

Brazil may well have been listening. Ousting the incumbent president, Brazilians elected Luiz Inacio “Lula” da Silva. “If the world is willing to help, keeping a tree standing in the Amazon may be worth more than any other investment,” Lula said during his election run. After receiving a rapturous welcome by the crowds at COP (and flack online for getting there by private jet), he told the conference that Brazil is “back in the fight” against climate change, urging the audience “to prove that a standing tree has more value than a fallen one,” and calling for the next COP to be held in the Amazon region so that people could see “the concrete reality.”

WE’LL ALWAYS HAVE PARIS

But perhaps it will be Montreal? Four of the principal architects of the pivotal Paris Agreement released a statement during COP flagging December’s [UN Biodiversity Conference](#) (COP15) in Canada as an “unprecedented” opportunity to turn the tide on nature loss.

“Leaders must secure a global agreement for biodiversity which is as ambitious, science-based, and comprehensive as the Paris Agreement is for climate change,” it said. The urgency follows reports that alongside disrupting the climate, humans are causing the sixth [mass extinction](#).

Representatives from around 30 countries are already looking at an agreement (known as the post-2020 biodiversity framework), but discussion is stalling on (you guessed it), money. Virginjus Sinkevicius, the European commissioner for environment, oceans, and fisheries, made an impassioned plea to connect climate action with biodiversity action. “Billions of people rely on biodiversity for food, medicine, energy, and clean water. Biodiversity is an effective tool in adapting to climate change. Yet, we continue losing biodiversity at an unprecedented rate, and urgent action is needed to change course globally. COP15 will be our moment to agree on the transformative post-2020 Global Biodiversity Framework,” he’d previously said.

ONE, TWO, TREE

Since 1986, November 6 has been national tree planting day in the DRC, but the government is asserting its right to cut down trees and drill for natural resources, putting 30 oil and gas development blocks to auction in July this year. Some of the blocks overlap with protected areas, including a World Heritage Site that’s home to 3,000 species of animals, including the critically endangered eastern gorilla. Congolese activists are unconvinced. “We cannot sacrifice (rainforest and peatlands) at the altar of fossil fuel,” said Bonaventure Bondo, DRC coordinator of the Youth Movement for protection of the environment, “we expect concrete and urgent climate action from COP27.”

Carbon credit markets take little account of standing forests, pointed out Akim Daouda, chief executive officer of Gabon’s sovereign wealth fund. “If the forest is there, it’s not by chance,” he said, calling for the credits to be issued to countries that have historically protected forests. While this may be problematic from a carbon market perspective (as the benefits are already accounted for), from a biodiversity perspective perhaps they can be better rewarded.

Speaking on a COP panel, ClimateTrade CEO Francisco Benedito described [biodiversity credits](#) as a tool to allow companies, individuals, and governments to become “nature-positive,” saying they are “a new way of funding nature protection. Because we need to put money to work to avoid further species extinction.”



Biodiversity

TECHNOLOGY TO PROTECT NATURE

In a UNFCCC session focusing on technology, panelists discussed the monetization of nature, geofencing assets like forests, and the need for investment in data for the global south to become a powerful partner. “Without their data, digitalization, involvement in transformation, we cannot solve biodiversity collapse, or reduce the inequality that continues to exacerbate problems around the world,” said the only panelist to bring up the global south in the discussion.

AN AGE-OLD ANSWER

The world’s wildlife crisis is driven by habitat loss and pollution, with climate change posing an increasing threat. Animal and plant species are being wiped out at a rate not seen in 10 million years. The answer might be right in front of us.

Indigenous peoples make up only 6% of the global population but protect 80% of biodiversity. “If you help us to maintain our culture and language, we can help you to maintain biodiversity in the Amazon. If you defend our rights, we can defend the rights of the whole region,” said Alana Manchineri from Indigenous Organizations of the Brazilian Amazon on a COP side event panel. Lula’s announcement that Brazil is creating a ministry of Indigenous people, vowing to “take very good care” of the region’s communities bodes well.

“The fastest route to net zero is restoring the world’s forests and protecting nature. ... The greatest guardians of nature have always been Indigenous people,” observed Lord Goldsmith, the UK’s minister for International Environment, Climate, Forests & Energy. The UK is making a contribution of £5 million toward tackling deforestation in the Amazon through community-led projects and local knowledge.

PLEDGES AND COMMITMENTS

On Biodiversity day, UK environment minister Thérèse Coffey made two new financial pledges. The Big Nature Impact Fund will receive GBP£30 million for nature projects, a new public-private fund for nature in the UK to unlock private investment into projects such as new tree planting and restoring peatlands. The Inter-American Development Bank’s Multi-Donor Trust Fund for the Amazon has been allocated GBP£5 million to tackle deforestation through community-led projects while harnessing local knowledge and providing business opportunities for Indigenous people.

DAN SALAS

Senior Ecologist CSE,
USA

As the global community welcomed the news that the world population topped 8 billion people this week, issues of global biodiversity and its relation to climate change were being discussed at COP. As our human population grows, so do our demands on the lands and waters we rely on for climate-change resilience and adaptation. For businesses, some environmental, social, and governance disclosures and planning frameworks are now asking companies to consider not just their impacts to biodiversity but also to disclose their business risks posed by biodiversity loss, or opportunities for adding value through biodiversity enhancement.

There is increasing recognition that biodiversity underpins many of the solutions being pursued to address our changing climate. Whether protecting rainforests, fostering sustainable agriculture, designing





Biodiversity

Nature-based Solutions, offsetting nature-based impacts, or engaging in voluntary conservation—all rely on a diversity of species and habitats to be successful.

Biodiversity discussions at COP27 largely looked ahead to the upcoming COP15 meeting in Montreal, where finalization of the post-2020 biodiversity framework will be the top order of business. Informally coined as “the Paris Agreement for Biodiversity,” this framework (when finalized) will define global biodiversity goals and action targets that will guide governments and businesses in aligning efforts around its 2050 vision. These biodiversity targets will provide a basis for governments, organizations, and businesses to align their efforts towards achieving not only a “no net loss” of biodiversity but to work together towards a “net positive impact.”

As we look ahead to 2023, it’s time for us all to consider the ways biodiversity underpins our lives

and businesses. No society or business operates independently of biodiversity. All actions have some net positive or negative effect on biodiversity. The challenge for all of us ahead is recognizing those connections and making thoughtful decisions to restore biodiversity and thereby the resources and resiliency that we’ve always relied upon.

DONNA WALCAVAGE **Principal, Landscape Architect,** **USA**

When you hear the word “biodiversity” do you think of a seemingly limitless rainforest, a remote island in a vast ocean, or a polar ice cap? Although those environments are critically important, we can stop thinking in clichés of distance and scale and look into what we can do closer to home.

Everyone assumes nature is dead in large cities. But every crack in the sidewalk tells a different story, with plants of all kinds germinating from opportunistic seeds. As we work on projects in our own cities, we can take advantage of this vigor in the natural world to support species that live in the area all year long or those whose lives depend on our local resources during their twice-yearly migrations.

We can start by planting native species in all our projects. What does that do for the local environment?

Let’s start with one of the problems we see worldwide. We face a potential collapse of food crops due to sharp drops in the populations of pollinators, mainly local bees but others as well. The real eye opener for me was when I found a website in the US for a company that rents hives to growers so that their crops can be pollinated. Truckloads of beehives travel from one farm or orchard to the next following the time of bloom. They are placed at a site for a couple of weeks and then moved on. Without this service, which used to happen by itself, there would be no apples or peaches or plums—or other crops. Designing with native plants that support pollinators, including looking at their life-cycle needs, contributes a lot to conserving diversity.

Birds are also victims of exotic plantings and the disaster that is the sterile lawn, which is just about as bad as artificial turf when it comes to supporting any life at all. There are many trees, shrubs, and grasses that are native, that developed in tandem with the local species, and are very

beautiful as well. They also support insects that birds feed on and provide nurseries for butterflies. Let’s challenge ourselves to find ways to design alternatives to great expanses of turf grass.

Will this really work on degraded sites? How will the birds and the bees and the bugs know the new plants are there? In a narrow site—a former parking lot—in the east part of midtown Manhattan, we planted native species throughout, including milkweed. Where you previously saw a few pigeons, and maybe a rat or two, birdwatchers spotted over 90 species of birds in the first year; and it became an official monarch butterfly migration site.

Please support the wild places of the world. But don’t forget to do what you can close to home.





Biodiversity

ELAINE RICHMOND
Environmental Consulting
Director,
UK

The need for urgent and impactful action to halt biodiversity loss couldn't be more critical. Climate change and biodiversity are intrinsically linked. Extreme weather events have devastating effects on wildlife: species distributions are changing, migration patterns are shifting, and species diversity is rapidly declining at an alarming rate.

Given the synergies and interactions between the two, the delivery of strong climate targets through strengthening resilience, adaptation, and mitigation are essential to the success of halting biodiversity decline. Conversely, a robust framework to protect and conserve nature will be integral to achieving the 1.5°C target.

To restore the status quo, we need to not only halt biodiversity decline but shift to a position of nature positive.

This requires global action to protect and restore valuable ecosystems, including peatland, mangrove forests, and deep-sea ocean zones. We must tackle deforestation, alongside seminatural habitats restoration, substantial forest planting, adopting Nature-based Solutions (NbS), and embracing rewilding at an unprecedented scale.

Recognizing that over half of the world's gross domestic product (\$44 trillion) is reliant on nature and ecosystem services, action to tackle climate and biodiversity emergencies must be side by side at the top of the agenda. Designing with nature in mind to achieve a net increase in biodiversity and implementation of NbS should become business as usual, alongside embedding low-carbon design in our culture.

As an ecologist, I am anxious that action is not being taken quickly enough, and we risk following the same path as the initial inertia and apathy around climate-change action. But I am also cautiously

optimistic that the upcoming COP15 provides the opportunity for the global community to devise clear and ambitious commitments to reverse biodiversity loss. The emergency is already upon us. The natural world and communities it supports cannot afford for us to act slowly.





Oceans and Coastal Zones

Climate change is increasing the cost of natural disasters. Of the 10 most expensive events over the last 10 years, many were in coastal zones, with Hurricane Ida in 2021 the most costly—wreaking havoc in Louisiana and along the US eastern seaboard.

QUALITY TIME

Saudi swimmer Mariam bin Laden and British swimmer Lewis Pugh took an unusual (and environmentally friendly) route to attend COP27. She became the first Saudi and first woman and he the first man to swim across the Red Sea from Saudi Arabia to Egypt. After recovering from the 16 day/123 [kilometers](#) of open water swimming and its challenges, Pugh spoke with world leaders about the gravity of the climate crisis and what it means for the future of the planet: “We need to have commitments which are much shorter, much sharper. And our commitments need to be far greater than what I’ve seen before.”

UNDER THE SEA

As negotiators debated about the 1.5°C language in the COP27 final text, the warnings are stark for oceanic biodiversity. If global average temperatures increase that much, the UN says 90% of the world’s coral will be wiped out. Corals only cover 0.1% of the oceans, but coral reefs are home to 30% of marine biodiversity, including endangered hawksbill turtles. They are also vital to support fishing, marine agriculture, and tourism.

Coral reefs are also vital to a healthy blue economy, support fishing, marine agriculture, and tourism. The reef and its associated tourism is worth US\$36 billion dollars a year, but with depleting corals, this is impacting employment and livelihoods in coastal areas. Many coral restoration efforts are underway around the world, including genetic hardening against water and more acidic ocean conditions, enhanced translocation techniques and material research into coral settlement structures using 3D printing terracotta tiles. The insights will shape reef conservation efforts, but urgent greenhouse gas emission reductions are needed to save reefs for future generations.

Closer to home for COP27 host Egypt, a leaked report and investigation show that an oil terminal on Egypt’s diving and tourism hotspot is dumping toxic wastewater into the Red Sea. The documents say 40,000 cubic metres of toxic water (around 16 Olympic-sized swimming pools) is being poured into the Red Sea daily.

NATURE AND PEACE INTERTWINED

Monica Medina, assistant secretary at the US Department of State’s Bureau of Oceans and International Environmental and Scientific Affairs, called for the need to embrace nature as the foundation for global security. “As we look ahead, the future of peace will look different. It may be even more fragile than we knew,” Medina said. “Our work together must look different, too. We must be more interdisciplinary and more knowledgeable about how a stable climate and

sustainable environment are the bedrock of our security. And as the threats we are facing reach new heights, so too must our action together.”

RACING TO SAVE OUR OCEANS AND HUMAN RIGHTS

Sailors and lawyers have joined forces to call for a universal declaration for oceans rights. The [One Blue Voice campaign](#), or a race to save the seas, is in partnership with the Ocean Race (formerly the Whitbread Round the World Race and the Volvo Ocean Race). Panellists at COP27 reminded the audience that human beings are 71% water and are all linked to the ocean. The declaration is also being driven by Earth Law, a body of law evolving to embrace the recognition of nature’s rights. “It’s not about us assigning rights to nature but to recognize and restore a relationship of the priority rights of nature,” said a representative of the group promoting the campaign. The petition and declaration will be presented to the UN in September 2023.

“Ocean-based climate solutions have a key role in keeping the goal to limit temperature rise to 1.5 degrees Celsius within reach” announced the US Department of State at COP. Highlighting actions to prioritize, the [release](#) included zero-emission shipping, marine Nature-based Solutions, expansion of the Blue Carbon Inventory Project, and offshore renewable energy.





Oceans and Coastal Zones

UK environment minister Thérèse Coffey announced a pledge of GBP£12 million for the Ocean Risk and Resilience Action Alliance through the UK's Blue Planet Fund to protect and restore vulnerable coastal communities and habitats, as well as GBP£6 million to help support developing countries enhancing nature through the UNDP Climate Promise.

FRANCIS WIESE **Science Director, Climate Solutions, The World**

Oceans control the world climate. Oceans have been absorbing 90% of the additional heat captured in the atmosphere due to greenhouse gas (GHG) emissions, and 25% of all CO2 emissions. In short, we would be a lot worse off were it not for the ocean buffering the impacts of our GHG emissions. But the ocean's capacity to do so isn't endless and comes at a high price affecting global biodiversity, the world economy, and human well-being.

Half of our oxygen comes from the sea, and being the largest biosphere on the planet, 50-80% of all lifeforms are found in the ocean. In 2010, according to the Organisation for Economic Co-operation and Development, the ocean supported a global ocean economy valued at US\$1.5 trillion, primarily from fisheries, maritime transport, and tourism. About 3.5 billion people

are dependent on the ocean for their protein. And 40% of the world's population lives within 50 miles of the coast, including two-thirds of the world's largest cities. The more we delay comprehensive large-scale climate action, the more we damage what sustains us.

Yet, despite this pivotal role to global society, only about 5% of the ocean is being managed through true marine protected areas. Global degradation of estuarine, coastal, and marine ecosystems has decreased the number of viable fisheries by a third, the provision of nursery habitats such as oyster reefs, seagrass beds, and wetlands by two-thirds, and water filtering and detoxification services provided by suspension feeders, submerged vegetation, and wetlands, by nearly two-thirds.

The loss of coastal vegetation has decreased coastal protection from flooding and storms. Combined with climate-induced sea level rise and increased intensity and frequency of hurricanes and typhoons, climate

change is endangering coastal communities, culture, food security, and infrastructure around the globe, costing the world billions each year.

Our lives depend on taking care of our oceans. In turn, we can employ ocean-based climate actions to [help mitigate up to 21% of annual GHG emissions by 2050](#). These include ocean-based renewable energy, sustainable ocean-based transport, restoration and protection of coastal and marine ecosystems, and modifications in fisheries and aquaculture practices.

None of this, of course, happens by itself but requires collaboration and partnerships across disciplines and sectors. Innovation and private businesses are key players in this space, able to develop new approaches and technologies, advising clients around the world on how to minimize ocean impacts and meet net zero goals, optimizing global supply chains, and using Nature-based Solutions to restore and protect our coastlines.

The **New 10 Insights in Climate Science 2022** released last week made it clear that human well-being and social stability need to be a focus while addressing climate change. Nowhere is that more important than in our coastal zones around the world, and we have the tools to do this.



Oceans and Coastal Zones

GEORGE ATHANASAKES **Vice President Ecosystem Restoration Services, USA**

Human impacts to our environment have had direct consequences to our oceans and coastal zones for centuries. As Luna Leopold wrote: “Water is the most critical resource issue of our lifetime and our children’s lifetime. The health of our waters is the principal measure of how we live on the land.” Our actions on land adversely impact water quality, have led to dead zones within the US in the Chesapeake Bay and Gulf of Mexico, and resulted in climate change, which is increasing the frequency and magnitude of natural disasters.

As we look for solutions to climate change and reducing our negative impact on the environment, we need to look to the importance of ecosystem restoration and Nature-based Solutions (NbS) to get us back on a positive trajectory and to provide resilient ecosystems

capable of withstanding flooding and other natural disasters. With the UN declaring 2021–2030 the Decade on Ecosystem Restoration, the focus on ecosystem restoration is increasing. However, we need to scale up to larger, more comprehensive restorations to have a meaningful and sustainable impact. This will require the scientific and financial sectors to develop creative solutions together to finance and rightfully value the life-sustaining functions provided by ecosystems, such as clean water.

Throughout my career, I have seen the field of ecosystem restoration evolve significantly. The answers to restoring the environment lie first in being a student of nature. By carefully studying nature, we learn the underlying natural processes that drive sustainable ecosystems. As we look to restore ecosystems, we need to first start by replicating these processes with the use of natural materials that over time become more resilient. As we were reminded during COP27, leveraging engineering, nature, and NbS is a vital piece to

restoring our ecosystems. By taking a collaborative, multidisciplinary approach, rooted in a study of natural systems, we can affect meaningful restoration that can help reverse past impacts, as well as offer resilient solutions to a changing climate.

JAMES MASON **Senior Coastal & Ocean Engineer, Australia**

In the past, there was sense that the priorities lie elsewhere when it came to our climate. More specifically, perhaps due to the magnitude of the ocean, there seemed this sense of deferred responsibility. The issues were just over the horizon, and it could be dealt with it then. This attitude appears to have caught up with us, and I’m personally pleased to see the response to unite and change our ways for a common goal.

The attitudes towards single-use plastics and fossil fuels has shifted greatly in the past decade. These examples are just a few where individuals who share a common call to action can be instrumental in changing corporate policies and government spending. Unfortunately, unlike at that smaller scale, there does still appear some disjoint between countries on a global scale. We see and applaud ongoing

investment in renewables, but sometimes this seems to be geared by votes to stay or get in power, or other times it is to achieve notoriety.

What gives me hope is global programs like the One Blue Program, which can unite many demographics from multiple countries and persuade corporations and governments to see a greater picture and achieve outcomes that we’re all aiming to achieve. As designers and engineers, it is on us to uphold principles in sustainable design that evolve and advance alongside these programs, so we protect our oceans and coasts, for a better tomorrow.





Transport

SUSTAINABLE MOBILITY IN CITIES

Approximately 56% of the world's population lives in cities, and this is [projected to increase to 68% by 2050](#). Our urban spaces are responsible for driving the global economy and a large proportion of gross domestic product, but at the same time, they contribute significantly to our greenhouse gas (GHG) emissions and through huge consumption waste production.

When asked about the future of cities, one panelist started by saying, "humanity has a long history of incorrectly predicting the future, so I'm not going to talk about hyperloops, or flying cars, while acknowledging that innovation has an important role to play." He set out how around 7 billion people are predicted to live in urban areas by 2050 and their global movements and behaviors will be an important indicator of GHGs. How they move, in an integrated sustainable mobility system, will be a key component to the urbanization of our cities. By 2030, a good number of rapidly urbanizing cities could be in locations like Lagos, Nigeria, with the top 2 largest cities likely to be in India, he added.

Another panelist described how building cities of the future means building with fewer resources and producing less waste. Any human settlement is driven by access: to an area, a resource, other communities, or a commodity. Three challenges include allowing for more efficiency of access through the backbone of transport planning and

integrated networks, limiting traffic congestion through better infrastructure planning, and leveraging technology to ensure transport networks are sustainable and inclusive.

The final panelist focused on behavior change, "once people have adopted their fixed travel patterns, it's very unusual for them to change, unless major life events happen or other alternatives that are truly viable are presented". The future of cities will depend on current policies, building in more resilient and inclusive transport systems, policy frameworks, and working with urban development and land use planning. Preparing our future cities also needs to consider how residents and infrastructure deal with extreme climate change weather impacts or future pandemic-like situations.

Current transport policies, however, fail to reflect different user groups, particularly women and children, vulnerable characteristics, and people from lower income households. "Before we change our transport, we need to understand how different people use it. One way to trigger to more sustainable policies is to understand the impact of policy impact on different user groups." The final panelist went on to link the growing recognition of transport planning and its role in decarbonization. Decarbonization methods for this sector need to take into account the impacts on these user groups instead of it being treated as a separate challenge.

GREATER CAPACITY IN LANDLOCKED COUNTRIES

The need for landlocked developing countries (LLDCs) to invest in long-term, climate-resilient infrastructure, particularly transport systems, was highlighted by Antonio Pedro, acting executive secretary of the Economic Commission for Africa (ECA). "LLDCs need to build their capacity to anticipate, prepare for, and adapt to changing climate conditions; as well as to withstand, respond to, and recover rapidly from disruptions caused by climate conditions and other shocks such as the COVID-19 pandemic. They require the capacity for proactive adaptation through changes in road design standards, more resilient construction, and adequate road maintenance," he said. Countries like Zimbabwe are blending fuel with ethanol (this still creates GHGs, but a study shows emissions from using corn-based ethanol are about 39% lower than gasoline) and creating a carbon fund to build resilience in its transport industry.

PLEDGES AND COMMITMENTS

Over 200 governments and private sector stakeholders created Accelerating to Zero (A2Z) Coalition—the world's largest transport coalition to supercharge transport emissions ambitions. Transportation accounts for approximately 24% of global GHG emissions. A2Z is working towards the sale of new cars and vans being zero emission no later than 2035 in leading markets and 2040





Transport

globally. Since COP26, the electric vehicle (EV) market has grown by 95%, with the first half of 2022 a record year for EV sales. But climate experts say the transition needs to be faster, with the sales of EVs needing to accelerate 5 times faster for passenger vehicles, 10 times faster for electric buses, and even more rapidly for freight.

A global commitment was signed between the US, Germany, Japan, the Netherlands, South Korea, Sweden, and UK to outline collective ambition towards mobilizing more assistance and aligning existing funds in the support of zero emissions vehicles (ZEV) transitions in emerging markets and developing economies (EMDE) countries this decade.

A ZEV Country Partnership with India was signed with UK and US to provide tailored and impactful support that helps India deliver their ambitious ZEV commitments.

A scalable ZEV Rapid Response Facility was launched to address the short-term, urgent technical assistance needs of EMDE governments, helping unlock larger scale projects and funding for their ZEV transitions.

In partnership with UK Government and World Business Council for Sustainable Development, a US-led ZEV Emerging Markets Initiative was established to foster dialogues between EMDE governments and major international companies to help scale up investment for countries' transitions.

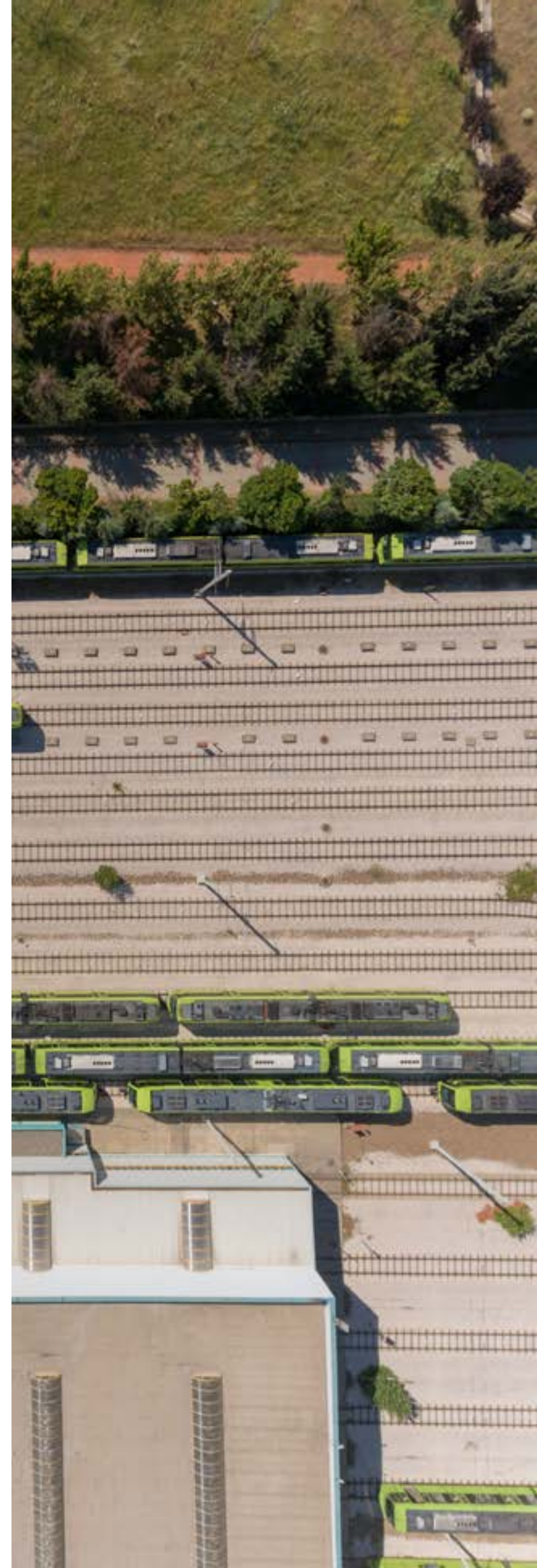
The US announced it aims to only sell and produce zero-emissions medium and heavy-duty vehicles such as school buses and tractor trailers by 2040. The non-binding memorandum of understanding sets a target for 30% of those new vehicles, including commercial delivery vehicles, buses and trucks, to be zero-emission by 2030 and 100% by 2040.

The World Bank launched the first tranche of its Global Facility to Decarbonize Transport projects—including the support of transport electrification in countries such as India and Ghana, as well as wider regions through its new [Regional Financing Facility to Decarbonize Transport](#) in Sub-Saharan Africa.

Global shipping is responsible for transporting 90% of global trade, food, fuel, medicines, and goods. It accounts for 3% of global GHG emissions. The UN Global Compact launched the Just Transition and Shipping Action plan, making shipping one of the first sectors whose employers and employees came together to collectively craft a vision for a socially inclusive transition to net zero. It follows the launch of the Maritime Just Transition Task Force at COP26. As many as 800,000 seafarers will require additional training to handle alternative fuels by the mid-2030s if the sector is to meet the 1.5°C target.

The US and Norway launched the Green Shipping Challenge, with more than 40 major announcements from countries, ports, and companies on the actions being taken to help

align the shipping sector with the goal to limit global temperature rise to 1.5°Celsius. US-specific initiatives in this challenge include: three new bilateral workstreams to facilitate green shipping corridors with the Republic of Korea, Canada, and UK; development of a US maritime decarbonization strategy; and the launch of a Green Shipping Corridors Initiation Project with US\$1.5 million to support feasibility studies for green shipping corridors involving developing countries.





Transport

WESLEY WROE

Associate, Sustainable Urban Infrastructure Engineer, UK

At COP27 there was a big focus on future modes of travel and transportation as a cause of greenhouse gas emissions. This, in the context of a world becoming increasingly urbanized, which brings unique challenges but also exciting opportunities.

There was discussion about behavior change, and one panellist noted that once people have established their travel patterns, it is very difficult to change these. As designers, one of our roles is to create opportunities for people to change their behavior, not because it is mandated, but because the benefits speak for themselves. We can encourage people to walk and cycle by creating sustainable urban infrastructure that provides a safe and enjoyable experience to those who use it—paths that are suitably wide, are segregated from vehicles,

are beautifully landscaped, and are accessible to all users. Spaces which combine flood management with play, refuse collection with electric vehicle (EV) charging ... these are the sorts of solutions that will support a more urbanized global future!

Thinking about EV charging brings us to the national commitments made during COP; 200 governments and private sector stakeholders came together to create the Accelerating to Zero Coalition, the primary focus of which seems to be on development and promotion of zero-emission vehicles. While this is a commendable goal, and there is no doubt that reducing vehicle emissions will solve climate related concerns, unfortunately an electric car takes up just as much road space as a petrol-powered car and is just as likely to cause injury and death on the roads. A better focus for global governments would be the promotion and advancement of public transport networks and safe and secure routes for active travel. Neither is as easily commodified or privatized as electric-

vehicle technology, but they offer the potential to create a more equitable future for the citizens of our cities of the future.

DARREN DAVIS

Transport & Land Use Integration Practice Leader, New Zealand

Nearly three years on from the COVID-19 pandemic, it seems that the lesson has been forgotten that in an emergency, we must take rapid, dramatic steps quickly. While COP27 has been full of people genuinely committed to making a real difference, the interests of individual nation states seems to have taken precedence over the interests of the planet as a whole. And, as if we need to be reminded, we are in a climate emergency. The planet is burning.

The fundamental injustice of climate change is that the rapid industrialization of the developed world in the 19th and early 20th centuries has been a major driver of increased emissions. But the biggest damage from climate change is being experienced in countries with low-carbon footprints and without the same resources to respond as the developed world. In the case of

the South Pacific and other small island states, this is an existential threat with sea-level rise threatening to make some small island states uninhabitable. This injustice needs to be addressed.

In Aotearoa/New Zealand, we are well placed to transition from currently 85% to 100% renewable electricity generation. But when it comes to agricultural and vehicle emissions, action to meet our statutory commitment to net zero carbon by 2050 is not yet at anywhere near a sufficient pace. There are only 61,892 electric vehicles in a fleet of 4,745,456, a figure barely over 1%. Much of this is supported by a clean car discount, which, in effect, is a wealth transfer to the already wealthy who can afford an electric vehicle. And as a nation, our transport choices outside of our largest cities is largely limited to flying and driving, as interregional and long-distance public transport is patchy to nonexistent (as in the case of the West Coast, which recently lost its last public transport connection to Nelson and Otago).



Transport

So, until we provide genuine, inclusive transport choices to all—and until we design our cities and towns so that walking, cycling and public transport are the natural choice for most journeys—not much is likely to substantively change. Big calls require political courage, often lacking in short-term political cycles and where bad news and opposition to change dominate the media. Nothing short of leadership of the highest order is demanded with the willingness to go after the long game of a sustainable planet against an ingrained status quo and entrenched vested interests. It's a big call but the COVID-19 pandemic showed that we can answer them when faced with an emergency. And we are, most definitely, faced with a climate emergency.

SARAH CONNOLLY
Senior Principal Transport Planner,
New Zealand

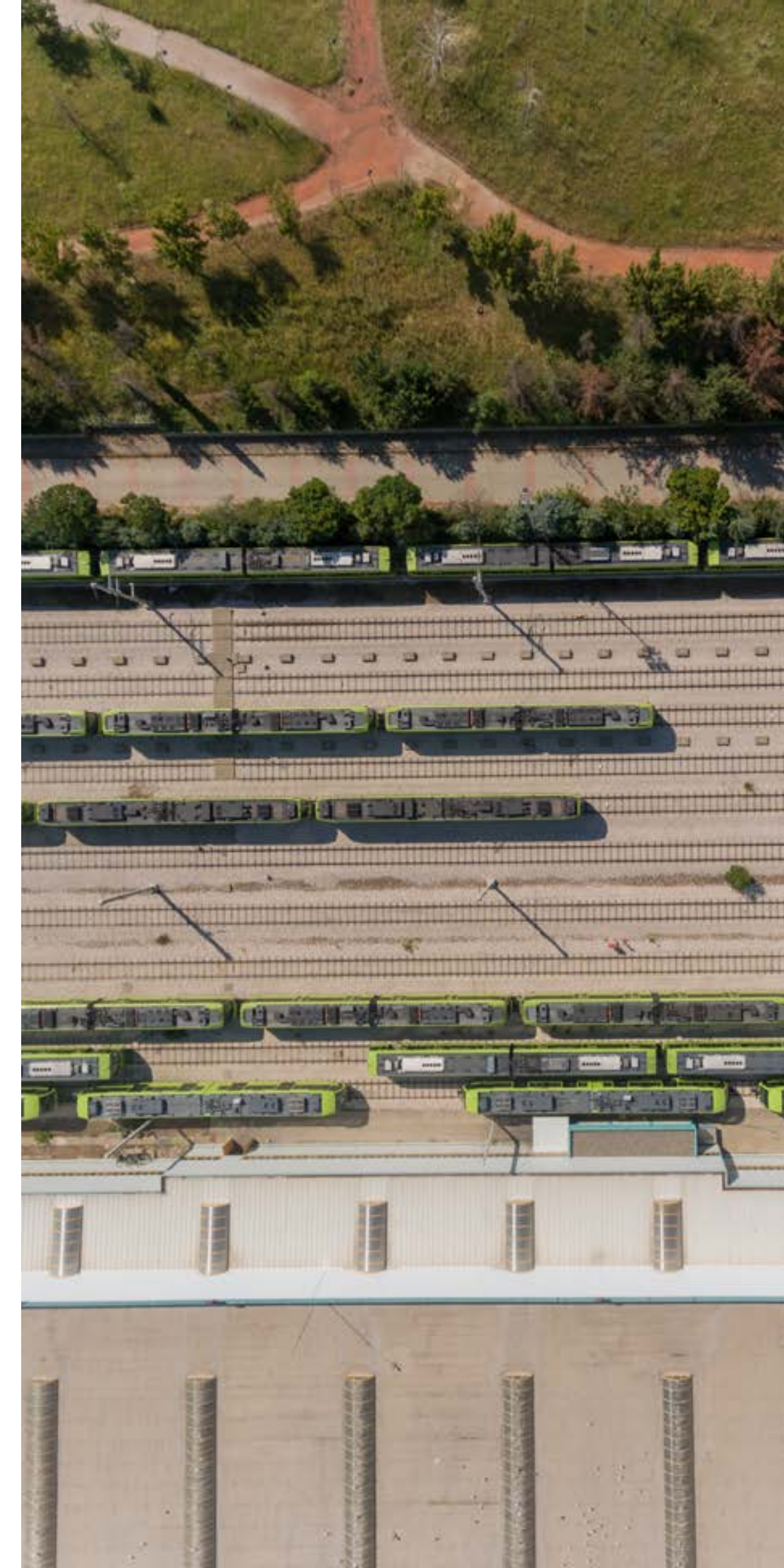
Data presented at COP27 showed that global emissions are back to a record high in 2022 and expected to keep growing before they stabilize, with scientists expecting the 1.5° Celsius target to be passed in 9 years. For many parts of New Zealand this will bring a huge challenge in terms of adapting our transport networks and communities to rising sea levels and more intense rainfall events. What needs to be a priority is being prepared to look honestly at the future of some of our at-risk communities and transport assets and provide certainty for people. We shouldn't be afraid to grow new urban centers to respond to change and ease the transition and think creatively about how to design those centers, so they have a smaller carbon footprint and low-carbon connections to more established areas.

There was disappointingly little about transport decarbonization at COP27 in terms of new agreements or commitments, beyond a focus on continuing to electrify the world's vehicle fleet and support for zero-emission vehicle transitions in emerging markets and developing economies. However, experts argue the timeframes proposed are far too slow. Rapidly adopting low-emission vehicles is also a key plank of New Zealand's Emissions Reduction Plan—with incentives such as the Clean Vehicle Discount scheme hopefully keeping electric vehicle numbers growing. But will manufacturers around the globe be able to keep up with this rapidly increasing demand for electric vehicles, both here and elsewhere?

It seems inevitable that low-emission vehicles will be only part of the solution.

We already know the other tools to decarbonize our transport system whilst keeping people moving and connected—such as compact urban

form, high quality public transport, and walking and cycling networks. We have been using these tools in New Zealand, but progress is slow. It is hard to change people's travel habits and expectations, not least because our current systems have been in place for so long, we are used to them, and we like them. But our response to the COVID pandemic was phenomenal in terms of reducing emissions, and it showed that we can adapt when we need to. Could we bring that urgency to our efforts to reduce transport emissions? Can we look to that experience and shape a new future?





Transport

KEITH MITCHELL

Director: Transport & Place,
UK

Whilst the row about loss and damages raged on at the end of COP27, transport day passed with hardly a mention. Surprising really, given transport represents nearly 25% of global emissions.

Perhaps we shouldn't be surprised? Transport decarbonization is an extremely complex challenge, which many find hard to grasp, with good reason. Action across a broad range of sectors is needed if an affective attempt is going to be made to decarbonize our travel: renewable-energy generation, new distribution networks, new transport infrastructure, new electric and hydrogen vehicles, new computer technology, and mining of scarce natural resources all play a part. Who should be leading the coordination of all this to deliver net zero transport?

At COP this year, the focus was on cities as home to 56% of the world's

population (to be 68% by 2050), and the transition of vehicle technology to electric vehicles (EV). In cities, the emphasis seems to be on incremental changes to increase transport efficiency and improve equity. Whilst more generally there is a clear push towards greater support for the EV revolution through a range of international public and private-sector partnerships with the aim of new vehicles being zero carbon by 2035 in leading markets (2040 elsewhere).

Looking at this dispassionately, not only do we need to accelerate the transition to EVs (with some climate experts suggesting that this needs to increase by a factor of five for passenger vehicles to meet carbon targets), we also need an extraordinary level of transformation across manufacturing, technology, and construction. There is a growing concern that this is not going to be achievable and that other solutions need to be found.

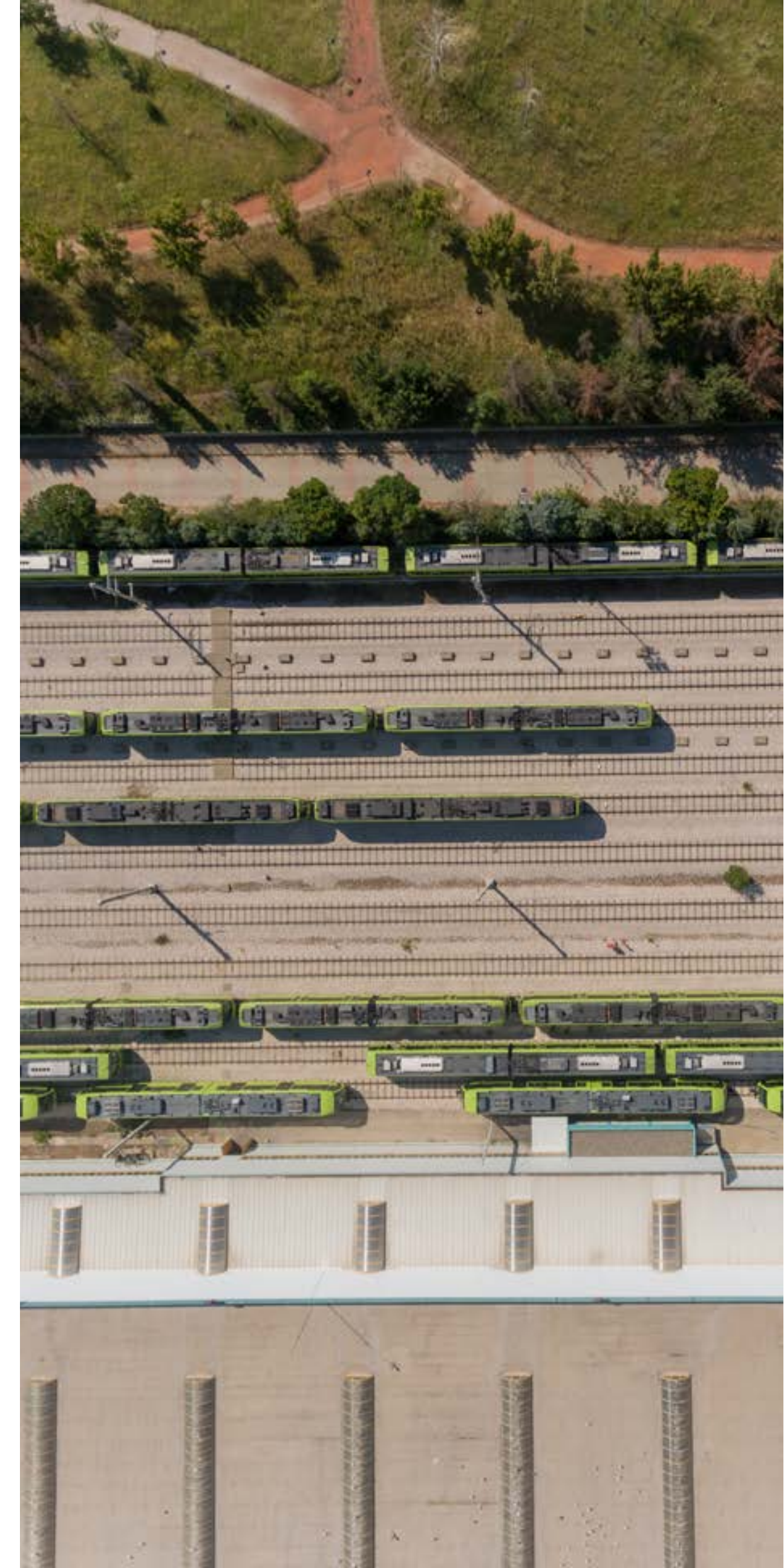
This does not seem, yet, to be a topic that COP seems to be countenancing

but many experts are. The message is that as well as the technological transformation, we need a lifestyle transformation. Not a complete transformation but an incremental one which, for example, provides local facilities where they can be accessed without a car, prioritize zero-carbon transport and active modes in our road space, and substitute some high-carbon trips with virtual activities.

This has the advantage of benefiting people who live both within cities and outside urban areas. It is also of significantly lower impact than our current trajectory. But it is politically tough, which probably explains why it is such a Cinderella in the decarbonization challenge and why so little progress has been made over the last 25 years or more.

This is not easy, and the transport, land-use planning, and property professions have a major role to play to develop workable and viable solutions; but before that can be affective, the leadership vacuum must be solved. Heads currently buried in

the north African sand (especially those from the developed economies around the world that should be taking a lead) need to be raised up to look afresh at the challenge. People, place, and changes in our way of life can affect the carbon we use to travel.





Solutions

WE'RE AT 1.1°

"Time is not on our side," said COP27 president Sameh Shoukry. He was urging delegates to reach an agreement by the end of the COP fortnight, but the phrase echoes around the crisis.

IS IT REALLY ABOUT FOSSIL FUELS?

We heard from one professor, Johan Rockström, earlier in the week with the release of [10 New Insights in Climate Science](#). He shared another insight on Twitter that was picked up by various media agencies: "Time to get serious at #COP27. Saudi Arabia's Minister of State for Foreign Affairs says tackling climate change is 'not about fossil fuels' is like saying the economy is not about money. Only path to a manageable future for humanity is to start phasing out fossil fuels. Now."

Satyendra Prasad, Fijian ambassador and permanent representative to the UN, joined the call: "Fossil fuels must be phased out, period. ... Anyone who is saying they must be phased down ...tell us, show us the pace at which you are exponentially increasing your 'phasing down'? Show us the numbers and let it be convincing. There is no question, there is no stable planet for all of us including those who are arguing for a slower phasing down, that fossil fuels are not part of a 1.5-degree feature for the planet. That era is gone, that time has passed, and all we need is commitment and energy and pace and the global solidarity that allows us to phase out, period."

International NGO ActionAid called on the Egyptian presidency to withdraw and rewrite the draft COP27 text, calling the language around fossil fuels far too weak. Initial drafts removed "fossil fuels" and only mentioned "unabated coal." Senior Africa policy adviser Fredrick Njehu said the world deserves better. Hope for a change came from a proposed edit by India (with heavyweight support from the UK, EU, Tuvalu, and the US) that brought the need to reduce oil and gas consumption into the spotlight.

UN Secretary-General António Guterres flew back to Sharm El Sheikh from G20 talks in Bali to "knock heads" on climate draft text suggestions.

THE ANSWER IS OUT THERE

Barbados President Mia Mottley called for a transfer of climate technology to the global south to help countries meet net zero commitments through energy decarbonization. "Often what is needed to make (renewables) is already located and extracted in the global south, sent to the north, and then we are at the mercy of those who want to export to us," she said.

"Plenary speeches here are very frustrating ... they present decarbonization as something expensive and difficult," said Bertrand Piccard, founder of an environmental not-for-profit. "If today the protection of the environment is expensive, it is only because we are wasting resources like hell. If we become more efficient, we can prove that fighting climate change is the biggest market opportunity of the century."

CONFLICT SENSITIVE SOLUTIONS

Of the 25 countries most vulnerable to climate change, 14 are currently experiencing violent conflict according to the International Committee of the Red Cross. While there may be no direct causal link, climate change is a threat multiplier, and environmental pressures clearly exacerbate tensions. The need for a conflict-sensitive approach was acknowledged by Egypt, which launched the Climate Responses for Sustaining Peace initiative, aiming to mobilize integrated climate responses that "advance sustainable peace and development."

Massive climate investments risk disrupting delicate dynamics, and hurried interventions in projects developed without thorough local understanding may not only increase tensions but are also unlikely to reap full value.

"Existing climate finance does not reach the most vulnerable countries that are afflicted with the double burden of conflict and climate crisis. ... This is crucial to achieving climate neutrality by 2050 and for climate action that delivers sustainable peace," wrote [International Alert](#) in COP27 piece.

TURN ON, TUNE IN, COP OUT

Some of the digital solutions on display around the COP conference included crop-sensor technology, "ambient" trackers to follow assets through supply chains, robotic beehives, and weather forecasting combining radar-



Solutions

equipped satellites and microwave sounders to cover some of the world's blind spots.

Throwing some open-source weight around, the UN launched the Methane Alert and Response System, the “first publicly available global system capable of transparently connecting methane detection to notification processes.”

NATURE TAKING THE WORLD TO COURT

Campaigners, lawyers, and activists, including Jojo Mehta, executive director of Stop Ecocide Foundation, called for the Rome Statute of the International Criminal Court to be amended to include ecocide as the fifth international crime (along with genocide, crimes against humanity, war crimes, and the crime of aggression). We're witnessing rising frustration at grassroots level but also in the halls of the UN as irreversible tipping points are crossed and countries disproportionately suffer. A panelist in a session focusing on the role of criminal law set out the idea of an international criminal framework or law against activities that cause the most harm to our environment. Could implementing a criminal law framework put a guard rail in place to prevent the most harmful activities and bring criminal judgement?

JEFF ALBEE

Director of Digital Solutions,
USA

Digital technologies are a critical component of the world's decarbonization toolkit, though digital on its own is not a solution. This has come to be one of the greatest challenges of our time: how to responsibly reap the benefits of our increasingly digital planet while preserving our individual identity and interests. Digital is winning the battle today using people as a product to generate likes and shares, turning our attention into data that feeds the commercial machine. Despite the grim outlook, we have a planetary opportunity to leverage digital in the future to improve our lives using the same playbook that commercial digital endeavors have leveraged to consume our attention.

The point is that climate change is no longer a scientific theory, it's an observed reality, one that we really, really need to solve. Digital is giving us the opportunity to shift our

thinking from theory to observation and faster solutions based on data, much like how a product is digitally advertised to consumers today. The traditional models and theories used to address climate change aren't getting the job done; they're slow, they oversimplify reality, and exclude a vast majority of the population from participating in solutions.

Scientists, engineers, and designers around the globe need to establish a new paradigm—that data is changing traditional theory. Data and observation can help us to move faster at scale, abandoning much of the old theoretical certainties to open new approaches and understanding that scientists would never have considered valid before. To quote Peter Norvig, Google's research director, “All models are wrong, and increasingly you can succeed without them.” Let's open source our data, our solutions, and our intellect to engage and inspire everyone—regardless of experience, ability, or education—to participate in climate-technology solutions.

To be perfectly clear I'm not suggesting we reject theory, rather use it to compliment the wealth of data that flows around the globe to deliver better science, engineering, and design outcomes and solutions that positively impact our planet, communities, and future generations. We don't have time to wait; we need to inspire the world to democratize and modernize our approach to rapidly solving the greatest challenge of our time.



Solutions

ROWAN TAYLOR

**Graduate Civil Engineer,
UK**

We are at a global temperature increase of 1.1°C. At the end of the COP fortnight there was finally an agreement which made waves—the compensation for developing countries for loss and damage caused by the climate crisis. This will mean some alleviation for nations who are hit hardest.

However, there is still much more to go, with phasing out of fossil fuels a key solution. One concern is potential loopholes due to the language used in the final text: by writing “low-emission and renewable energy,” there is the risk of using low(er) emission fossil fuels such as gas instead of committing to the total phasing out.

Whilst renewable energies play a part in mitigating climate change, we cannot lean on these as the sole solution—we need to reduce our energy usage and reliance on fossil fuels. Transport is a key factor. In the

UK, the majority of people commute by car on a daily basis, often because it's the easiest and there is a lack of high-quality infrastructure to support other modes of transport.

How we design our streets and spaces is instrumental in providing low-carbon, environmental, and socially beneficial infrastructure fit for the future. Our streets have been constructed to be car-centric for the last few decades; we desperately need to break away from this and design streets that allow people to use more sustainable modes of transport such as walking, cycling, and public transport. Such alternative options will be easier, healthier, better for the environment, people's well-being, and reduce our fossil fuel consumption.



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INHUMAN SETTLEMENT

At the first ministerial meeting on urbanization at COP27, Palestinian housing minister Mohamed Ziara said climate is not only a phenomenon, but it is a geopolitical issue in Palestine. In the occupied Gaza Strip, 20% of arable land is within the Israeli-imposed buffer zone, leading to a deterioration in food security. The Gaza coastal aquifer has undergone heavy over-extraction, wastewater pollution, and seawater intrusion due to rising sea levels. As of 2020, some 96% of Gaza's water has been deemed undrinkable.

"We are seeing much more issues like heavy rainfall causing landslides ... (and) large areas becoming uninhabitable because of water damage and flooding. ... So, we're going to have to look into large-scale resettlement of people within the country," said Ralph Regenvanu, member of the Vanuatu Parliament. Stark as the observation was, he pointed out that in the world of small island states this counted as lucky, comparing Vanuatu's relocation option with the threat of complete loss of low-lying islands like Tuvalu and Kiribati.

While US diplomats debated climate response with international counterparts, an "Atlas of Disaster," was published showing that 90% of US counties have experienced a climate disaster resulting in federal relief funding in the last decade. Created by Rebuild by Design, the report stated "the current process by which federal disasters are declared—and money allocated—represents a

time when climate disasters were anomalies. ... The United States needs to catch up to the current reality and rethink how to shift resources to prepare communities before there is human suffering and physical, economic, and social harm to communities."

The European Commission Vice President Frans Timmermans pointed out that the world must commit to change to "avoid the worst catastrophe," saying that if we continue as we are, many parts of the world will become uninhabitable, causing millions of climate refugees. "If you don't want to do it to save the planet or other people, think of yourselves," he suggested.

WASTE NOT, WANT NOT

Implementing circular-economy strategies could help the world meet targets for 1.5°C (which we are not on track to do) according to a new paper released ahead of COP27 from Platform for Accelerating the Circular Economy, World Resources Institute, Chatham House, and National Renewable Energy Lab. Shifting consumption patterns, incorporating circularity across the clean energy value chain, and connecting circular economy metrics with climate change impacts were some of the nine calls to action included in report.

Egypt launched "50 by 2050," an initiative to recycle 50% of Africa's waste by 2050, a large increase from an estimated 10% at present. The host country noted waste impacts all

the United Nations' **Sustainable Development Goals** and called it a totemic issue for the achievement

One panel explored the use of bamboo as a sustainable construction and circular economy material for housing, substitute for plastics, and alternative construction material.

THINKING SMALL TO WIN BIG

Although cities occupy about 3% of land, they are home to half the population (and growing), account for 66% of energy demand, and emit over 70% of global greenhouse gases. They also suffer from urban heat-island effects, and temperatures are predicted to **keep going up**. At COP27, the UN Environment Program (UNEP) launched the Nature for Cool Cities challenge, asking participants to increase Nature-based Solutions (NbS) by 2030, with tangible progress demonstrated by 2025. The challenge is aiming to demonstrate the ability of urban NbS to mitigate urban heat-island effect, avoid emissions, and reduce energy demand, while driving finance for replication and scaling up and sending "a demand signal to project developers and financiers."

A group of 48 cities joined the Urban Transitions Mission at COP27. Launched at COP26 under the **Mission Innovation** framework, the joint effort from the Global Covenant of Mayors for Climate & Energy, European Commission, and others aims to strengthen net zero visions, scale action,





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and accelerate implementation. Of the 48 new member cities, 19 have more ambitious targets than their national governments.

Where national governments have made limited climate policy progress or even U-turns, governments at regional and local levels around the world have acknowledged the climate emergency and instituted measures to tackle it. The mayor of Florence, Italy, summed it up beautifully: “In the fight against climate change, cities are not only needed but are the essential link between people and other layers of government. ... Acknowledging and acting on climate change must serve as the background of just about everything we do—the leaders assembled at COP27 all know this. For those that believe in really making a difference, the action needed in the conclusions is clear: think local.”

A global network of subnational governments gathering in the EU pavilion called for the COP process to “reinforce the formal recognition of the role of subnational governments in the fight against climate change, starting from a formal inclusion of regionally and locally determined contributions” as a complement to various national commitments and initiatives.

IT’S HOW YOU BUILD

The UNEP’s **2022 Global Status Report for Buildings and Construction** launched at COP27 fittingly had a deep dive on Africa. Estimates show that only 30% of the building stock

required by 2040 for the continent’s growing population has been built. Exploring the challenge of meeting demand and managing environmental impact, we can turn to “traditional sustainable construction and building practices (that) are a cornerstone of African cultural heritage,” explained UNEP’s Jonathan Duwyn. “Locally adapted sustainable design, construction practices, and materials coupled with renewables and innovation represent a great opportunity for both mitigation and resilience in Africa’s rapidly growing building stock.”

The World Bank hosted an event on making cities green, resilient, and inclusive. It highlighted the combination of features of urbanization in Africa—low income per capita, vast informal settlements, biomass reliance, and exposure to extreme weather disasters—that pose a significant risk to forcing cities into a “grow dirty now, clean up later” development path. This path may be irreversible, costly, and inefficient, and it will reduce citizen’s welfare. Solape Hammond, special adviser, Lagos State Office of the SDGs and Investments, described Lagos as a “poster child” for climate impacts. The population has exploded from 5 million in 1980 to 25 million today, with predictions of 100 million by 2100, resulting in large incursion into wetlands and illegal settlements. Hammond highlighted the huge impact it was having on the environment and flagged that the subnational government has no control of who comes to Lagos (estimated at 86 people an hour).

IN THE SHADOWS

Poor people in slums find ways to survive without any amenities, imagine what they could achieve if they were thriving, mused Sheela Patel, director for SPARC, on a World Bank panel session.

An estimated 1 billion people live in informal settlements. Theresa Carampatana, president of the Homeless People's Federation of the Philippines, speaking in a resilience hub session on Amplifying Voices from Urban Informal Settlements said, “resilience has a very strong connection with land ownership. ... Without partnership with the local government, it will not matter how much investment we put into the land, we could be evicted.”





Human Settlements

RACHEL KIRKWOOD

**Senior Engagement Consultant,
UK**

It should come as no surprise to anyone that climate change is already having significant impacts on the quality of life for people across the globe. Its catastrophic effects are only going to get worse. There are things we can do, like implementing Nature-based Solutions and prioritizing the circular economy. But we already know this—so what's new?

One concept touched upon is that there's a significant opportunity to make a difference at a local level. The messaging here for our industry is that we need to do more and do better, whether or not the national policy is in place to require it. As an industry, we have a responsibility to act, and if we wait to be told we have to do something it will be too late.

Throughout the conversation there's a sprinkling of mentions of inclusivity but without the focus required on truly understanding the huge inequalities

of climate change and what we should be doing to respond to this. Taking a one-size-fits-all approach to climate-change mitigation and adaptation does not account for the complexity of human need and could easily lead to the exacerbation of global, national, and local inequity.

What also feels lacking is the importance of involving the communities themselves in the process—those who know best how their lives are being affected. It can be easy to think we know best; after all, we have scientific models and engineering degrees, but human beings have intricate knowledge of their local area, history, and lifestyle in a way that no spreadsheet can. Codesigning our approaches with communities will not only allow us to draw on their local knowledge and lived experiences but also increase public buy-in, stewardship, and sense of control.

There's still a feeling that climate change is something we need to “stop from happening” but the

truth is it is already here. Of course, we need to continue to reduce greenhouse gas emissions, but we also need to invest in and support our communities to prepare for and become resilient to the changes that are already happening.

GARY SORGE

**Vice President, Landscape
Architecture,
USA**

Cities occupy 3% of the Earth's land area. Cities will need to grow to meet population growth, migration, retreat from vulnerable and unlivable land areas, preserve and increase biodiversity on their outskirts, and provide for economic growth and human health. As cities grow, they need to grow responsibly, with access to natural resources, food production, renewable energy, and clean water and air. This is an extraordinary opportunity for systems-based thinkers—landscape architects, engineers, and architects—who are adept at nurturing the relationship between human populations and nature.

In design, every decision matters to achieve reduction in greenhouse gas (GHG) emissions. The materials we specify and dispose of and the means and methods that builders utilize to achieve our work impact the project's carbon balance. Municipalities, developers, property owners, and many designers are faced with mandates and





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goals to achieve reduction in GHG and achieve greater equity in development, though many may not know what to do next. For starters, think small!

What can we do?

- Review and update antiquated standard material and construction specifications
- Prequalify contractors who responsibly manage construction waste
- Recycle and upcycle materials
- Source local materials for construction
- Establish simple metrics to measure project performance
- Assess existing conditions and potential project impacts including mobility, noise, pollution, heat, flooding, and drought by engaging community residents and leaders

GHG reduction is complex, and thinking small may produce early action items and progress. The design and construction community can act immediately on these measures—as soon as possible as clients insist on it!

RACHEL BANNON-GODFREY
VP, SDG Impact Leader,
UK

Loss and damage is not just a high-level economic problem for governments to solve – don't skip past those headlines in the media. The term generally describes consequences of climate change that communities are unable to adapt to, either from a lack of financing adaptation measures, or because the consequences are so dire that adaptation is impossible. Every one of us has a role in this conversation because the losses and the damages in question are far reaching and go well beyond financial metrics. Exceeding the limits of adaptation is a horrifying reality for millions of people around the world.

During a panel hosted by the World Bank for the launch of their report *Thriving: Making Cities Green, Resilient, and Inclusive in a Changing Climate*, Sheela Patel, Director of the Society for Promotion of Area Resource Centers (SPARC) spoke about our “confused world”—in the

rush towards increased urbanization and technology, we are unwilling to finance solutions to the vulnerabilities created by today's urbanization, and instead we push those down the road to a later date at which point the consequences will be so much worse. This is where the conversation about loss and damage becomes less abstract and more tangible—what decisions are you making today? Are you committing to acting now, or down the road, and what exactly is waiting at the end of that road? With attention on holding governments and world leaders accountable, we cannot forget the role we all play in sustainable development.

Losses and damages are categorized as either economic or non-economic (difficult to quantify economically), with obvious relationships between the two. If the economic mechanisms for loss and damage compensation seem too abstract for you, consider the non-economic impacts—the mental health trauma experienced by a community following a catastrophic storm, flood, or fire; the long-term

stress of realizing that one day your community will need to completely relocate to higher or safer ground—and how your skillset can be a part of the solution.

Solape Hammond, special advisor to the Lagos State Office of the SDGs and Investment, spoke about the evolution of planning Lagos State has undertaken in the face of increasing heat, flooding, urban development, and immigration. A recent report on the cost to Lagos State of climate inaction looked holistically at hospitals, schools, transport infrastructure, and power lines, recognizing the complexity of urban resiliency.

As we absorb the presentations and debates of COP27, don't see complexity as a barrier, see it as an opportunity for more inclusive problem solving. Addressing loss and damage is not just about liability and compensation. It is also about understanding the complexity of what loss looks like, all the parts and pieces of a community that are impacted. In addition to governments debating

their financial commitments, we also need design, engineering, planning, scientific analysis, and humanitarian solutions to the losses and damages people are experiencing today. In other words, we need your skills to take action today.





Summary

CURT BJURLIN

**Climate Solutions Leader,
USA**

As I reflect on the words of world leaders from the past two weeks of COP27, I'd like to share my thoughts for the future. You may expect me to say that putting in place mechanisms for leveraging private capital for climate solutions will be critical to our clients, and you wouldn't be wrong. You may expect me to say that equity—in economic development, in loss and damage funding, and in adaptation to a changing climate — is essential, and again you wouldn't be wrong. But for me, a thing COP must focus on solving is that modern life is inextricably tied to abundant and relatively low-cost fossil energy. Developed countries are bathed in it. Developing countries are striving for it. There can be no lasting climate solution without maintaining access and expanding availability and reliability of energy (while moving rapidly away from fossil fuels).

As a former renewable-energy developer, I'm a strong advocate for solar and wind power. But let's be honest with ourselves, we are not going to get to net zero as a global community with these technologies alone. One of the inconvenient truths is that we won't reach our goals without traditional energy companies as active partners in accelerating the transition. The global community needs leaders of these companies to join with political leaders and work together to leverage the know-how, company balance sheets, and entrepreneurial drive that fossil fuel companies have historically leveraged in abundance.

If I had the ability, I would call a meeting between world leaders and CEOs of the largest energy companies, and I would have a single agenda item. I would ask CEOs how they would accelerate the decarbonization of the sector. What programs are needed? What market conditions are required to change the competitive landscape in favor of decarbonization? What technologies

are missing? There's a critical role for top-down regulations and particularly for standardizing disclosure requirements, and there is a critical role for bottom-up activism. But we also need the largest unmitigated sectors as active, engaged, and invested partners. It's tempting to say that we wouldn't be in this mess without companies that extracted and burned fossil fuels. But that's not really correct, is it? Everyone reading this article has benefited from modern, reliable energy systems (and some of us more than others). There is no longer a place for blame—we now need investment in solutions for an equitable, sustainable, and energy-rich future that's accessible to all. Let's hope that's why COP28 will be held in the United Arab Emirates and the coming year will be when we unlock these partnerships.

LUCY WOOD

**Climate Solutions Leader,
UK**

The International Congress Center in Sharm El Sheikh, Egypt, is huge. With multiple zones and up to 100 events going on simultaneously alongside the negotiations themselves, the venue is as overwhelming as the scale of the climate challenge. However, with 35,000 delegates, I was heartened to see the global south and youth well represented. I met people from all over the world. Government ministers, scientists, activists, students, investors, entrepreneurs, and experienced professionals from NGOs and the private sector. Whilst diverse in background and expertise, what the vast majority shared were passion, commitment, and a sense of unity, understanding that climate change needs urgent collaboration at the global level without wasting time on blame and finger pointing. I witnessed many protest marches, all of them peaceful, with common themes of climate justice and stopping fossil fuel investment.



Summary

The climate scientists I met advised that 1.5°C of warming is locked in from historic emissions and that at least 2°C is likely. This was very sobering and highlighted the need to take adaptation and resilience very seriously alongside decarbonization. However, there was much positivity, too. Setting an example to the world, Brazil's new President, Lula, was greeted by a press furor and committed to reversing deforestation of the Amazon. Many inspiring examples of green technology were showcased by young entrepreneurs from all corners of the globe. These included carbon-dioxide removal techniques, Nature-based Solutions, restorative agriculture, engineered plant-based proteins, plastic replacement products, and digital apps for tracking and verifying carbon sequestration. The investment community was out in force with venture capitalists and impact investors promising to create workable markets and viable financial products to ensure that such businesses can be scaled up quickly,

including increasing access to affordable finance in the global south.

I have mixed emotions after my experience. I feel overwhelmed at the scale of the challenge and what needs to happen in less than seven years according to the climate clock, to decarbonize quickly enough to stop the most catastrophic climate change. However, I also feel optimistic and a heightened sense of gratitude for our rich planet and fellowship with humans across the world. If we can all follow through with the energy and passion that was shown by so many in Egypt, we have a chance together.

CHRISTOPHE LEROY
Operations Director,
Belgium
Climate Solutions Leader,
Europe

Time is running out. The [IPCC AR6](#) makes it clear that climate change is accelerating and countries that had little to do with damaging the planet are (and will) suffer the most.

Climate action needs to integrate equity and climate justice. Developed countries have a responsibility to act and help those most affected by climate change. They need to lead the race towards a faster transition to net zero. Investing in strong climate action today is critical to reduce and avoid further losses and damages. Failure to do so means transferring the burden and risks to future generations and worsening the impact on the most vulnerable regions of the world.

At COP27, world leaders debated over who will provide financial

compensation for countries most affected by climate change. And for the first time in COP history, the issue was placed on the formal agenda. During the last days of the climate summit, the European Union came up with a proposal to finance a dedicated fund for loss and damage in response to a request from the Group of 77 (G77), a coalition of 134 developing countries, with the support of China. Although initiated by the EU, the proposed fund would be supplemented by developed countries with contributions from emerging economies and other large donors. After intense negotiations, world leaders reached a breakthrough agreement in the final hours of COP27.

Despite the historic milestone achieved by the international community, the agreement appears to be non-ambitious and more symbolic than anything else. For example, the funding arrangements and modality of interventions have yet to be clarified. We will have to monitor what concrete actions come out of the agreement in

the coming months. For now, the plan is to form a transnational committee composed of more than 20 countries to provide recommendations on how to operationalize funding arrangements by next year at COP28 in Dubai. Meanwhile, French President Emmanuel Macron and Barbados Prime Minister Mia Mottley, called for a summit with the G77, International Monetary Fund, and the World Bank to discuss and identify further sources of financing for the loss and damage fund to be presented at COP28. The most climate-vulnerable countries need to finally get the compensation they are owed.



Summary

NATALIE MUIR

**Climate Solutions Leader,
Australia**

COP27 has given us much to think about. Some exciting highlights and things to celebrate, but as numerous leaders noted, progress is insufficient. One of the things that seems to me to be lacking is a truly global approach. Yes, we have a global target of net zero emissions by 2050, but surely to meet such a target, we need a global approach to measuring progress.

It seems that every region, every country, every company is running its own race. Solutions will vary and we absolutely need flexibility to embrace innovation, however, we also seem to have different ways to measure and manage decarbonization. There are so many tools, carbon calculators, rating frameworks, and standards that it can be hard for practitioners to determine which is most appropriate. Think about all the effort going into to producing more standards and guidance documents, or in reviewing frameworks to determine which

is best for a particular business or project, and then think about the progress that could be made if we reinvested that effort into implementing climate solutions.

Climate financing, a just transition, loss and damage, energy transition—this is where we need to focus energy. So, let's get the basics agreed and turn attention where it's needed. A global standard before COP28—that's my hope!

NICOLE FLANAGAN

**Climate Solutions Leader,
Canada**

I want my message to be one of hope. History has taught us that some of the world's most significant environmental challenges can be overcome by global consensus. My parents' and grandparents' generations argued about scientific evidence and the existence of acid rain and holes in the ozone while I, a young child, ran as fast as I could, hoping beyond all hope that my penny loafers didn't dissolve before I made it to school. What we learned from acid rain and ozone depletion was that global willpower, regulations, trading programs, and other mechanisms can solve problems.

Our lives today have benefitted from what would have been viewed as difficult decisions decades ago, decisions that many thought would be detrimental to companies and come at great expense. Instead, in many cases, it drove innovation and efficiency. I am grateful to those

that took a stance, negotiated based on science, and the belief that we had a responsibility to preserve the environment for future generations.

While we have made tremendous advancements in both engineering technology and Nature-based Solutions and public and private sector funding is available, action towards meeting our climate goals and commitments has been limited. The challenge is to look beyond the noise of political uncertainty and divisiveness and focus on the risk and cost of doing nothing. The risks are daunting. Climate change may impact operating costs, stock prices, access to funding, damage to infrastructure, supply chains, reputation, health and safety of employees and customers—to name just a few direct risks to business. When we begin to quantify these risks and allocate dollars to them, the case for investment is clear. The bottom line is money motivates. While a good funding strategy can be key to driving the business case, we should also look internally to find return on investment by avoiding risk.

I hope that as we look back over COP, there is a realization that the tools, technology, and money exist—and that taking a risk-based, strategic approach to mitigating and adapting to climate change is what building resilience is all about.



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