



INSIDE

SCOPE

27

ISSUE 1



Message from our president and CEO



We are privileged to again attend the Conference of the Parties (COP) on behalf of clients and will be listening closely to the commitments world leaders make to mitigate greenhouse gases (GHGs) and adapt to a changing world.

Stantec has measured and managed our GHG emissions since 2010. Our near-term 1.5°C science-based target was approved by SBTi, and our pledges to achieve carbon neutrality and operational net zero contribute to our robust climate action strategy.

We design for resilience and sustainability in the communities in which we live and work, helping clients act on the climate emergency. In 2022, we appointed a senior climate leadership team dedicated to providing Climate Solutions around the globe, formalized our efforts to support the UN Sustainable Development Goals, and became a partner in the UN Decade on Ecosystem Restoration.

But the efforts of any one organization, industry, or even country, will not be enough to achieve the pace and scale of response required for our rapidly changing climate. That is why COP, as the stage for the international community to agree climate action, is so important.

I encourage you to reach out to our experts if you have questions about what COP27 means for your business operations. In the meantime, Inside SCOPE offers our coverage of the event. It highlights key information, commentary on how industries may be impacted, and thoughts on how we can work towards a sustainable and prosperous future that is accessible to all.

—Gord Johnston



Opening Ceremony

'THE IMPLEMENTATION SUMMIT' - HOW MANY MORE WAKE UP CALLS?

Depending on how lucky you are, you're either seeing the increasingly adverse effects of climate change on the news or you're already living through them. For those in the second camp, the good news is that the world's biggest climate conference is now talking about how to retroactively help.

The 27th UN Conference of the Parties (COP) kicked off in Sharm El-Sheikh, Egypt, with a successful fight to add loss and damage to the agenda. Representatives from 196 countries and 120 world leaders will discuss funds for loss and damage already inflicted by climate change, with proponents making the case for faster access to cash grants and more autonomy for recipient communities.

This year's gathering, with an expected attendance of 45,000 people, aims to unite the world on implementation, making multilateralism work by "restoring trust and coming together at the highest levels to increase ambition and action in fighting climate change."

In contrast to the COP straplines, the [17th Conference of Youth](#) (COY17) event that took place in Egypt one week earlier had just one goal—saving Earth. There were calls for education to be contextualized with local solutions so that young people and communities are better prepared to adapt to climate change.

Ahead of COP, the [Global Alliance of Territorial Communities](#) released a statement calling for an immediate return to Indigenous and local community stewardship. Citing a current overreliance on land-based methods to capture carbon, the statement said the world "cannot plant trees to escape climate disaster, there is not enough land." It also estimated that around the globe, [14 people will be killed](#) defending land while COP takes place. Most will be Indigenous.

A PARADE OF CLIMATE ORATORY

Outgoing COP president Alok Sharma flagged fallout from the war in Ukraine—including energy and food insecurity issues, inflation, and spiraling debt—for compounding existing climate vulnerabilities and dividing priorities for world leaders. Acknowledging reports that we're not yet on track to meet the 1.5° Celsius warming Paris Agreement target, Sharma offered a legacy of some progress, highlighting that 90% of the global economy is now covered by net zero targets (up from 30% pre-COP26).

Incoming COP president Sameh Shoukry reiterated that the current level of ambition is not enough to achieve the goals of the Paris Agreement, that the US\$100-billion-a-year promise was broken, and that most climate financing is simply on loan.

Simon Stiell, executive secretary of the UN Climate Convention and self-proclaimed "Accountability Chief," pointed out that empowering women and girls in climate decision-making and action leads to "better governance and better outcomes." A sentiment he shared as a member of the all-male opening ceremony.

Finally, Hoesung Lee, chair of the Intergovernmental Panel on Climate Change, spelled out that the prerequisite to successful adaptation is ambitious mitigation and that without finance now, the cost of loss and damage later will increase.



World Leaders Summit

COOPERATE OR PERISH

COP27 is being called the “African COP,” not simply because of location but because of its emphasis on climate justice.

Africa contributes less than 4% of global emissions yet suffers some of the most brutal effects. UN figures show 22 million people are currently at risk of starvation because of droughts in East Africa. But as Senegalese leader Macky Sall pointed out, fighting for Africa is fighting for climate resilience. “Africa hosts one of the rare green lungs of the planet, the Congo rainforest,” he said, calling for adaptation financing in the form of grants rather than loans because “those who pollute the most, should pay the most.”

Egypt’s President Abdel Fattah el Sisi called for the world to prioritize those suffering the most and for more respect of diminishing resources. Xie Zhenhua, China’s special envoy, announced the country’s determination to reach carbon neutrality, without providing additional details.

Mastering the soundbite with what seemed like a nod to a classic ’80s song, UN Secretary General António Guterres warned that we’re on a “highway to climate hell” with our foot on the accelerator. He pointed out the “particular responsibility” of the world’s two largest economies: China (the biggest polluter) and the US (which accounts for as much as 52% of historical emissions). He advised all countries to impose a windfall tax on fossil fuels amidst oil and gas firms posting record profits.

As the population approaches eight billion, Guterres posed a question to COP on behalf of that eight billionth child: “What did you do ... when you had the chance?” Wondering if world leaders will choose a solidarity pact or suicide pact, he rather embodied that “common sense ringing out the bells” that UK rock singer Chris Rea mentioned. How prescient those lyrics seem now, “you must learn this lesson fast, and learn it well.”

THE FIRST RULE OF HOLES: WHEN YOU’RE IN ONE, STOP DIGGING

Al Gore, former US vice president and climate activist, acknowledged the credibility problem shadowing global leaders but told them they have the ability to fix it. He spoke of hope with the people of Brazil, Australia, and the US recently electing leaders who will take climate action. He called the “dash for gas” a new form of colonialism, saying that no new fossil fuel projects are acceptable.

Home to 40% of the world’s resources for renewables, Gore described Africa as a potential superpower. He called for complete reform of the World Bank system to get money to developing nations and warned that while currently only small areas of the world are considered uninhabitable, these areas are increasing. One billion migrants could cross borders this century with all the “colossal difficulties” that would bring.

THE MONEY

Mia Mottley, Prime Minister of Barbados, sought “not to parrot the normal messages of COP,” what might be referred to as the blah blah blah. Instead, she put forward the suggestion that the oil and gas companies, who made US\$200 billion in the last 3 months, pay 10% into a loss and damage fund—an idea that would have yielded roughly US\$37 billion in just the first 9 months of 2022.

The Bill and Melinda Gates Foundation, which wields resources many countries can only dream of, pledged to invest US\$1.4 billion to fund immediate action and longer-term initiatives over four years. Aiming to help smallholder farmers in sub-Saharan Africa and South Asia build resilience and food security, the investment also aims to scale up initiatives that specifically empower women farmers, supporting “innovations at the nexus of gender and climate adaptation.”

While France, Colombia, and Barbados suggested that global financial institutions review debt-repayment rules for countries hit by the impacts of climate change, Scotland increased loss and damage funding to £7 million. Austria pledged €50 million and Belgium pledged €2.5 million to Mozambique from 2023–2028. New Zealand announced a NZ\$20 million climate fund. This was not described as compensation for irrevocable loss and damage already suffered.



World Leaders Summit

YOU MIGHT AS WELL BOMB US

World leaders did not mince words. Palau President Surangel Whipps said bombing “might well have been an easier fate,” while Venezuelan President Nicolás Maduro lamented that “the total collapse of our ecosystem ... appears to be our fatal destiny.”

Speaking for the Alliance of Small Island States, Gaston Browne warned rich states who have yet to provide climate finance: “We will fight unrelentingly for climate justice, including in the international courts.” The acutely vulnerable island nation of Tuvalu led demands for an international fossil fuel nonproliferation treaty to phase out coal, oil, and gas.

AND THE CLIMATE AT COP ITSELF

While outside temperatures in Sharm El-Sheikh are a balmy 79°F (26°C), reports say the air conditioning is freezing, and some restaurants and cafés ran out of food on day one with long queues and no vegetarian options. And the WiFi was patchy ...

DAVID SMITH

Senior Vice President,
Director of Strategy,
Global

The World Leaders Summit at COP27 reinforced the global imperative for climate solutions, with UN Secretary General António Guterres telling the world leaders that 'we are on a highway to climate hell with our foot still on the accelerator' and warning that humanity must 'cooperate or perish.' Harsh words, but the UN says progress on cutting the emissions that cause global warming has been 'woefully inadequate' since COP26 in Glasgow last year. The world is already, on average, about 1.1°C warmer than it was at the end of the 19th century, with significant impacts all over the planet. The committed target of keeping average global temperatures rise below 1.5°C above preindustrial levels is looking increasingly in danger of being exceeded, exacerbating sea level rise and extreme weather events leading to drought, flooding, storms, and wildfires. Barbados Prime Minister

Mia Mottley spoke of climate 'horror and the devastation' in 2022, ranging from floods in Pakistan, to heatwaves in Europe and China.

Many world leaders spoke of the need to do more. UK Prime Minister Rishi Sunak said government spending to combat climate change is the right thing to do, from an environmental, moral, and economic perspective. King Tupou VI of Tonga talked about how his country is now prioritizing policies that focus on both disaster risk management and tackling climate change, following January's tsunami. And indeed, more and more we are going to have to solve our global infrastructure needs in a way that embraces both decarbonization (to drive down carbon levels) and resilience (to better future proof our infrastructure to shocks and disasters). These will need to go hand-in-hand: to both mitigate and adapt. Our infrastructure thinking needs to be more systemic and embracing of nature and the built environment for better climate solutions and societal benefits.

There is a new momentum for climate justice and 'loss and damage' due to climate change impacting some nations and communities more than others, with both France and Kenya leaders focusing on this issue. Financing of climate mitigation and adaptation is an increasingly critical topic and will take global cooperation to get funds to those places in most need, at the right time.

The COP27 host Egypt focused on implementation, with Egyptian president closing his speech with, 'There is no time to slip back, there is no space for hesitation. Implementation, implementation, implementation.' The time for climate action is now.

**Corporate
Knights'
COP27 Action
Declaration on
Climate Policy
Engagement**

Signed





Finance

POLYCRISIS ERA

The opening session framed funding demands in the context of multiple international crises, but sharing the “very, very modest” US\$100 billion (approximate) annual climate loan flow, professor Jeffrey Sachs asked, “how one-tenth of one percent of world output could possibly solve the problems of four billion people?”

A [Eurodad](#) report released ahead of COP showed small developing island states, heavily exposed to the effects of climate change, spend at least **18 times more on debt servicing** than they receive in climate finance. Compounding the problem, many of these countries are already highly indebted and are experiencing extreme weather events, forcing them into greater debt.

The size of the challenge was given more context by South Africa’s Just Energy Transition Partnership. It estimated US\$98 billion was needed in that country alone to transition communities away from coal while protecting workers’ rights and livelihoods.

Barbados’ President Mottley set out her Bridgetown Agenda featuring sweeping proposed reforms to the World Bank, International Monetary Fund, and other multilateral development banks, with the backing of France—the first developed country to support such an agenda. Further pressure on the banks is coming from 10 developed nations, including all G7, which are calling for reform.

Personal crisis continued for World Bank president David Malpass. Haunted by past avoidance of questions about the effects of human-made emissions on climate change, he was chased through COP by journalists, and activists continued to call for his removal.

OPPORTUNITY KNOTS

Questions came up again about how to mobilize finance, with the big investments not happening described as the “elephant in the room.” Justifications for why those investments aren’t moving forward included the cost of capital for renewable energy being six to eight times more expensive in emerging markets than in developed ones and the significant difference in finance timescales (typically a few weeks/months in developed economies vs two to three years elsewhere).

The program highlighted [450 projects, programs, funds, and enterprises](#) requiring finance to demonstrate a pipeline of opportunities exists and to encourage investment. And host country Egypt announced a joint initiative with the United Nations Economic Commission for Africa aimed at reducing the cost of green and sustainable borrowing.

Following the limited funds announced during the World Leaders Summit, William Ruto, President of Kenya, pointed out that “loss and damage is not an abstract topic ... it is our daily experience and the living nightmare of millions of Kenyans and hundreds of millions of Africans.” Estimates

exceeded US\$30 billion for loss and damage following the floods in Pakistan that impacted 33 million people. A disaster the president called “man made.”

An example of school children in the Pacific Islands donating their pocket money for solar panels was shared by a young activist making the point that funds are needed now by communities and that with mitigation she still hoped her home could be saved.

BLAME

Professor Jeffrey Sachs added his voice to those of global South leaders, calling for historical emitters to pay compensation in proportion to their greenhouse gas (GHG) emissions. Mohamed Adow, the director of Power Shift Africa, joined in, saying “rich nations should be legally bound to follow through on their pledges, and this shouldn’t be viewed as a favor from the polluters—it is what they owe the rest of the world.”

The age of fossil fuel impunity may be over. Following The Hague District Court ruling against Shell, there were predictions that with the right international court structure, developing countries could themselves sue fossil fuel companies and win.

President Mottley’s resounding call to impose taxes on oil and gas companies was described as “a very headline notion” by Jacob Werksman, European Commission



Finance

principal adviser and chief negotiator at COP, saying the EU would need more details about how it would work. But he stressed that opportunities to secure revenue streams relating to individual sectors should be explored.

PLEDGES AND COMMITMENTS

China said it had no obligation to participate in compensating poor countries for loss and damage but that it is willing to contribute to a mechanism that helps. It was unsure how much or even if this contribution would be monetary.

We hear all the speeches, but proof is in the numbers, and it's not all bad news. The UN Climate Change High-Level Champions published the [Yearbook of Global Climate Action 2022](#) showing actions are increasing, despite various catastrophes. Bolstering statistics include 34 Race to Resilience partners building the resilience of 2.9 billion people and 26 Race to Zero partners mobilizing over 11,000 non-state actors to reduce GHGs and set net zero targets.

A familiar target of climate finance speeches this week, the World Bank presented a new fund—**Scaling Climate Action by Lowering Emissions (SCALE)**—that will provide grants to developing countries as they deliver pre-agreed results in reducing GHG emissions. It would pool money from donor countries, foundations, and the private sector for scalable pathways to reduce GHGs.

The world's first export credit agency to pause debt service payments under climate-based conditions for

low-income countries and small island developing states was announced. **UK Export Finance** will support nations as they are hit by climate catastrophes by deferring debt repayments to free up resources to fund disaster relief. It published a term sheet, including Climate Resilient Debt Clauses, to be used in private-sector lending, and called for all creditors (private banks, other bilateral lenders, and international financial institutions) to explore adopting these clauses.

The **UK Government** announced it will commit to triple funding for climate adaptation as part of that budget, from £500 million in 2019 to £1.5 billion in 2025.

Across the Arab world, 11 members institutions of the **Arab Coordination Group** committed to providing US\$24 billion of financing by 2030.

A systematic program for public and private finance was set out to achieve US\$2.4 trillion a year of financial flows for transition by 2030. In a report commissioned by the UK and Egyptian governments, and published at COP27, it found that US\$2 trillion will be needed every year until 2030 to help developing countries move away from fossil fuels and deal with extreme weather events.

For the UK's private sector, transition plans are about to get tighter. **The UK's Transition Plan Taskforce** set out pre-regulatory recommendations where businesses would have to produce a maximalist plan, not only covering their own decarbonization plans, but how they fit into the UK's and world's transition to net zero. These recommendations are

consistent with the emerging ISSB Framework and could set an international norm.

The **Africa Climate Risk Facility** was launched with signatories committing to underwrite \$14 billion of insurance coverage for climate risks by 2030.

To a mixed response from environmentalists, John Kerry, US special presidential envoy for climate, unveiled a new carbon credit trading initiative, **the Energy Transition Accelerator**, in conjunction with the Rockefeller Foundation and Bezos Earth Fund. Aware that carbon trading has been labelled as “greenwashing,” Kerry enforced there would be strong guardrails to ensure real and credible emission reductions.

In US president Joe Biden's speech at COP27, he outlined new US initiatives to strengthen the country's leadership in climate action. These included the launch of Climate Finance +, a collaboration between US Millennium Challenge Corporation and USAID to accelerate the use of innovative finance mechanisms; the investment of over US\$2.3 billion in Innovative Financing for Climate in 2022 through the US International Development Finance Corporation; and the launch of the Sustainable Banking Alliance where USAID will help deepen the sustainable financial sectors in developing countries by partnering with community financial institutions and banking associations.



Finance

ALEXANDER HARRY
Economist,
UK

Following the COP27 Finance Day, the private sector is under more pressure than ever to contribute money into curbing climate change. However, recent geopolitical tensions, energy crises, and the war in Ukraine have made it increasingly difficult for the UN to apply sufficient pressure on big business to commit funds to climate change resilience.

UN experts published a list of projects worth US\$120 billion that investors could back to help developing countries adapt to the impacts of global warming. Evidently, there is no shortage of innovative projects that seek to address these issues, but a strong and immediate commitment to financial support is required to deliver them.

Some developed nations seem to be accepting of a mechanism to aid the developing world in this sense. Other commitments indicate nations'

continued desire to contribute, but concerns about actually mobilizing finance puts the focus on banks, investors, and insurers.

In the UK, the tightening of transition plans in the private sector will put even greater pressure on the sustainable design of our communities as we continue our pursuit of a greener economy. COP27 has once again emphasised the importance of transparency and predictability of finance flows. The focus must be on adaptive and not reactive measures that climate finance can facilitate.

AMY BROUGHTON
Senior Principal, Water,
US

There is broad consensus that trillions and trillions of dollars are needed to move away from fossil fuels and deal with extreme weather events. The entire US\$1.2 trillion for 5 years of infrastructure funding through the US Bipartisan Infrastructure Law seems a drop in the bucket. Some suggest over \$2 trillion is required annually to just shift developing countries to clean energy. Certainly, building the will, programs, systems, and investment pool to meet the need seems a daunting task.

But while many balk at the figures, the frameworks being proposed at COP27 are familiar. There are many regional and national examples to point to if the validity or effectiveness of strategies proposed are questioned. In instances where investment serves public health, but private finance is hesitant due to higher risk or lower returns, national and local governments

have repeatedly developed financing instruments that fill the funding gap and stimulate project development and implementation. An oil and gas tax to support adaptation projects seems controversial, but in many US states mineral extraction and oil and gas taxes have been collected for decades to fund clean and essential infrastructure projects. There has long been a recognition of responsibility and impact. And we recognize the importance of credit trading. Both public and private entities play critical roles in creating markets where we lend efficiency by more accurately quantifying value and enabling exchange. I wholeheartedly believe we have the toolkit and experience needed.

But today, to meaningfully participate in COP27 and act, we have to think globally. Scaling and translating these established approaches requires a willingness to remove our national and regional biases. We need to invest, and we have the models, we just need to accept the global challenge.





Finance

ASHRAF ZEITOUN
Manager, Energy & Climate
Projects,
Egypt

The UN presented a pipeline of initiatives that investors may support to aid less developed nations in reducing emissions and adapting to the effects of global warming. But the current global flow of climate finance is just a fraction of what many experts estimate as the actual need of developing countries. Some institutions were heavily criticized for continuing to finance investments that have negative effects on climate, especially those who have pledged to reach net zero.

All of this means that climate change will take a more central role for governments and private sector businesses when sourcing finance. This applies to both equity and debt finance, and in a way, redefines our understanding of what makes a project bankable.

In order to serve the anticipated growing appetite of financing

institutions for green projects, unleash this investment potential, and convert assets into flows, as UN Climate Change High-Level Champion Mahmoud Mohieldin says, we need creative collaboration between project developers and public, private, and concessionary funding.

Ultimately, it is not necessary for a company (or a project) to be regarded as green in order to access finance; what matters most is how funds are used and their impact on climate. Companies should, however, be conscious of the importance of sustainability of their operations and committed to reducing their carbon footprint.

Both financiers and project developers will need to think carefully about two important issues: how to accurately analyze the impact of their investments on climate and how to identify best available technologies most suited for projects. This is easier said than done, especially in less developed economies, due to the lack of technical expertise.

For instance, it can be challenging for a city or municipality to decide how best to adapt its infrastructure to a growing number of electric vehicles or to understand the impact distributed power generation would have on its electricity grid. A desalination project's environmental impact is likely outside the scope of bankers' expertise, and the list goes on.

Public awareness on climate change, its risks, and challenges is growing exponentially, and the same could be said about pressure exerted on financing institutions to act in response to the situation. Design firms and technical consultants must keep evolving to respond to a world changing quickly and offer comprehensive advisory that takes all of this into account.

KABINDRA P. DHAKAL
Economist,
UK

A key theme of recent climate discussions has been that of equity when considering the effects of industrialization. Importantly, there has been a conscious shift among leaders from across the world to realize that equity is not only a vital topic when considering the transition to greener economies. It is equally important to build resilience and provide insurance at a time when climate change is already wreaking havoc on communities.

While we must wait and watch how frameworks announced at COP27 will be implemented, it is significant that there is general acceptance of these negative effects and the need for relief and resilience funding. Companies hesitant to begin projects in disaster-prone economies can take heart in some insurance in those areas. Those working in climate finance can also see this as an opportunity to provide innovative

products to areas where demand outstrips available supply.

The devastating floods that affected Pakistan this year could have benefitted from the UK's announcement last Wednesday of a climate-resilience clause on its export financing. This is important, considering that the UK is Pakistan's third largest export partner.

There have been some symbolic announcements acknowledging loss and damage payments to the global south as an important part of climate finance in the future. However, the scale of funding available to those most vulnerable to climate-induced devastation remains well below what is needed. Let us hope the recent announcements build momentum for stronger action in the near future.





Science

Despite increased net zero pledges by state and nonstate actors, and more financing and innovation in climate adaptation and mitigation, the world is on track to warm substantially above the 1.5°C target set by the Paris Agreement. Forecasts show the planet warming between 2.1°C and 2.9°C by the end of this century, and scientists warn the window to change this, or even adapt to it, is fast closing.

SCIENCE AS A COMMON LANGUAGE

Simon Stiell, UN Climate Change executive secretary, opened the press conference on [10 New Insights in Climate Science](#) by noting that “science is at the heart of everything that we do ... science is our common language.”

“Human security requires climate security,” said Johan Rockström from Potsdam Institute for Climate Impact Research during the launch of the 10 New Insights in Climate Science report. “If we want to have a secure and peaceful future, we need to address climate change at the forefront. Even conflicts are being triggered or amplified by the risks of climate change.”

The 10 Insights are:

1. Questioning the myth of endless adaptation
2. Vulnerability hotspots cluster in “regions at risk”
3. New threats on the horizon from climate–health interactions
4. Climate mobility: from evidence to anticipatory action
5. Human security requires climate security

6. Sustainable land use is essential to meeting climate targets
7. Private sustainable finance practices are failing to catalyse deep transitions
8. Loss and Damage: the urgent planetary imperative
9. Inclusive decision-making for climate-resilient development
10. Breaking down structural barriers and unsustainable lock-ins

A [UNESCO report](#) gave a stark warning that one third of the world’s major glaciers will disappear by 2050, whatever the temperature-rise scenario. The rest could be saved by keeping the 1.5°C goal alive, but with the world on track to above 2°C compared to 1850-1900 levels, it is likely that more than 50% of these glaciers will entirely disappear by 2100. Drastically reducing carbon emissions is the only way to save them.

Hikes in atmospheric concentration of carbon dioxide, methane, and nitrous oxide are all now at new record levels, declared the World Meteorological Organization in the run up to COP27.

(MIS)INFORMING THE MASSES

Where do delegates get their information? Years of UN Intergovernmental Panel on Climate Change (IPCC) reports. Future energy plans and global warning trajectories depend on the science provided by the IPCC, which is unequivocal



Science

in its findings and recommendations on how to mitigate and adapt to climate change and the need to increase focus on climate-health interactions, climate-refugee migrations, land use, and financing.

But climate denial, delays, lack of integrity, and complacency are all still major hurdles to progressing action. Net zero pledges, habitat protection or restoration initiatives without specific implementation plans, budgets, and transparent accounting and reporting, give society a false impression of progress towards solving the climate crisis. Scientific evidence tells the true story. Will COP27 manage to change this practice?

PLASTIC (NOT) FANTASTIC

Attendees heard how 350 million tonnes of plastic is being produced year on year. If this rate of production continues, 20% of oil consumption will be going into plastics. A government representation of Indonesia described how reducing plastic pollution is directly linked to its Nationally Determined Contributions. COP27's main sponsor—Coca-Cola—was named the world's [largest plastic polluter in 2019](#). Coca-Cola was not on the panel.

ALL KNOWLEDGE IS POWER

Combining the Youth and Science themes on Day 5 of the COP agenda was welcomed by Advisory Group of the UN Secretary General member Nisreen Elsaid. She stressed

the urgency of including young people in discussions and gave a stark perspective on hope: “Who told you I have the privilege to give up on hope?” she asked. “I can't go to the Bahamas and wait for this to disappear or the world to end.”

For Yessie Mosby, from the Torres Strait Islanders delegation, it was imperative to share the deep interaction between Indigenous peoples and the natural world: “We are a race that will see birds and they will tell us what the weather is going to be like tomorrow. We look at plants, which tells us which particular fish are to be eaten or not to be eaten; we see plants, which tells us that this particular fish in the water is poisonous. The world has a lot to learn from us.”

DEVYANI KAR

Senior Climate Resilience Scientist, US

One of the most eye-opening experiences I've had in my career as a climate scientist was while standing on top of the Athabasca Glacier, a part of the Columbia Icefield in the Canadian Rockies. A sight so awe-inspiring it was easy to forget I was amidst 20 others in a tour group—visibly subdued and perhaps similarly affected by the serenity of the landscape at sundown. This was in August 2018; since then, the glacier has retreated about 20 metres and could be completely lost within my lifetime.

Having lived most of my adult life in Louisiana, it's hard to imagine how my day-to-day actions have anything to do with the rapid decline of glaciers. The economy and culture of Louisiana (and other oil-dependent states in the Gulf of Mexico) were shaped by fossil fuel-supported development. Now they are at the

forefront of climate-induced impacts such as sea-level rise, intense precipitation, and devastating storms. As dire as the situation is, Louisiana has become a center of climate adaptation and resilience practices and, more recently, climate mitigation efforts. Scientists and practitioners at organizations like Stantec have an obligation to lead the charge—from providing the best actionable science on alternative/clean energy sources, to using Nature-based Solutions for carbon capture and sequestration.

While CO₂ has been of the most recognized culprits of global warming, the latest IPCC report underscores the urgency of reducing methane, which has a global warming potential 25 times that of CO₂. The latest technologies in remote sensing and machine learning help us measure and monitor not only the carbon sequestered in coastal and marine ecosystems (blue carbon) but also to track and measure methane leaks and emissions from point and nonpoint sources.





Science

PATRICK CHAMBERS
Mechanical Discipline Leader,
Australia

It's ironic that although in contemporary society we have unprecedented access to knowledge and information it is so difficult to dispel misinformation. The power of social media has allowed unqualified voices to be heard and have influence on a significantly greater scale than ever before. Perhaps no subject struggles from this paradigm more than the climate change debate.

Anthropogenic climate change is real. Our actions are having consequences. The science is sound. The time for action is now.

As an engineer, I have always seen my role as a conduit between the scientific community and industry. Engineers are facilitators of technological innovations that enhance our lives. We are engrained with an ethos of finding solutions to problems, however, we often become obsessed with solutions and too seldom allow ourselves to properly

define (or redefine) the problem(s). When this mentality proliferates, industries become stagnant and stifle innovation.

We need to be prepared to redefine the problem, through a wider lens.

As an example, the polymer revolution of the 1950s heralded a boom in technology solutions that took advantage of the amazing new suite of materials available. Few could have predicted the massive problems with microplastic pollution or the scale of oil consumption required to meet plastic demand. With these environmental costs considered, the use of plastic moving forward needs to be questioned and the externalities considered in the pricing of the product. We all need to question why things are made of plastic? Are there alternative materials available? Do I need that product?

There are much larger societal questions that need to be revisited. Do I need a car? Do I need a large house? Do I need air conditioning?

Do I need to travel? ... Can we achieve the same outcomes that these solutions provide via alternative means?

We live in a world where fossil fuel consumption has brought a high quality of life to a lot of people in the developed world. Most of the world's population who reside in the developing world now, quite rightly, seek the same quality of life. The issue is that the planet cannot sustain the same pathway for achieving it. It is time for the developed world to lead by example: aggressively shift towards renewable energy sources and show that living sustainably can yield a quality of life that others will aspire to.

The scientists and engineers of the developed world need to be empowered by the concept of not overcomplicating things and being prepared to revisit problems through the lens of ever-emerging science, particularly with respect to anthropogenic climate change.

United Nations
Decade on
Ecosystem
Restoration

Partner



Youth and Future Generations

TIME TO INSPIRE BACK

Asked what kept her motivated during six years as UN Climate Chief, Patricia Espinosa replied, “the youth.” She’s not alone in the sentiment. Young climate activists regularly make headlines around the world and are lauded for their enthusiasm. Vanessa Nakate, Ugandan coordinator for the Rise Up Movement, says that now it is time for governments to do the inspiring.

“Despite the worsening climate crisis, I remain hopeful,” said UN Secretary-General António Guterres, “because of the young people who have been relentless in holding decision-makers to account.” This hope may be rising up as the US midterm elections just ushered in the youngest ever individual to win a seat in Congress at age 25.

Following the Conference of Youth (COY17) under the banner of [YOUNGO](#), youth groups called for an equal emphasis on loss and damage, Indigenous peoples, human rights, and equity. They asked for a [Global Stocktake](#) to seriously assess progress, grant-based financial schemes, nature-based coastal buffers, and responsibly managed urbanization. The [Santiago Network](#) (to catalyze technical assistance) was highlighted as a priority to operationalize, as was climate change education for all children. For the first time, the youth statement will form part of the COP Action Agenda, allowing young representatives, ministers, and negotiators to discuss the expectations and demands.

WE WILL GIVE THANKS, LET OUR MINDS BE THAT WAY

Leading a blessing, an Indigenous elder gave thanks to Mother Earth for her blessings, with allowances that while some people can be grateful for gentle winds and rain, this may change in the future, and that some people had already lost such gifts.

During the Young Africa: Vehicle of Climate Action panel, speakers highlighted that without support and collaboration, the enthusiasm of youth will die. They asked for tools and access to decisions; they also asked that ideas about climate action and resilience are introduced early in children’s lives.

Young activists, many of whom challenged the host country’s suitability as a COP venue on human and LGBTQ+ rights grounds, were nonetheless unperturbed by anti-protest laws. They wore white in solidarity with murdered people defending their land and political prisoners. And as news spread about the record 600+ fossil fuel lobbyists in attendance, protests rang out in for the organization to kick them out.

THE WORLD IN THEIR HANDS

Having founded a platform promoting environmentalism at age 10 and previously earning an audience with his country’s president, the now 13-year-old Colombian

Francisco Vera told COP “the climate crisis is a child’s-rights crisis.” Sofia Mejia, also 13, was using her TV show in the Dominican Republic and platform at COP to help children fall in love with the planet “so they can have this passion to fight for it, since we’re really destroying our Earth.” Meanwhile 12-year-old climate activist Melissa Obeng-Kyereh from Ghana said she wanted to leave Egypt knowing that decisions made in the negotiation rooms would be implemented.

Elizabeth Wathuti, Kenyan activist and founder of the Green Generation Initiative (at age 21), called for urgent, inclusive action, stating “we have to ensure ... not just the participation but it has to go further to make sure that the outcome we get out of COP27 has a reflection of the present needs of the African continent.”

A Youth for Climate Caravan saw young people touring around Egypt sharing lessons on recycling waste and minimizing the use of plastic, planting fruit trees, and showcasing stories of what young people are already doing to curb climate change.

One famous face in the world of youth activism wasn’t to be seen. Greta Thunberg declined to attend COP27, saying, “COPs are mainly used as an opportunity for leaders and people in power to get attention, using many different kinds of greenwashing.”



Youth and Future Generations

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, the figure is 2 in 5. WHO director general Dr. Tedros Adhanom Ghebreyesus told this story while addressing the Youth Day High Level Speakers' session: "While I was in Tuvalu, I met a young boy called Falou, I was so impressed with his knowledge of climate change. He told me that he had been discussing with his friends what they would do if Tuvalu sinks and that the majority had decided that they would sink with it." He told them to continue raising their voices.

HANNAH MORGAN
Graduate Environmental
Planner, (Barton Willmore now
Stantec),
UK

The youth of today are growing up with greater climate-change awareness, a wealth of knowledge on climate-related issues, and ideas on how to address them. Now it must be a two-way street. After equipping future generations with the education and skills to take on climate challenges, we must listen to what they have to say through intergenerational dialogue. Learning from young people can occur at many different levels, not just on the global platform at COP27 but every day at home or in the workplace.

It emerged from the Young Africa session that ideas about climate action should be introduced early in children's lives. However, as professionals in the built environment, there are ways beyond words in which such outcomes can be

sought. [A study on youth action and participation in climate protests](#) found that youths who live in harmony with nature are more likely to strike. This emphasizes the need to design places that connect people to nature, e.g., green infrastructure and biophilic design. We must design such places with equity in mind, with tools like equalities impact assessments.

Youth is not singular; it is a broad category. For example, women and youth from the global south are not only disproportionately impacted by climate change but they are also underrepresented in discussions despite offering different views and priorities. Africa has the world's youngest population, making not just the participation but also an outcome that reflects the needs of Africa's youth a key area for COP27. Whether this will be achieved is yet to be seen and, despite concerns from young activists such as Greta Thunberg who declined to attend, having a voice in the discussion is a step forwards.

There was also progress made in the lead up to COP27. Following COP26, a youth negotiators academy was launched, and COP27 includes a youth statement and a youth pavilion for the first time. The empowerment of young people must be continued to ensure that their enthusiasm related to climate change does not die. Moving forwards, we must seek to empower young people in our everyday lives, educate them about climate change but also listen and learn from them. Built environment professionals can also play a role in not just designing places that involve mitigation and adaptation measures to climate change but places that connect young people to their environment and spark an interest in protecting the planet.



Youth and Future Generations

JOSIE EDWARDS
Assistant Environmental
Consultant,
UK

AMBER LEVERSEDGE
Graduate Environmental
Consultant,
UK

This year, COP27 feels like a balancing act between anxiety and hope. The climate crisis has never been more urgent or important, and the public (especially young people) have never been more concerned about it.

“Eco-anxiety” defines feelings of worry and despair when presented with the science surrounding our rapidly changing climate. It’s not just for our declining environment but inextricably linked to government inaction on the matter.

Record-breaking droughts, destructive floods, and extreme heat remain headline news. It’s no wonder that climate anxiety is rising, particularly among young people. Shockingly,

research in 2021 by Hinkman et al. found that 45% of the 10,000 global youth surveyed are affected by climate anxiety and stress in their daily lives. Despite recognition of the importance of young people in solving the climate emergency, this highlights that we are not doing enough. For example, the announcement of the Natural History General Certificate of Secondary Education in England attracted much attention. However, this fails to address need for the climate emergency and ecological crisis to be integrated into every subject, and it won’t be available for every student.

COP27, and the light it shines on the climate crisis, can certainly increase feelings of anxiety. It’s not the right time, nor accurate, to tell young people simply “not to worry, it will be okay.” The science is clearly saying the opposite. But we need to harness the scale of the challenge and turn it into hope. We must empower young people not only through education but by providing them with tools and platforms enabling them to make real change.

The infrastructure industry is one of the highest emitters, responsible for approximately 79% of global greenhouse gases (UNOPS, 2021). Therefore, it is our duty as professionals in the built environment to use our unique insights of the workings of the world and give our time to climate-led initiatives for young people, through careers talks, STEM events, work experience, or climate-change education within schools.

Youth representation is also needed in policy making at all levels, locations, and sectors. Future generations need to know their voices are being heard—transforming concern and anxiety into passion is extremely important. That’s why the COP27 Youth and Future Generation Day was key to widen the narrative. Hope for our climate is not just nice, it’s necessary.

MATTEO RUDELLO
ESG Services, Creativity &
Innovation,
Italy

What do the youth want? Not only climate change at COP27. Equality and respect were recurring keywords throughout discussions. It’s not only about nature protection, but youth also feel the urgency for more equity. The same keywords showed up when secondary school students were asked to describe their ideal world. And I have seen it happen during workshops I have been involved in across Europe to engage youngsters in sustainable urban areas redevelopment projects.

The youth want to be involved and listened to; they want to be engaged. After all, they are the real stakeholders of the future, this is a simple axiom that we tend to forget too easily.

Youth engagement or, even better, youth empowerment, becomes crucial when companies want to invest in

social innovation. Any business can take advantage of engagement techniques because they can help the company to leverage the enormous potential of collective intelligence. Investing in youth engagement/empowerment, will increase the capacity of a company to innovate, evolve, and become future proof.

As engineers and architects, we strongly believe that creating collective value for all the stakeholders is the real goal. Looking ahead, we already feel that our next evolutionary step will be to design with mind of the community. What’s your next evolutionary step? Ask the collective mind of the youth inside your organization.





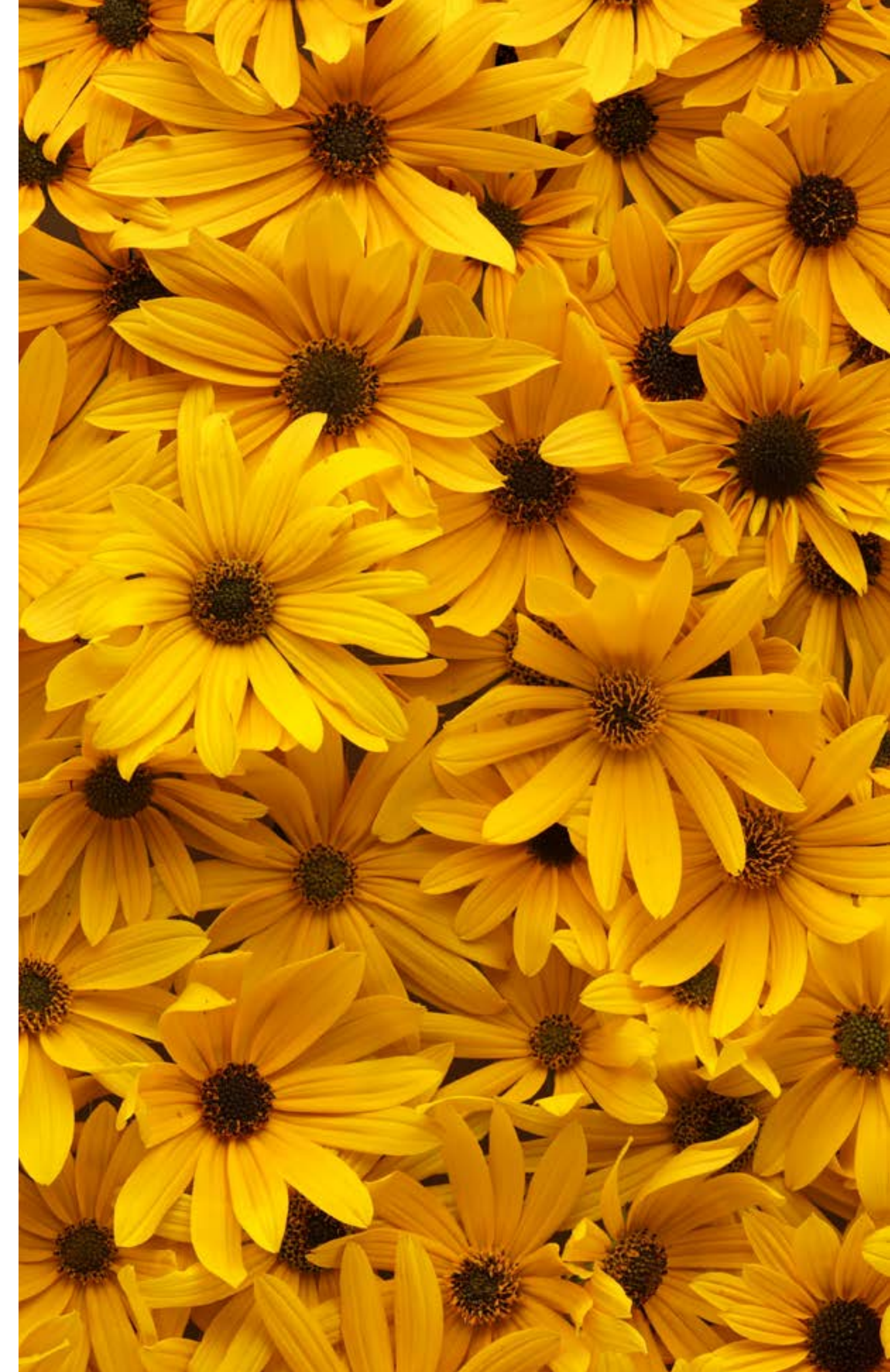
Youth and Future Generations

STEPHANIE COFFMAN
**Senior Principal, River System
& Basins,
US**

There's never been a more urgent time to prioritize ecosystem restoration. This is the Decade on Ecosystem Restoration. Decade. We have less than 10 years to educate, inspire, and ignite an eagerness for rehabilitating and restoring our Earth, our home. Passion is essential. It's what drives us to create and solve complex challenges.

We need to foster a change in mindset; and this shift must be generational, and it begins with our children, our youth! It must be transformational, and it needs to spread globally, now. Motivated young people are a key piece of the puzzle. It's our responsibly, as practitioners, to coach our youth and foster a deep-rooted hunger to understand the science and engineering necessary mitigate these climate change and biodiversity struggles and turn the needle to a more positive trajectory.

Any project on planet Earth can be part of the solution. I challenge us to look through a wider lens and develop solutions that are collaborative across generations and business lines. Solutions that positively influence our ecosystems. I deeply feel that it's my responsibility to educate our young people. They are the key to turning this world around.





Resilience

SAFETY NETS COME IN VARIOUS FORMS

Backed by more than 80 major insurers, the African Climate Risk Facility was launched to provide US\$14 billion of cover for some of the continent's most vulnerable communities and assets. The initiative is designed to be a scalable, local market-based tool to manage the financial risks of climate shocks, building resilience towards natural disasters in vulnerable communities.

Similarly, the UN backed Race to Resilience campaign launched the Insurance Adaptation Acceleration Campaign to improve the climate resilience of infrastructure and vital services. The campaign hopes to mobilize 3,000 insurance companies (or 50% of the market) in the next year, to better cover assets that face physical climate risks—currently making some 3.3 billion people “highly vulnerable” according to the [IPCC](#).

Taking up the fight for one of nature's best carbon sinks (not to mention storm-protection barriers), the Global Mangrove Alliance pushed to secure 15 million hectares of mangroves globally by 2030, seeing investments of US\$4 billion by 2030 to conserve and revitalize. They launched the Mangrove Breakthrough, described as “a science-based, measurable, and achievable target for non-state actors and governments to collectively restore and protect mangroves at the scale needed.”

STORMS UP AHEAD

An initiative that would issue early warnings against extreme and dangerous weather events—Early Warnings for All Action Plan—was unveiled. The number of recorded disasters has increased by a factor of five, by human-induced climate change and more extreme weather. The initiative would cost the equivalent of US\$0.5 per person per year for the next five years. Half of the countries around the world don't have early warning systems.

PLAY IT ALL AWAY

Three billion people around the world play video games, and Rosemary Mann from the Arsht-Rock Resilience Center [asked](#) how could one tap into that community to build resilience, using gaming to develop “lifesaving skills and knowledge where they can protect themselves, their families, and their communities through all sorts of extreme events—events that are becoming more extreme and more aggressive.”

While access to gaming hardware varies enormously, mobile gaming—as the biggest platform—could deliver information about climate resilience directly to peoples' phones, while multiplayer design could help build social cohesion and community. Involving climate psychologists and behavioral scientists would help work through how game play can translate to real world actions.

AND WIN

Italy, Britain, and Sweden pledged US\$350 million to finance Nature-based Solutions that build resilience in Fiji, Egypt, Kenya, and Malawi. The US announced over US\$150 million to accelerate the President's Emergency Plan for Adaptation and Resilience (PREPARE) efforts across Africa, building on more than US\$20 million that President Biden had previously announced for Small Island Developing States.

The International Federation of Red Cross and Red Crescent Societies launched the Global Climate Resilience Platform, a fundraising initiative aiming to generate 1 billion Swiss francs for locally led climate action and adaptation efforts. The platform will focus on meaningful participation and active leadership of women, local communities, Indigenous peoples, youth, and other marginalized and/or underrepresented groups in the development and implementation of resilience programs in 100 countries.

Having mobilized US\$247 million in the last 9 years for climate-resilient investments, Rwanda announced it had achieved a 126,000-ton reduction of carbon emissions. Additionally, the country has planted 47,000 hectares of forests and agro-forestry and has protected 31,000 hectares of watershed and water bodies.



Resilience

WEAVING IT ALL TOGETHER

The US State Department launched a Youth Leadership Program for high school-aged youth and adult mentors from the US and Africa, aiming to help young leaders provide solutions to the climate crisis in their home communities.

An inclusive Talanoa dialogue brought together a diverse group to share stories of climate action including a water-harvesting project in Papua New Guinea, aiming to develop plans to strengthen resilience. In her opening remarks, youth ambassador Brianna Fruean of Samoa explained “Tala means ‘untie,’ and noa means ‘knot.’ We are coming together today to untie the knot and together build a new tapestry filled with the voices of each other.”

The Climate & Development Knowledge Network announced four grants of US\$5,000 to be allocated to teams formed in COP’s [resilience hubs](#). The winning partnerships must implement ideas that advance gender-equitable and socially inclusive climate-resilient development.

A session in the Resilience Hub exploring resilience in complex systems highlighted the key role museums can play by maintaining institutional and cultural memory, helping society retain knowledge and tools that will help us find a shared sustainable future for all.

CAMERON (CAMI) RAMEY **Community Resilience** **Specialist,** **US**

Comparing COP26 in Scotland, to this year’s event, it is evident that resilience plays an increasingly integral role in shaping global climate action. Last year, we saw the launches of the first Resilience Hub at COP26 and the UN-Backed Race to Resilience Campaign—small but important steps in formalizing the role of resilience in global climate negotiations. At COP27, we’ve cheered new commitments to fund and finance resilience worldwide, hopefully a sign of more to come.

Much of this growth on the global stage is a mirror of the rapidly evolving role of resilience in shaping local climate action. In the United States, for example, local resilience hubs are spreading across the country, connecting people and resources to build stronger, more resilient communities. And a national shift towards proactive hazard mitigation has translated into billions of dollars in funding for local resilience projects.

We’re all eager to understand how to build on this momentum. Resilience represents abundant opportunity, in part, because how we define, fund, and practice resilience are still evolving questions. I think a critical first step is setting the right target.

Resilience is often broadly defined as the ability to bounce back from chronic and acute shocks and stressors. However, it’s important to remember that for developing countries and for frontline, disadvantaged, and historically marginalized communities being resilient has not always been a pleasure. We know that climate change exacerbates existing inequities and that those who contributed the least to climate change are often hit the hardest.

Resilience must do more than preserve the status quo. Rather, resilience requires redesigning the structure that creates systems of inequity in the first place.

Those of us engaged in climate action have the opportunity, and the obligation, to shape this momentum

around the needs and goals of those most vulnerable to climate change. I think we all have a role to play. Adaptation and resilience professionals can approach community partners with humility and a willingness to listen. Negotiators and decision-makers with privilege can make space for those without, especially on critical stages like COP. Industry leaders should ask, how can we mitigate risk not only for ourselves but for the communities we’re part of? The opportunity is ripe for public-private partnerships. And that’s just scratching the surface.





Decarbonization

OR CARBONIZATION?

If we burned through current world reserves of oil and gas, we would be [seven times over](#) the cap needed to hit climate targets. And projections show just 20 companies are [set to spend](#) US\$932 billion developing new oil and gas fields by 2030. There seems little concern in the market that governments will act.

Statistics released by over 50 NGOs in the [first update of the Global Oil & Gas Exit List](#) showed that compared to last year, global exploration spend has increased 12.4%. And we're on track for [record levels of emissions](#) in 2022. The industry has been accused of not heeding calls from the UN Intergovernmental Panel on Climate Change, UN Environment Program, and International Energy Association.

Furthermore, a recent [Accenture report](#) showed only 7% of companies are on track to meet 2030 decarbonization goals, resulting in calls for much tougher accounting for a private sector not moving fast enough.

Low-lying island nations implored large economies not to negotiate away tough decisions, recalling last year's intention to "phase out" coal being downgraded to "phase down" after interventions from India and China.

Occidental Petroleum CEO Vicki Hollub highlighted that demand for oil and gas related products made vilifying

the industry in isolation redundant. "I'm saying the world is responsible. ... Don't ask me about oil and gas without taking some responsibility yourself and helping others understand," she said, calling for the energy transition to be better designed.

GAS IS ... GREEN?

Experts warned on Decarbonization Day that gas producers were using COP as a chance to rebrand natural gas as a fuel to aid the energy transition, rather than a fossil fuel. While less polluting than coal, natural gas extraction and processing emits large quantities of methane, a super-potent atmospheric warming gas.

But for developing nations, including Nigeria where currently 90 million people (or about 4 in 10 of the population) still live without electricity, gas is a fundamental part of energy plans to lift people out of poverty.

Wael Aboulmagd, Egypt's chief COP negotiator, pointed out that while gas as a transition fuel shouldn't be used indefinitely, a differentiated approach was needed so that developing nations who "have contributed near to nothing ever to global warming or climate change" should not be expected to "immediately cease production or exploration".

A memorandum of understanding was signed between the EU, Israel, and Egypt for the export of natural gas to Europe.

HYPE AND HYDROGEN

Proponents of green hydrogen came together in a ministerial event focusing on its potential. "There is something deeply wrong with fossil fuels, not just the impact of greenhouse gases, but also, it's a very capital-intensive industry and therefore creates very limited amounts of employment ... and it cannot deliver industrialization. But if we look at green hydrogen, it is completely the opposite," said a government representative of Mauritania. Mauritania and BP have signed an agreement to explore low-carbon hydrogen opportunities.

Egypt launched the first phase of the Egypt Green hydrogen facility, an integrated green hydrogen plant in Africa to be powered by 260MW of solar and wind. Ayman Soliman, CEO of The Sovereign Fund of Egypt, which is behind the project, said: "This is a showcase of transitioning from pledges to implementation. ...Our pipeline of projects in the green energy field capitalizes on Egypt's ideal location with its unique renewables profile and proximity to markets with renewables deficits to realize our shared goal of emissions reduction."

An Egypt-EU announcement unveiled plans to develop a Mediterranean Hydrogen Partnership, including trans-Mediterranean interconnectors and strengthening and extension of electricity grids. And Egypt and Norway joined up to establish a project that will build a major green



Decarbonization

hydrogen plant in Ain Sokhna on the Red Sea. The proposed 10MW project will be implemented with Norwegian energy company Scatec.

PLEDGES AND COMMITMENTS

Queues snaked around the conference waiting for US President Joe Biden to arrive at COP27 for his speech. He announced a supplemental rule to crack down on potent methane emissions. The new rule goes further than last year's rule that targets emissions from existing oil and gas wells nationwide and focuses on all drilling sites including smaller wells.

A coalition of climate philanthropic organizations announced an investment of US\$500 million over the next 3 years to accelerate a just and equitable energy transition in low- and middle-income countries. The organizations include Ballmer Group, Bloomberg Philanthropies, Children's Investment Fund Foundation, Good Energies by Porticus, Growald Climate Fund, High Tide Foundation, Oak Foundation, Sequoia Climate Foundation, and Three Cairns Group.

UK business secretary Grant Shapps said the UK would continue to use and develop North Sea oil and gas, rather than import gas from overseas. "Whatever we end up doing, I give you this pledge: I will make sure the route we take will be for decarbonizing, whatever those options would have to be."

Discussions were held between UK and Vietnam to discuss a potential Just Energy Transition Partnership (JETP), which would reduce the planned coal pipeline in Vietnam and bring forward the peaking date for power sector emissions. The two parties recommitted to finalizing details of the plan before the end of 2022. Indonesia said it was ready to implement its JETP involving the phase-down of coal power plants and a significant reduction in greenhouse gas emissions.

The [Alliance for Industry Decarbonization](#), a group formed of companies from across industry sectors, held their first meeting. They focused on six pillars and enablers: renewables; green hydrogen; bioenergy with carbon capture, utilization and storage; heat process optimization; human capital; and finance.

This year's host, Egypt, has been busy signing agreements. With the EU, [it issued a joint statement](#) to work together on a global just energy transition, improving adaptation capacity, mitigating loss and damage, and increasing climate finance. The collaboration will focus on renewables, hydrogen, and energy efficiency.

South Africa presented a US\$84 billion plan to kickstart the decarbonization of its coal-reliant economy. The 2023-2027 investment plan was called a blueprint for economic transition from fossil fuels to renewables by President Cyril Ramaphosa. The US, UK, France, and Germany will

contribute funds to help South Africa as it moves away from coal.

China announced the drafting of a new plan to curb its rising methane emissions. The plan will promote new technologies and financing mechanisms. China [emits the world's high methane emissions](#), primarily from coal mining and agricultural rice fields.

The European Union (EU) agreed to a law – the Effort Sharing Regulation – that sets national targets to reduce overall carbon emissions by the end of this decade. Sectors include road transport, domestic maritime transport, heating of buildings, agriculture, small industrial installations and waste management. These are responsible for around 60% of EU greenhouse gas emissions, and the ESR aims to reduce them by 40% compared to 2005 baseline levels.

AND NOT QUITE NET ZERO

Last year's launch of the Glasgow Financial Alliance for Net Zero (GFANZ) endorsing stringent science-based targets initiatives was considered the financial sector's biggest collaborative effort for net zero. Carrie Sabin, Stantec's vice president of sustainability, had [commended the effort, saying](#), "This new SBTi net zero standard forces real behavior change. The fact that the Glasgow Financial Alliance for Net Zero endorses the stringent SBTi criteria means the financial world will help enforce quick adoption."





Decarbonization

But a year later, with members representing some US\$153 trillion of assets, it announced [it no longer requires signatories to set rigorous science-based emissions reduction targets](#), saying members would be “encouraged, but not required, to partner with the Race to Zero.” Tracey McDermott, chair of the Net-Zero Banking Alliance (the banking member alliance within GFANZ), went even further, [assuring](#) banking signatories they were free to set their own targets, regardless of guidance from GFANZ or Race to Zero.

GFANZ’s credibility rested largely on the obligation by signatories to commit to Race to Zero, the UN’s key net zero campaign, and the U-turn has raised extreme concerns.

BETH TOMLINSON **Discipline Leader, Carbon and Climate, USA**

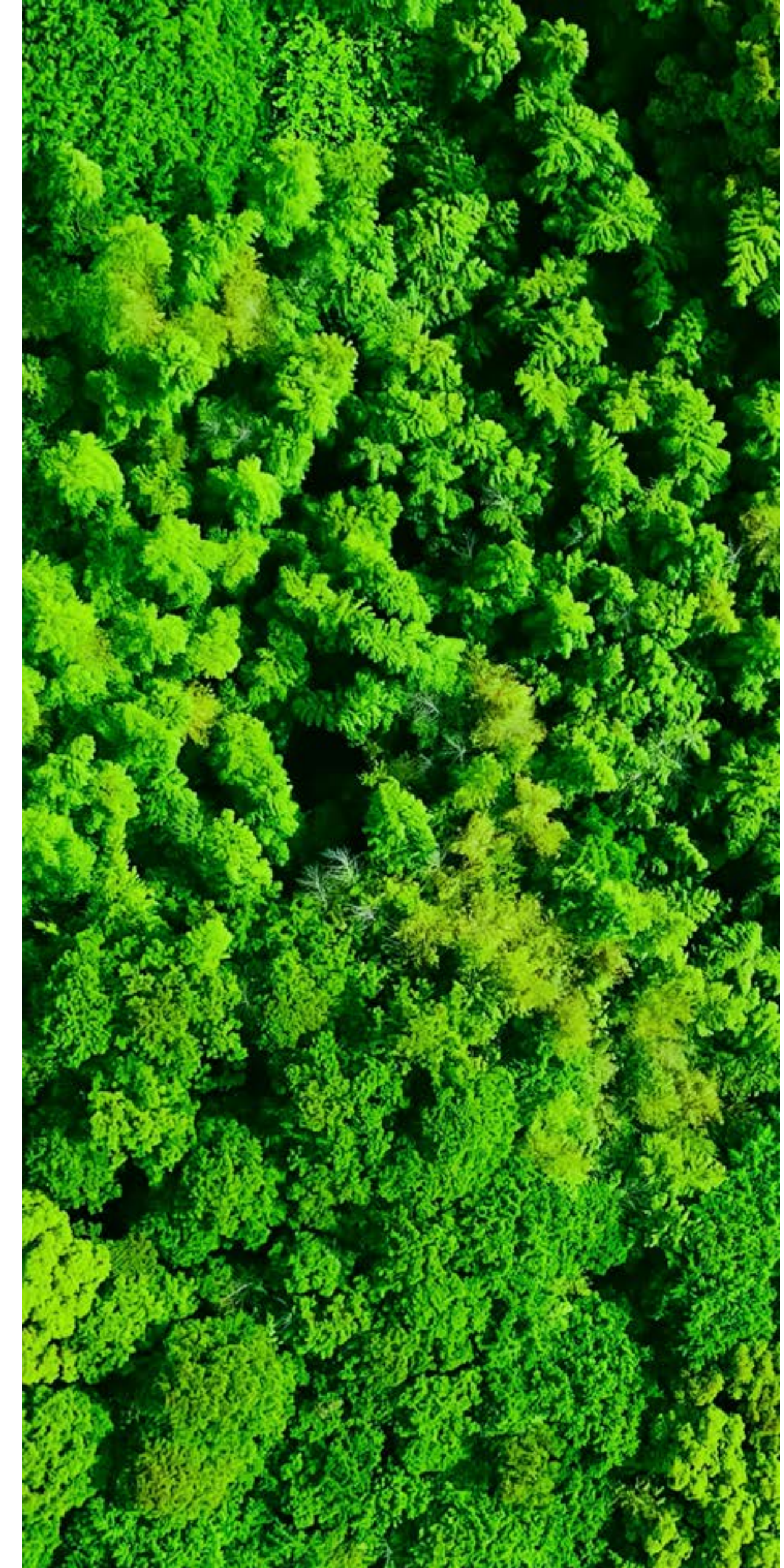
Whether expressed as sustainability, reduced operational costs, or increased national energy security, energy efficiency has been the cornerstone of climate-change mitigation for over 50 years. When I entered the workforce at the beginning of the millennium, the USGBC’s LEED program had just become a significant market differentiator for the building industry, and the associated energy modeling offered sustainability-minded mechanical engineers an additional values-driven career.

Fast forward 20+ years; today’s urgent energy transition within the building industry is unparalleled. As the global impact of our climate emergency is felt by public, private, and government entities, future-proofing has become a rallying cry for both clients and design professionals.

While energy efficiency remains the foundation of decarbonization,

reducing grid stress through net zero energy building performance and high-performance designs are more than a market differentiator. Pressure to decarbonize the building industry, eliminating carbon emissions from cradle to grave is mounting from various points: internal and external pressure for corporate ESG commitments, changing regulatory landscapes, and increasing climate risk. The urgency and value of decarbonizing is expressed through a multifaceted risk landscape, which increases its acceptance and drives technology investment.

Ethically, licensed professionals must hold the public’s safety, health, and welfare as a key priority in their work. As an existential risk, climate change is the largest threat to global safety, health, and welfare. To limit the worst impacts of global climate change, the building industry must decarbonize by 2050, and licensed professionals have the tremendous responsibility of balancing all other risk considerations: sustainability, resilience, cost, and environmental justice.





Decarbonization

ANDY BENT-MARSHALL
Net Zero Implementation
Programme Manager,
UK

It's difficult, even overwhelming at times, to reflect on the complexity of the global climate challenge and to see a clear course of action for us as individuals, or even as a part of an organization. What part can I play in multimillion dollar investment decisions or in influencing the energy policy of a nation?

Well, whilst our direct influence may be limited, we clearly all have a part to play in supporting the energy transition and decarbonization. How do we support a move away from reliance on gas in our workplaces and in the technical solutions we deliver? Like many organizations, we are pushing forward with our plans to reduce our own carbon footprint, and have already made significant progress, but there are tough decisions ahead—including how we travel and power our offices.

We know that many of our partners and clients face similar challenges. Firstly, in fully understanding their own baseline emissions and carbon footprints, and secondly in developing robust but realistic strategies to reduce these at source and understanding that investment in offsets does not provide a long-term solution.

Many of the easier-to-implement solutions are already being used, for example switching vehicle fleets to electric vehicles. But to achieve long term, sustainable decarbonization of our whole industry requires significant cultural change throughout infrastructure design, delivery, and operation. Tools and procedures alone are not enough. Consultants, developers, supply chain, and asset owners and operators must all work together to continually raise awareness, promote innovation, and embed decarbonization as a focal point of every infrastructure project—seeking every opportunity to reduce the carbon emissions associated with

both the construction, and lifetime operation, of an asset.

So, let's all make sure we have those conversations, every time, whatever your role. Whilst many of us will not be directly involved in the big global discussions, we shouldn't sit back and wait for their outcomes—that could take a while. We can all be instigators of change ... and we need to do it now.

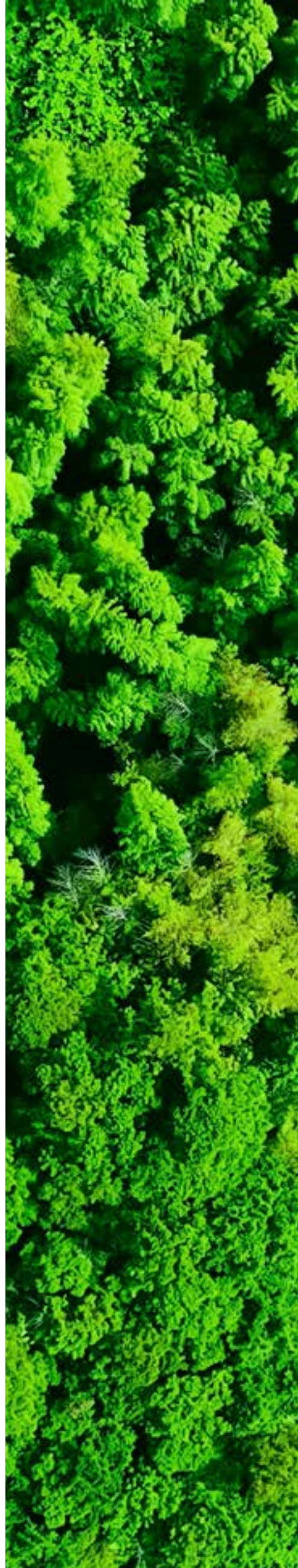
GHINA ANNAN
Mechanical Engineer,
Canada

On almost a monthly basis, we hear cities, governments, industry, and communities making climate change commitments, setting net zero and carbon neutrality goals. Fundamentally, no one is exempt from the impacts of climate change, but currently the impacts are on a sliding scale of severity depending on geographical, social, and economic variables. While governments are required to take the lead, there is a shortage of national and international leadership, along with economic, political, and regulatory barriers that are holding back the developments and improvements we so desperately need.

Achieving ambitious sustainability goals requires a strong, society-wide approach supported by long-term government commitment. The transition to a net zero world demands nothing less than a total revolution of the way we produce, consume, and move.

A decarbonized society impacts our horizons—we'll need to build more generating stations and a dramatically extended transmission and distribution system. Energy infrastructure may require greater investment in the siting process than those for water and sewerage and transportation. However, each of these three areas will require considerable infrastructure siting efforts during the next 30 years, taking public sector trust, changes in policy, and social acceptance into account.

Public activism is on the rise, and we've seen the protests being held inside COP27 conference halls as well as on global streets and highways. Yet public opinion on the climate crisis remains somewhat divided. Significantly, influential segments of the political class have shown little interest in the issue—despite scientific data and scientific community consensus. It comes down to how we communicate the threats of climate change, in ways that don't alienate people and instead encourage action.





Decarbonization

As COP27 loomed, one of the expectations was that all governments had to significantly improve their Nationally Determined Contributions (NDCs) and take strong, immediate actions to reduce emissions in order to reach net zero, starting with the biggest emitters. Emphasis is on the significantly improve, as [global greenhouse gas emissions are set to increase by 16% by 2030](#) compared to 2010 levels. The painful truths about how far we still have to go were revealed last year at COP26. Still, the world can fulfil its promise of sustainable growth – growth that helps the earth and all its inhabitants, through innovation when combined with strong, unwavering dedication.

RHIANNON SMITH
Sustainability Associate,
UK

In the lead up to COP27, the word “greenwashing” could be seen in countless headlines and articles. Significant among them were Greta Thunberg calling COP an opportunity for “greenwashing, lying, and cheating;” a UN expert group demanding crackdown on greenwashing within net zero pledges; and the UK Financial Conduct Authority (FCA) unveiling a set of new rules to clamp down on greenwashing.

Some promising progress was made at COP26 with last year’s launch of the Glasgow Financial Alliance for Net Zero endorsing stringent Science Based Targets initiatives considered the financial sector’s biggest collaborative effort for net zero. But a year later, it no longer requires rigorous science-based emissions reduction targets. The U-turn is a disappointing step backwards and sheds an uncertain light on the Race

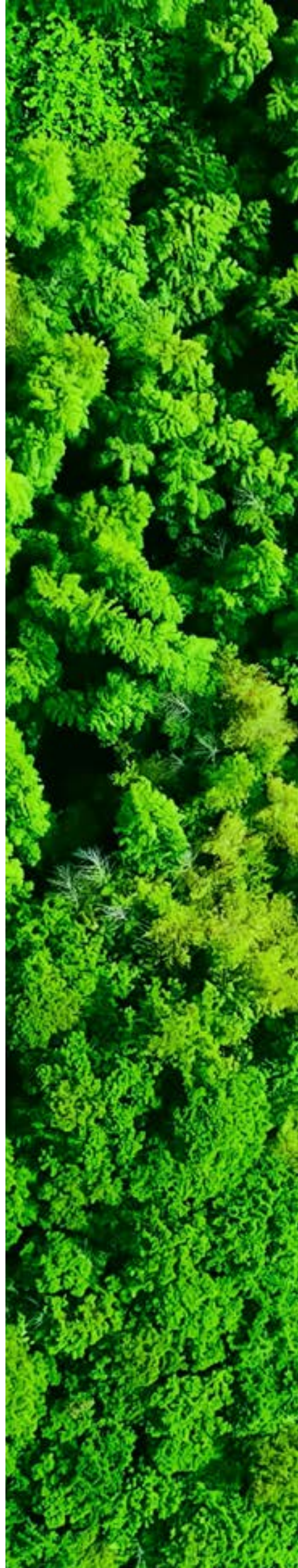
to Zero and the credibility of setting science-based targets.

With the mixed emotions surrounding the marketing of net zero targets, it’s not surprising that companies’ aspirations to reduce their carbon emissions and clients’ visions to create climate-resilient communities are at risk of being watered down. When speaking to clients this month, I was introduced to the phase “green hushing,” an increasing trend of companies deciding not to publicize their science-based net zero emissions targets. Whilst I strongly agree with the need for regulating bodies such as the FCA to crack down on harmful greenwashing, I also think that green hushing is a step backwards in the transition to net zero.

I don’t believe that a net zero label should be put back on the shelf until a time where a nationally or globally recognized definition has been agreed. I believe that net zero ambition, vision, and placemaking should continue to accelerate but with

robust and transparent declarations of what targets have been set and how they will be achieved. A perfect one-size-fits-all net zero definition doesn’t exist, but good science-based target setting does.

To misquote Winton Churchill—let’s not let perfect get in the way of progress.





Industry

Countries responsible for more than half of global gross domestic product agreed to priority actions of the [Breakthrough Agenda](#), an international collaboration setting out a 12-month plan to make clean technologies cheaper and more accessible. The actions launched a series of targets and measures to reduce carbon emissions from energy, steel, farming, and road transport. Dr. Mahmoud Mohieldin, UN Climate Change high-level champion for Egypt, commented: “This represents a concrete international plan to decarbonize high-emitting sectors by 2030 and help developing countries seize the opportunity of low-carbon and climate resilient growth and development.”

Priority actions include agreements to:

- Develop common definitions for low-emission and near-zero emission steel, hydrogen, and sustainable batteries to help direct billions of pounds in investment, procurement, and trade to ensure credibility and transparency.
- Ramp up the deployment of essential infrastructure projects, including at least 50 large scale net zero emission industrial plants, at least 100 hydrogen valleys (localized clusters of several industrial and research initiatives), and a package of major cross-border power grid infrastructure projects.
- Set a common target date to phase out polluting cars and vehicles, consistent with the Paris Agreement. Significant backing for the dates of 2040 globally and 2035 in leading markets will be announced by countries, businesses, and

cities on Solutions Day, the final day of COP27.

- Use billions of pounds of private and public procurement and infrastructure spend to stimulate global demand for green industrial goods.
- Systematically strengthen financial and technological assistance to developing countries and emerging markets to support their transitions backed up by a range of new financial measures, including the world’s first major dedicated industry transition program under the Climate Investment Funds.
- Drive investment in agriculture research, development, and demonstration to generate solutions to address the challenges of food insecurity, climate change, and environmental degradation.

OUTSIDE THE BUILT ENVIRONMENT

Over in the auto industry, a [new Greenpeace report](#) focusing on 12 of the world’s largest car manufacturers revealed they have plans to build around 400 million more diesel and petrol cars than are required if we are to keep global heating at a maximum of 1.5°C. Toyota, Volkswagen, and Hyundai/Kia are some of the brands intending to manufacture more such vehicles, whereas companies like Volvo, General Motors, and Mercedes-Benz plan to stop production of internal combustion engine vehicles as soon as 2025.

From the fashion industry, the [Global Fashion Agenda](#) and [United Nations Environment Programme](#) announced

the launch of the Fashion Industry Target Consultation. It identified respectful and secure work environments, better wage systems, resource stewardship, smart material choices, and circular systems as key areas to reduce environmental and social impact.

And the meat industry continues to be a point of hot contention. From calls for the [pope](#) to reinstate meat-free Fridays, to devising toolkits to support the red meat supply chain having a [“positive dialogue”](#) with those outside the industry. One report found that even if we stopped emissions from all fossil fuels, the emissions from food production alone would still [push us well beyond the carbon budget for 1.5°C](#).

PLEDGES AND COMMITMENTS

The World Economic Forum and John Kerry, US special presidential envoy for climate, announced the [expansion of the First Movers Coalition](#) with 10 new corporate members, including PepsiCo, General Motors, Rio Tinto, and ETEX, to reach 65 in total with a combined market cap of about US\$8 trillion. The coalition of global companies has committed US\$12 billion by 2030 to purchase commitments for green technologies. Such technologies will push the decarbonization of cement, concrete, and other hard-to-abate materials, along with existing advancements in near zero carbon steel, shopping, trucking, aviation, CO2 removal, and aluminum.



Industry

The First Movers Coalition also launched its cement and concrete sector, with newly announced companies committing to purchase at least 10% near zero carbon cement and concrete per year by 2030.

The Climate Investment Funds' (CIF) new Industry Transition Programme was launched, the world's first large scale dedicated finance program for developing country industry transitions. By COP28, there are plans to launch CIFs Capital Market Mechanism, a new initiative instrument that modelling has shown will generate billions of dollars a year in extra finance into sector transitions over the next 10 years.

The European Bank for Reconstruction and Development will lead a US\$410 million green hydrogen investment in Egypt, and the World Bank plans to develop a US\$1.6 billion green hydrogen global program.

The Mission Possible Partnership, an alliance of leading climate organizations, released 2030 Milestones for 7 hard-to-abate industrial and transport sectors, following the publication of transition strategies endorsed by more than 200 industrial companies.

In the world of construction, the Africa Net-Zero Concrete Group was launched to accelerate the decarbonization of the cement sectors, with the first African Net-Zero Concrete National Roadmap set by Egypt.

And for shipping, the news is that the largest green hydrogen developers and shipping actors will mutually commit to produce and use green hydrogen-derived fuels by 2030 and beyond.

ROSARIO URRUTIA **Country Manager,** **Chile**

In countries with large metallic mineral reserves such as Peru, Chile, and Australia, production of metals has inevitably been one of the most important industrial activities.

Mining companies are now making commitments to reduce emissions resulting from those processes, while considering the role metals play in national economies and job markets. And this importance is reflected through entire production chains and their activities.

Emissions reduction is a challenge but also as an opportunity. The challenge will be the pace of change, replacing processes and tools with cleaner options like electrical vehicles and water reuse, etc. In metal production, it's an opportunity because cleaner final products will be offered to a market that needs copper and lithium to create the alternatives that are cleaning up other sectors, like electric cars.

A just transition to renewables will positively affect communities, particularly in areas surrounding traditional fossil fuel production who've experienced deteriorating habitats and emissions-induced health issues. We must have no more "sacrifice zones." Moving forwards to sustainability is urgent.





Look out for issue #2 covering the second week of COP27

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