

SDGs in the balance

Contributors include:

Rebeca Grynspan • Sima Bahous
Francesco La Camera • Susan Gardner
Nathalie Girouard • Marco Lambertini
Estherine Fotabong • Damilola Ogunbiyi
Martina Otto • Justyna Gudowska
Bambang Susantono • K. Srinath Reddy



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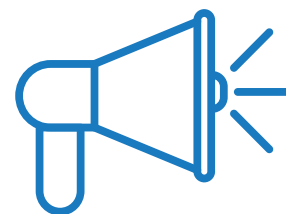


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Publisher	Hugh Robinson
Consulting Editor	Fred Carver
Sub-editor	Howard Gossington
Researcher	Giulia Prior
Finance	Ricky Harwood

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Front cover: A primary school in Kilunga settlement for displaced persons in Tanganyika Province, DRC. Education in most such settlements is either non-existent or takes place in dilapidated structures
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A resource for sustainability practitioners in all sectors, it brings timely analysis of the most pressing challenges. Its emphasis is on identifying opportunities and providing tangible ways to accelerate progress.

The website (www.sdg-action.org) features articles from world-leading experts on all aspects of the Sustainable Development Goals (SDGs) and climate action.

Two print editions are released annually, to coincide with major global diplomacy events. These editions provide a framework to understand the complex interdependencies between the SDGs, highlight priorities and dilemmas, and suggest ways to make the greatest impact, fast. The print editions are carbon-neutral and sustainably produced. The carbon emissions generated in manufacturing the paper, and printing and distributing the publications are offset. The paper used is PEFC certified from sustainable sources.

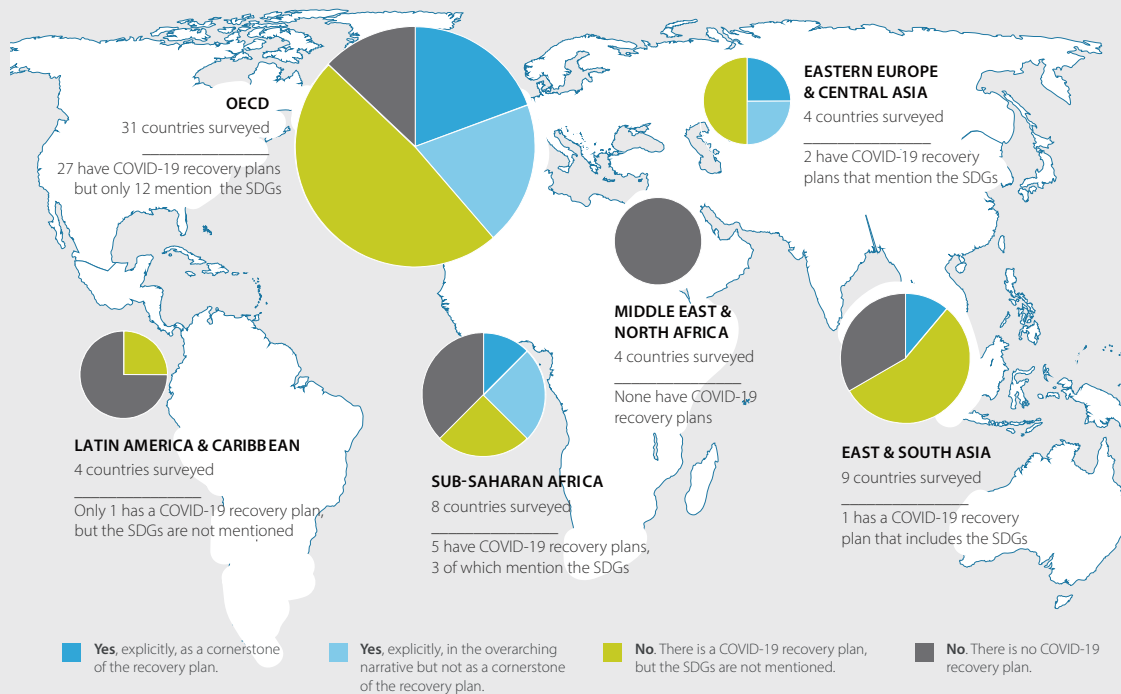
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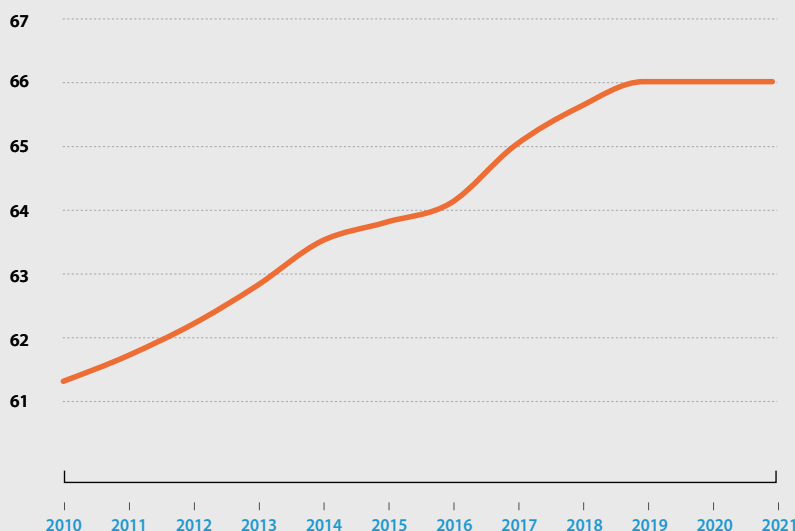
SDGs: Progress stalling

“Building back better” became a commonplace mantra early on in the COVID-19 pandemic, and it is the core theme of this year’s HLPF. But are we?

Are the SDGs mentioned in the governments’ main COVID-19 recovery plans?



SDG Index score over time, world average (2010-2021)



The decline in the SDG Index score since 2019 has been driven primarily by a reversal in progress on socio-economic goals.

SDG 1 (no poverty) and SDG 8 (decent work and economic growth) have been especially impacted by multiple crises in this period. The share of people facing extreme poverty has increased significantly since 2019, including in low-income countries (LICs). Small island developing states (SIDS) are also particularly vulnerable to international crises, partly due to their dependence on the international trade system, remittances, and tourism.

Note: Population-weighted average
Source: Sustainable Development Report 2022



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Weathering a “perfect storm”

Climate change, COVID-19, the war in Ukraine – these crises threaten to derail development for 1.7 billion of the world’s most vulnerable people. The international community must take swift, coordinated action now to put the SDGs back on track

By [Rebeca Grynspan](#),
Secretary-General, United
Nations Conference on Trade and
Development (UNCTAD)

In just two short years, a double whammy of external shocks has knocked global development off track and mired the ambitions of the 2030 Agenda in uncertainty. In the aftermath of the COVID-19

pandemic, developing countries were left exceptionally vulnerable and exposed – a situation which the war in Ukraine has now turned into a “perfect storm” of cascading crises. The consequences are worrying, not just for developing countries themselves, but also for the success of sustainable development globally.

Before any shots were fired in Ukraine, the pandemic had left deep scars across the developing world. Since 2019, the

number of people experiencing hunger has increased by 46 million in Africa, by around 57 million in Asia, and by about 14 million in Latin America and the Caribbean. An additional 77 million people are now living in extreme poverty. School closures have led to losses of up to USD 17 trillion in lifetime earnings for this generation of students. Meanwhile, more than 6 million lives have been lost to the COVID-19 disease.

◀ Sana'a, Yemen, people affected by war wait to receive free meals provided by a charitable kitchen. Yemen is one of the countries most exposed to the disruption of food supply coming from Ukraine. 19 million people in the country are food insecure

Following a robust though unequal economic recovery in 2021, marked by disrupted supply chains and multi-decade rises in inflation, the war in Ukraine caught the world economy off guard, roiling global markets for food, fertilizers, and fuels in which both Russia and Ukraine play an oversized role. This led to historic rises in commodity prices, and a general tightening of global financial conditions.

The intensity of the “one-two punch” that the war in Ukraine has inflicted on developing economies following the COVID-19 crisis is only dwarfed by the complexity of the transmission channels by which the shock is propagating through commodity and financial markets.

Rising commodity prices in energy, food, and fertilizers are leading to higher inflation rates. These are squeezing household budgets, especially in the poorest families who spend larger parts of their income on food and energy. Higher energy costs and lower spending are destroying demand while halting production. Already congested supply chains are being disrupted by sudden trade relocations due to sanctions, and a general scramble for commodities, increasing trade costs. Higher inflation is inducing interest rate hikes, increasing the cost of debt. And all of this is impacting the most vulnerable people – women dealing with economic insecurity, children forced to leave school to work, the poor who were already hungry before the war started.

Many channels of exposure mean that billions of people around the world are exposed. The United

Nations Global Crisis Response Group estimates that 107 developing economies are severely exposed to at least one dimension of these three channels of transmission – rising food prices, rising energy prices, and tightening financial conditions. Some 1.7 billion people live in these countries, 553 million of whom are already poor and 215 million of whom are already malnourished.

And yet, even if just one channel of transmission is enough to set off a crisis, multiple and overlapping exposure is the rule, not the exception. Indeed, of these 107 countries, 69 are significantly or severely exposed to all three channels of transmission at once, bringing huge challenges to the 1.2 billion residents of those nations.

The firepower of the global economy to respond to crises of such a massive scale exists, as the developed economies' response to the COVID-19 pandemic demonstrates. While the decline in GDP globally during COVID-19 was more than twice that of the Great Recession of the late 2000s, the effects of the pandemic on the major economies quickly dissipated thanks to unprecedented stimulus efforts by the richest nations.

But it's important to keep in mind that the developing economies do not possess the same scale of firepower. They have seen their debt burdens collectively swell during the COVID-19 crisis and now fear being pushed over the edge by the crisis induced by the war in Ukraine – a crisis not of their own making. The International Monetary Fund (IMF) finds that more than 60% of low-income developing countries are either currently experiencing or at risk of debt distress.

Laying a foundation for reform

The challenge facing our international financing architecture today is that it was built primarily to protect the global economy from crises at the individual country level. But faced with the “perfect storm” of cascading crises – including climate change, pandemics, and war – hitting so many

developing countries at the same time, the system is limited in how it can offer a systemic, global response that supports all countries along all dimensions.

We must harness the strengths of that system today to lay a foundation for further reform tomorrow, one in which progress toward the Sustainable Development Goals is put back on track. A roadmap for improving the system is implicit in the ambitions of the SDGs, but to meet that transformative goal over the medium term we must first avoid throwing away our steady progress toward that objective so far, as happened with the pandemic. We must therefore use all tools available today to avoid the same from occurring as a result of this war.

We must silence the guns. All countries must work together to curb rising food and energy prices that have been spurred on by the war in Ukraine, making sure that essential goods are delivered to those most in need first, not those most willing to pay the higher price. We must pledge to keep trade moving and avoid export bans on critical commodities.

We must work, in partnership with the private sector and civil society, on extending much-needed support to the most vulnerable populations in our countries. This means using all available facilities at the IMF and the World Bank, including the new IMF Resilience and Sustainability Trust, and the existing small island developing states IDA Facility, but also to seriously undertake a multilateral conversation around debt sustainability before it is too late.

The only way to weather the “perfect storm” is together. The international community has the means to cushion the blow and prevent great human suffering, unacceptable increases in inequalities, and the world tipping into an era of social and political unrest. The solutions and the resources are there. We now need the political will to reach them. I know it is not easy. But the world is waiting. And time is running out. ■

In the balance

Humanity's failure to learn and adapt from repeated crises does not bode well for the bold, transformational changes that must happen urgently if we're to achieve the world promised by the SDGs. There will be no second chance

By **Fred Carver**,
Consulting Editor, SDG Action

It's been a fairly exhausting few years for many of us. Wars, coups, the upending of longstanding political status quos, the elimination of fundamental rights we had started to take for granted, the ongoing coronavirus pandemic, the increasingly notable effects of climate change. And then: the onward consequences of all this in terms of collapsing markets, energy insecurity, soaring inflation and disrupted supply chains, and the ongoing drudgery of attempting to keep body and soul together – a task which was already far too difficult for far too many people – have blurred into one seemingly endless travail.

In such circumstances it is hard not to feel jaded. We become so used to hyperbole that its impact is dulled. We are taught to view the experts and analysts who never express surprise at anything as savvy, and thus to believe that – depressing as this all may be – it is predictable and inevitable. Strategies and action plans such as Agenda 2030 or the UN's 75th anniversary “Common Agenda” stall and falter, meriting barely a shrug.

This edition of SDG Action concentrates on situations of fragility and crisis. It is a luxury that such circumstances scarcely afford us: to take a step back and view them systematically. But we must, else the series of crises will never end, nor will our responses to them ever

improve. Our response to the rise of Al Qaeda did little to improve our response to the rise of ISIS. Our response to bird flu, Zika, or Ebola did little to improve our response to COVID. Our response to the 2008 financial crash did little to improve our response to subsequent financial uncertainty. This is a failure of global governance, in particular of global risk management. It requires us to pause, learn, and hold to account.

What the fog of seemingly endless crises is concealing is that our world is walking past a fork in the road

When we do this, we see that what the fog of seemingly endless crises is concealing is that our world is walking past a fork in the road. In how we fail to prevent and respond to crises and instability we are missing our last chance for a different kind of society.

Go too far into the weeds of the 17 Sustainable Development Goals (SDGs) and their 231 indicators and it starts to feel like a dry and technocratic agenda. In reality, as António Guterres reminded us in his never bettered 2020 Mandela Day speech, it is a “New Social Contract... to ensure that power, wealth, and opportunities are shared more broadly.”

It recasts development as a rights-based blueprint: where society takes responsibility for providing basic needs, unfettering access to opportunities, and

protecting individuals from the cruelty or callousness of powerful interest groups.

Writing this piece the day after *Roe v Wade* was overturned, the day the Pride parade in the capital city of my new home (Norway) was cancelled by a gunman's killing spree, that appears a very different sort of world to the world in which we live. It is a world in which we would need to make an active political choice to live. But it is a political choice we are currently not making, and if not made soon will be rendered moot.

The window for doing things differently is closing fast. We will soon have ruled out the possibility of living in a temperate world within planetary boundaries. Trust is being lost in a manner which will make it all but impossible to gain back. Aggressive feedback loops are starting to make themselves felt. The direction in which new technologies set our future is being established.

If we choose not to live in the world the SDGs make possible, we owe it to ourselves to look the world we have created by default coolly in the eye. Being among the planet's more fortunate people, I (like many of you) are shielded from much of the worst of it. But it appears to all of us from time to time.

Until recently I lived in one of the world's wealthiest cities. The price for doing so was that I frequently had to take my young son to the emergency room because he was unable to breathe. There we would meet other young children who, either because they lived on main roads or had black



© Bidei/UNICEF

mould on the walls of their houses, also could not breathe. They were given inhalers and nebulizers because our current politics means giving children medicine to help them breathe is a “better” decision than building a society which would not suffocate them in the first place. Those children are not alone. As Martina Otto reminds us in her piece on cleaning up the air (p.71), each of us on average will die two years before our time because 99% of us breathe unsafe air.

The world we are defaulting into allows certain groups to be failed, many far more seriously than this. The SDGs promised us a world in which no one was left behind. Instead, we live in a world where, as Alainna Lynch puts it in her piece on reversing the forces of inequality (p.30), “inequality is a foundational value of our social and economic systems.” And if outcomes are uneven, that unevenness is frequently fatal in our increasingly lethal world.

If, as John Podesta argues (p.74), biodiversity is the canary in the mine with regards to the overall liability of our

planet, then that canary is more likely than not dead – 60% of all the world’s animals have been wiped out since 1970.

This is the form that systematic crises and instability take in our current phase of history. These are not natural or man-made disasters. They are the frequent and predictable consequences of having failed to protect vulnerable groups from an ever more dangerous world.

This would not happen in the world promised by the SDGs. But bringing that world into existence requires us to make a choice to do so. This is the subject the articles in this collection address.

For example, Estherine Lisinge-Fotabong discusses how one approaches development financing in a moment when need is exploding (p.22). Paolo Gerbaudo considers how to navigate the information wars, asking: who owns our perceptions of reality? (p.25). Richard Gowan thinks about what peacebuilding now means in a world where traditional approaches have failed (p.15). Justyna Gudowska

▲ April 2022, girls attend primary school in Herat province, Afghanistan. In March, the Taliban authorities closed schools to girls aged 12 years and above

tells the story of the criminals getting rich from these crises under the shield of corporate anonymity (p.18). And Natalie Samarasinghe navigates the politics of how we get to a different world: the appeal – but the trap – of autocracy, and the potential of democracy far beyond the state (p.12).

We have about 2,700 days to achieve the SDGs. Looking back, 2,700 days ago doesn’t seem very long. There were riots in Ferguson, Missouri, in response to a police shooting, a deadly pandemic was sweeping through Africa, and there were wars in Syria and Ukraine. But it’s not just proximity that makes that sound like a familiar world. It is the fact that our society has failed to make a choice to prevent these things from happening again. In the next 2,700 days such a choice must be made, or it never will. ■



Protecting open societies

Over the last decade, numerous democracies have been eroded and populist leaders have dismantled the protections against authoritarianism. We need urgent action – at local, country, and international levels – to ensure that societies achieve equitable and sustainable development for all people everywhere



◀ A protest in Istanbul against Turkey's withdrawal from the Istanbul Convention, an international accord designed to protect women. Led by an elected authoritarian, Turkey has suffered an erosion of human rights, the persecution of academics and political opponents, and attacks on the rule of law

ready answer: China. The country's economic growth is often cited as evidence that democracy is not a prerequisite for development. Without China, the argument goes, the world would not have met the Millennium Development Goal of halving extreme poverty. Over the past 40 years, the number of people living below the international poverty line in China has fallen by nearly 800 million – almost three-quarters of the total global reduction – and the country is poised to become the world's largest economy.

And so the appeal of the “China model” endures, despite evidence to the contrary and a daily digest of human rights abuses. Beijing is exporting its vision of “development

state media's take on the inherent risks of democracy.

Beyond China, the evidence can seem inconclusive. A comparison of the Democratic Republic of the Congo with Mauritius – the highest-ranking African democracy, according to the Economist Intelligence Unit – implies that democracy supports development. The latter transformed itself post-independence from a low-income agricultural society to a high-income diversified economy. The former, under military rule, did not. However, authoritarian Singapore's leapfrogging of Sri Lanka's democratic laggard tells a different story.

Ongoing processes

Yet a closer reading of the evidence shows these contradictions are superficial. Economic growth is just one aspect of development, and this narrow focus has been supplanted by global frameworks – from the concept of human development popularized in the 1990s, to the adoption of the 2030 Agenda.

// The real narrative is that both democracy and development must be treated as ongoing processes that encompass economic, political, social, legal, and normative elements

By **Natalie Samarasinghe**,
Global Director for Advocacy, Open
Society Foundations; former CEO,
United Nations Association – UK

Can democracy deliver? This is perhaps the defining question of an era marked by fears that we have reached “peak democracy” and may already be in an age of authoritarianism.

Many of us will be tempted to answer “yes” instinctively. The assertion that development requires an open society not only seems self-evident, but is backed up by a wealth of empirical studies. Yet detractors, too, have a

first” in Asia and Africa through the Belt and Road Initiative, offering finance untethered to the governance reforms that other donors demand.

It has found some resonance in the West too, with those who believe that short-term electoral cycles make it harder for democracies to deliver on longer-term objectives such as the Sustainable Development Goals (SDGs), and to drive the large-scale economic and social change needed to avoid climate disaster. The election of unstable authoritarians in countries from Brazil to the United States has also generated understandable, if wrong-headed, sympathy with Chinese

In this light, the China model is far from a shining success, having created a highly unequal and carbon-intensive society, which the regime itself has identified as a risk to its future prosperity and security. Minority communities have been left behind, at best, and brutally repressed at worst. This has played out in Sri Lanka too, where the tyranny of the majority has shown that democracy is much more than the holding of elections.

The real narrative is that both democracy and development must be treated as ongoing processes that encompass economic, political,

social, legal, and normative elements. Democracy must be anchored in human rights, rule of law, good governance, strong institutions, and vibrant civil society. All of this requires economic and human development to support the tools needed, from quality education to an effective justice system.

Similarly, for development to be equitable and sustainable, the active participation of recipient populations is essential. Consultation is needed to sequence development interventions in a context-appropriate way, and to calibrate the necessary trade-offs.

But this narrative is not cutting through. To date, democratic and authoritarian leaders alike have failed to deal with COVID-19, prevent climate disaster, or fix the global financial system. The erosion – and in some cases erasure – of development gains has contributed to a crisis of trust and a resurgence of populist leaders. Now, Russia's brutal invasion of Ukraine has been framed as an assault on democracy itself.

Democracy under threat

Whether or not you buy into that framing, it is clear that the principles upon which the SDGs depend – the rule of law, effective institutions, inclusive decision-making, and global cooperation – are under attack as a result of multiple, intersecting crises.

The alarming decline in democratic freedoms has spared few countries over the past two decades. Freedom House has warned that “autocracy could overtake democracy as the governance model guiding international standards of behavior,” while CIVICUS has said that just 3.1% of the world's population now lives in countries with “open” civic space.

Last year (2021) alone saw:

- military coups in Chad, Guinea, Mali, Myanmar, and Sudan
- the Taliban seizing control of Afghanistan
- elected authoritarians in countries such as Brazil, India, Rwanda, and Turkey attack the rule of law and their critics

In the United States, Trump supporters stormed the capitol when he lost the election, while Johnson's UK is clamping down on human rights. And this year is likely to be worse, as the economic fall-out from Russia's war threatens to destabilize countries already trammelled by COVID-19, climate, and debt. While no country is immune, the risk is even greater in authoritarian states. As Open Society's President has argued, “Sri Lanka is an omen.”

So, what is the solution? Quite simply, democracy must deliver. Elected leaders must set out a clear narrative that democratic governance is not only about the ballot box, not only about civil and political rights, but that it is the only way to ensure that development progress is equitable, sustainable, and – ultimately – stronger. And they need to move from warm words to action.

Prioritizing SDG 16 (peace, justice, and strong institutions) is a good place to start – for instance, by removing discriminatory laws that hinder women's economic participation, ensuring access to justice, tackling corruption, and strengthening open government initiatives to increase trust, accountability, and inclusion.

We cannot allow the crucial role of democratic governance to be downplayed in the 2030 Agenda. Democracy is only mentioned once in the document and not explicitly under any goal – a climbdown from previous UN frameworks that reflects greater tolerance for pandering to powerful authoritarian states. But SDG 16 offers a means to advance the tools and principles that underpin democracy from the vantage point of leaving no one behind.

As the extent of our interdependence becomes ever more apparent, local action needs to be backed up at the global level. This is particularly urgent as autocracy is going viral. From the murder of Saudi journalist Jamal Khashoggi in Turkey to Russia's Wagner Group propping up dictators in Africa and the Middle East, repression is transnational. Democracy

promotion, meanwhile, comes with the heavy baggage of military intervention and failed state-building efforts.

Instead, a delivery approach to international democracy efforts would ensure that governance, legal, social, and economic reforms are sequenced in a way that balances security, development, and human rights concerns, and – crucially – results in tangible progress for communities on the ground.

Similarly, action to address the current confluence of crises must be focused on delivering for all people, everywhere, and resist attempts to fall back into Cold War divisions, with autocrats courted in the name of (energy) security and aid tied to political agendas.

In the short term, this should include a package of bold but achievable measures to prevent terminal derailment of the SDGs, including:

- movement on the transfer of high-income country special drawing rights to low and middle-income countries
- progress on access to COVID-19 tests, therapies, and vaccines
- relief for states most vulnerable to food, climate, financial, and fuel insecurity

In the longer term, we need to inject fresh energy into stagnant debates on making our multilateral institutions more democratic – from increasing Global South representation in leadership positions and governing boards, to sustained mechanisms that involve civil society and other stakeholders in decision-making, delivery, monitoring, and evaluation.

The adoption of the SDGs in 2015 was intended to herald a new approach to development: a definitive shift from the narrow, growth-focused goal-setting of previous eras to transformative social, economic, environmental, and structural change. At the halfway mark for achieving the Goals, the stakes are even higher, as development and democracy hang in the balance. We cannot fail again. ■



Peacemaking 2.0: Conflict resolution after Russia's war on Ukraine

If confidence was waning in post-Cold War international peacemaking mechanisms, Russia's invasion of Ukraine has diminished it still further. While this "standard" toolkit of the last three decades still has a role to play, the grim risk of future wars means we must establish more effective multilateral mechanisms to prevent and resolve conflict

By [Richard Gowan](#), UN Director,
International Crisis Group

In March 2022, a few weeks into Russia's attack on Ukraine, I joined an online event with experts on crisis management to discuss

the conflict. Everyone agreed that this was a decisive moment in international affairs, and we talked at length about its global political and economic implications. But as we explored these issues, one basic point occurred to me. "In the end, this is a war," I suggested,

"and like other wars, we should want it to stop."

▲ Boys outside the ruins of their school in Kharkiv, northeast Ukraine. The country's second-largest city was a focal point in the early stages of the Russian invasion

But for many observers of the conflict, what is happening in Ukraine is not simply another war. It is instead an attack on the post-Cold War international order, and perhaps a harbinger of greater chaos ahead. Friends of Ukraine have warned that pressing for peace could play into Russia's hands, pushing Kyiv to make a bad agreement rather than securing its interests.

// The war is chipping away at the always fragile idea that all countries are bound by certain common commitments – to the UN Charter, state sovereignty, and human well-being – and highlighting global rifts and mistrust

Whatever the rights and wrongs of these arguments – and Ukraine's allies should certainly not pressure it into peace on Russia's terms – the war has undermined many of the foundational assumptions of those who work on conflict resolution. Peace has been a booming business in the last 30 years. International organizations such as the United Nations, governments, civil-society organizations, and academics have all invested in mediation and peacebuilding.

This conflict resolution industry started to expand in the 1990s, with a focus on the spate of civil wars in regions including the Balkans and central Africa that followed the Cold War. As Stephen John Stedman and I argued some years ago, peacemakers settled on a “standard treatment” for these conflicts, including negotiating political settlements and deploying peacekeeping forces to help make them stick. Sometimes, as in Rwanda, they failed awfully. But overall this standard treatment proved to be an effective response to the wars of the era.

Well before the Russian assault this year, UN officials and diplomats fretted that these established remedies were losing relevance to many conflicts.

UN mediation has dragged on with little effect in Syria for a decade. Peacekeepers have struggled to deal with jihadist groups in Mali. Now the war in Ukraine presents more practical and conceptual challenges to conflict resolution professionals.

This is not the sort of war that we have got used to, or where the “standard treatment” for intra-state conflicts is of much use. Since the

1980s, classic interstate conflicts have been exceptionally rare. But there have been exceptions, like the American-led invasion of Iraq. In the Iraqi case, as today in Ukraine, a nuclear-armed, veto-wielding member of the UN Security Council proved to be implacably set on fighting a war.

Then, as now, the council and other international conflict management mechanisms proved incapable of preventing the conflagration. We learned in 2003, and are relearning now, that we do not have an international peacemaking system equipped to deal with this type of major power aggression.

Finding a political solution to the war has not been a priority for many Western powers anyway. The US and its European allies, which frequently lecture parties to conflicts in Africa and the Middle East about the need for peace, have focused on getting military supplies to Ukraine. Even generally cautious conflict resolution organizations, such as my own employer the International Crisis Group, have supported arming Ukraine up to a point (avoiding weaponry that would require training or servicing by Western personnel inside Ukraine because of the risks of escalation) until Kyiv

concludes that it is in a solid position to negotiate with Russia. The European Union, a Nobel Peace Prize winner, and its members have trumpeted their willingness to arm Ukraine and expand their own military budgets.

There have been good reasons for these actions. Moscow has not shown any interest in serious peace negotiations, and its forces have committed appalling atrocities. Even experts who generally argue for non-military responses to conflict have had to admit there is a solid case for arming Ukraine, within limits, as long as Russia refuses to engage in credible talks.

There has nonetheless been no international consensus on how to respond to Russia's aggression. Although 141 of the UN's 193 members voted in support of a UN General Assembly resolution condemning Russia in March, major players including China and India have abstained on most UN resolutions on the war. The US and Europeans have struggled to convince non-Western audiences (already angry over the uneven distribution of COVID-19 vaccines) that they care about the war's effects on food and energy prices in the Global South.

The war has created extra instability in the COVID-battered global economy, impacting the availability and distribution of Russian and Ukrainian food and commodity supplies. The US has led initiatives on how to manage rising food prices at the UN, while Germany has made this a priority for its presidency of the G7. They have tried to argue that Russia bears sole blame for the global economic crisis.

But Western officials have not been able to convince their non-Western counterparts that their sanctions on Russia are not at least partially to blame. Leaders of poor countries justifiably worry that Western donors are going to redirect development assistance to Ukraine, making it even harder for policymakers elsewhere to handle economic shocks.

The war is chipping away, therefore, at the always fragile idea that all



countries are bound by certain common commitments – to the UN Charter, state sovereignty, and human well-being – and highlighting global rifts and mistrust. Yet, ironically, a further challenge relating to the implications of events in Ukraine for conflict resolution specialists is precisely that this is a global crisis.

Global economic instability could fuel social unrest and political crises in weak states far away from Eastern Europe. We could be on the verge of a period of expanding international instability just as we see that our tools for handling this instability are weak.

Mitigating conflict

What should conflict resolution specialists do in these circumstances? Some modesty is required. Even before Ukraine, we were failing to have much impact on conflicts in places such as Ethiopia and Myanmar. As I argued in a paper for the Council on Foreign Relations last December,

the best that the UN and other international agencies may be able to achieve in many of today's wars is to facilitate humanitarian efforts to mitigate and contain suffering.

In the case of Ukraine, the UN has proved able to play a humanitarian role, with Secretary-General António Guterres securing the evacuation of Ukrainians under siege by Russian forces in the Azovstal steel works in Mariupol in April. Such steps fall far short of conflict resolution, but conflict mitigation is still a valuable political and moral task when nothing else is possible.

It is also time to sound the alarm on the risk of a cascade of instability globally linked to the economic shocks from the Ukrainian war. Experts who focus on conflict resolution need to ally with economists, trade experts, and specialists in food and energy to understand better the dangers of these shocks, and look for ways to minimize political disruptions.

▲ Refugees, who have fled the fighting in the Tigray region of Ethiopia, wait for food at the Um Rakuba camp. The post-Cold War conflict-resolution strategies still have a role in intra-state wars

Finally, it is still too early to give up on the lessons and ideas of post-Cold War conflict resolution, even if these do not seem germane to Ukraine. There are many small and medium-sized intra-state wars – with over half these conflicts in Africa – where mediation, peacekeeping, and other “standard” tools might still do some good.

Western experts will need to approach these cases with humility. Russia's war on Ukraine has demonstrated the flaws in our work. But even if this war has been an exceptional challenge to those committed to conflict resolution, there are other wars to address, and we should want them to stop too. ■



Tackling illicit financial flows

Recent attempts to place sanctions on Russia illustrate how easily illicit financial flows are concealed on a massive scale. With trillions diverted from critical development projects each year, jeopardizing many of the SDGs, the world has an urgent and moral duty to expose and stanch the movement of these ill-gotten gains



◀ **Luwowo coltan mine in North Kivu, Democratic Republic of the Congo. The DRC has lost much of the benefit of its vast mineral wealth through corrupt mining deals**

the richer the bad actor, the easier this subterfuge gets.

The truth is that corrupt actors, especially those who are smart enough to foresee that their conduct may someday trigger sanctions, tend not to hold or move assets in their own name. Instead, they employ complex and multi-jurisdictional networks of legal entities to obscure their true ownership. Consequently, even when significant resources are devoted to tracking IFFs and corresponding assets (as they currently are with respect to Kremlin officials and their cronies), the governments and private-sector institutions on the frontlines face an uphill battle.

Simply put: you cannot freeze (let alone seize and repatriate) what you cannot find. But the good news is that policymakers are finally waking up to the urgency of addressing this problem. The crisis in Ukraine presents a rare

transfer or use; that reflect an exchange of value instead of purely financial transactions; and that cross country borders.” In a 2020 report, the UN Conference on Trade and Development (UNCTAD) estimated that USD 88.6 billion leaves Africa annually through IFFs, amounting to nearly half the USD 200 billion financing gap the continent must overcome to meet its Sustainable Development Goals (SDGs).

Clearly, IFFs pose a massive barrier to progress on the remaining SDGs. IFFs are linked to poverty, gender inequality, climate change, mass migration, reduced health spending, environmental degradation, regional instability, and insecurity – all topics covered by the SDGs. Just consider the improvements that could be achieved if even a fraction of those funds were devoted to addressing these issues. Imagine how much more impact foreign aid and investment might have if close to USD 90 billion was not siphoned out of Africa every year.

A 2021 report from the NGO coalition Le Congo N'est Pas A Vendre (Congo is Not for Sale) estimated that the Democratic Republic of the Congo

Illicit financial flows are easy to conceal and invest in desirable assets such as mansions, yachts, and art, and the richer the bad actor, the easier this subterfuge gets

By **Justyna Gudzowska**, Director, Illicit Finance Policy, The Sentry

The recent invasion of Ukraine has resulted in unprecedented multilateral sanctions on Russia, and a global effort to freeze and seize assets belonging to sanctioned actors. Never before has a G20 economy been subject to such sweeping measures.

But this process has also underscored what people who study financial crime have long understood: illicit financial flows (IFFs) are easy to conceal and invest in desirable assets such as mansions, yachts, and art, and

opportunity to enact new measures which, while not stopping IFFs entirely, can curb them dramatically.

It is well established that IFFs are a major impediment to development. The inclusion of IFFs in Goal 16 of the 2030 Agenda marked an important acknowledgement of the scale of the problem. IFFs can be difficult to quantify, both because of a lack of consensus as to what constitutes “illicit,” and because they are secret by design, and, as such, resistant to measurement.

The United Nations defines IFFs as “financial flows that are illicit in origin,

(DRC) lost USD 1.95 billion from “suspicious” mining and oil deals with a billionaire middleman sanctioned by the US government for corrupt deals in the DRC. That amount of money could have funded the construction of over 10,000 schools.

While sub-Saharan Africa is perhaps most negatively impacted by IFFs, according to a 2017 study by Global Financial Integrity, this is a global phenomenon, with IFFs from developing and emerging economies estimated at USD 1 trillion in 2014. In a similar vein, the United Nations estimated that the figure developing

countries lose to corruption, bribery, theft, and tax evasion could be as much as USD 1.26 trillion per year.

But what can be done to tackle this trillion-dollar problem? Strengthening anti-money laundering and anti-corruption frameworks and institutions in developing nations is only part of the solution. IFFs need somewhere to go: it is incumbent on developed countries to stop offering such an attractive destination for illicit funds. Specifically, jurisdictions – like the US, EU, UK, and Switzerland – should stop enabling the secrecy industry that allows dirty money to flow undetected out of developing countries and through a web of offshore companies and into their own economies.

Tackling anonymity

The first critical step in this effort is tackling anonymity in corporate ownership. Anonymous shell companies are a favorite tool for illicit actors to move money and evade scrutiny from law enforcement and financial institutions' compliance departments. The structures of corporate opacity pose a major obstacle to anyone seeking to investigate, freeze, or recover assets linked to IFFs.

The world's anti-money laundering standard setter, the Financial Action Task Force (FATF), recently took an important step in the right direction. It strengthened beneficial ownership standards (Recommendation 24) and stipulated that countries should require beneficial ownership information to be held in a registry or "an alternative mechanism" that allows authorities to "rapidly and efficiently" access "adequate, accurate and up-to-date" beneficial ownership information.

The UK, which for decades has been a favorite destination for foreign billionaires looking to invest in high-end real estate, was prompted by the Ukraine crisis to finally move forward with a registry of foreign-owned real properties. There is also a plan to revamp Companies House – the central registrar for UK companies – enhancing

// This is a historic opportunity for change, given unprecedented public attention on this issue and with many destination countries for IFFs finally focused on cleaning up their own backyards

its role from a passive recipient of (often erroneous) information to a gatekeeper and watchdog, with the power to investigate.

Washington DC, meanwhile, is inching toward final rules implementing the Corporate Transparency Act (2021). The act goes a long way towards eliminating abuse of anonymous US shell companies by requiring the establishment of a corporate directory of beneficial owners. Though not available to the public, this directory would be accessible to law enforcement, national security officials, and other trusted partners.

The EU has likewise joined this effort, with its Fifth Anti-Money Laundering Directive, setting a January 2020 deadline for member states to implement publicly accessible beneficial ownership registries (though significant gaps in implementation remain).

Most recently, the newly elected Labor government in Australia announced plans to implement a public beneficial ownership registry.

Even though most jurisdictions have not yet implemented central or public registers, these recent efforts to close the loophole should leave bad actors with fewer reliable safe harbors for their ill-gotten gains. Governments should move swiftly to implement meaningful beneficial ownership reporting frameworks, and national-level legislatures should adequately equip the financial intelligence units or other policymaking bodies to get it done.

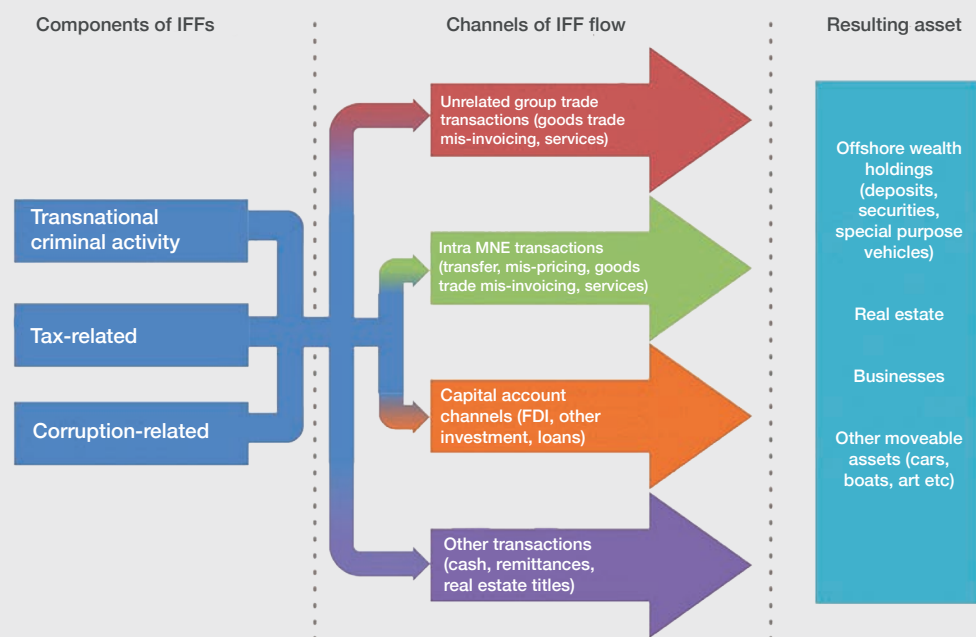
Targeting the enablers

There is a second necessary priority: targeting the enablers of corruption. Secrecy is a big business, and as

leaks like the Pandora Papers have illustrated, there is a professional class of sophisticated service providers who are complicit in concealing IFFs. These are the accountants, attorneys, real estate agents, corporate service providers, and investment advisers who for a fee will set up the complex layers of shell companies, trusts, and nominee arrangements – the whole elaborate corporate architecture of obfuscation that is designed to frustrate the efforts of even the best-resourced law enforcement agencies.

In a telling move, in April the Biden Administration proposed extending the statute of limitations for money laundering prosecutions for foreign crimes from 5 to 10 years "because sophisticated criminals use intricate schemes that may cut across multiple jurisdictions." Yet, the US – the world's largest economy and a key destination for IFFs – has historically exempted these professionals from anti-money laundering obligations.

With such a significant shortcoming, it is unsurprising that in May the US assumed the top spot on the Financial Secrecy Index, earning the dubious distinction as the most secretive financial jurisdiction on the planet. But this poor track record is hopefully about to change with new legislation tabled in Congress, the implementation of certain laws, proposed new anti-money laundering regulations for real estate transactions, and an acknowledgement in the US Strategy on Countering Corruption that Washington needs to deal with its own regulatory shortcomings. To be coherent in its anti-money laundering posture, the US must ensure that these gatekeepers to the financial

FIGURE 1: Schematic diagram of illicit financial flows

Note: Resulting asset will be considered a “stolen asset” if it is the product of corruption-related IFFs. Components of IFFs include both source of funds and motivations of IFFs and may not be mutually exclusive. Individual transactions from different channels may be combined by actors to try to obscure the source, motivation, and/or use of funds. Arrows do not represent estimates of the magnitude of flows, and are illustrative rather than comprehensive.

Source: Inter-agency Task Force on Financing for Development

system – like their financial institution counterparts – have an obligation to ask their clients about the sources of their wealth.

Exerting pressure

Third, the muscular exertion of financial pressure should also be part of the equation. Jurisdictions are increasingly adopting sanctions regimes that target individuals and entities involved in corruption (a major source of IFFs).

Such sanctions work best when deployed in a network fashion, focusing on an entire web of companies as well as those entities and individuals that facilitate IFFs. However, sanctions are rarely used to target the professional class of enablers that hide behind a veneer of white-collar respectability.

Pressure on such professional facilitators could have a significant impact on the secrecy industry. These gatekeepers are motivated by money rather than politics or ideology. If they

are forced to factor potential sanctions – and loss of access to the global financial system – into the cost-benefit analysis, they may conclude that it is no longer worth it to service a corrupt or criminal clientele.

Finally, more should be done to empower and incentivize the private sector in the fight against IFFs. This would have the added benefit of not only reducing IFFs but increasing responsible investment that can spur development toward the attainment of the SDGs.

Governments need to provide private-sector actors with the information required to navigate the risks of doing business in countries suffering from corruption and other illicit activity so that they do not inadvertently exacerbate IFFs. This could be done through public business advisories that focus on IFFs in particular countries or regions.

The more information the private sector has on how to conduct

business responsibly, the less likely it is to leave or “de-risk” an entire jurisdiction. For their part, the private-sector actors could be required (or encouraged) to report on the steps they have taken to invest responsibly.

IFFs are a vexing problem for which there is no single solution. What is needed is a concerted, multipronged global effort. This is a historic opportunity for change, given unprecedented public attention on this issue and with many destination countries for IFFs finally focused on cleaning up their own backyards.

Even a small reduction in IFFs from developing countries could mean a dramatic improvement in available resources to meet the SDGs. Globally, a long-overdue paradigm shift to greater transparency and accountability in the financial sector would mean that illicit assets are more likely to be identified, traced, frozen, and confiscated – and returned to the people that need them most. ■

Funding those with the greatest need

Global development finance has been thrown into disarray – first by the pandemic and now the war in Ukraine. Ramping up finance flows to LDCs in the short term might appear unrealistic, but it is more essential than ever if we are to avoid even greater catastrophes ahead



© Mark Naftalin/UNDP Somalia

By **Estherine Lisinge-Fotabong**,
Director of Programme Innovation
and Planning, African Union
Development Agency

The saying “it never rains, but it pours” is appropriate to describe the current difficulties that confront the global economy, especially the developing world. We have seen the worst of the COVID-19 pandemic, which has so far claimed over 6 million lives and plunged many countries into recession.



In Africa, gross domestic product (GDP) contracted by 2.1% in 2020, marking the continent's first recession in over half a century. In 2021, an estimated 39 million Africans slipped into extreme poverty, with women disproportionately affected.

As countries emerge from the ravaging impacts of the pandemic, the situation has been compounded by the current adverse impact of Russia's invasion of Ukraine. The war has sent global prices of gasoline and basic foodstuffs like wheat spiralling out of the reach of many poor people.

The combined effect of coronavirus and the war in Ukraine is the eroding of the hard-won gains that many African countries have made in poverty reduction over the last two decades, where economies on average grew by 5.1% annually. According to African Development Bank, the average debt-

However, there is every likelihood that the resources that have traditionally been made available to developing countries will be reduced.

The global response to the pandemic reaffirmed the need for countries both in the Global North and South to work together, reflecting nations' interconnectedness in an increasingly globalized environment.

However, vaccine nationalism brought to the fore the chasm between Africa and its more developed partners. The rhetoric from Western capitals was in most cases to refer to vaccines as global public goods, resources to be made available to all. Yet, in reality, the developed world adopted a “my country first” approach to vaccine allocation and utilization. This had a profound impact on many African countries.

The impact of vaccine nationalism is that the race to attaining Sustainable

Least developed countries, particularly those in Africa, should be supported through every means possible to avoid another “lost decade” like the 1980s

to-GDP ratio in Africa is expected to increase significantly to over 70%, from 60% in 2019.

Least developed countries (LDCs), particularly those in Africa, should be supported through every means possible to avoid another “lost decade” like the 1980s where GDP growth averaged 1% or lower. Funding those with the greatest need in Africa should therefore be of utmost importance in the face of domestic COVID recovery responses in the developed world and an increasing focus on the Ukraine crisis.

◀ **A maternal and child health clinic in Puntland, Somalia. Somalia was one of many African countries that were unable to procure meaningful quantities of COVID-19 vaccines**

Development Goal (SDG) 3 on good health and well-being has been sidetracked. To avert such a repeat occurrence in the future, the African Union has stepped up the focus on vaccine manufacturing. Twelve facilities expected to produce a wide range of COVID-19 vaccines are either in operation or in the pipeline across six African countries: Algeria, Egypt, Morocco, Rwanda, Senegal, and South Africa.

Funding climate action

Africa is a continent that is also fighting a major battle against climate change and biodiversity loss. Most African economies and communities are dependent on environmental and natural resources for their livelihoods, and these are being negatively affected by climate change. Africa will not be able to finance the scale

of the investments needed to tackle climate change and biodiversity loss on its own. The scale of the challenge facing Africa calls for a dramatic step up in international efforts and global cooperation.

Yet, as we have witnessed, the processes for achieving global consensus for funding climate action have been painstakingly slow. Developed countries who have historical responsibility for warming the planet have failed to meet their climate finance pledges. It is generally agreed, and was acknowledged at COP26 in Glasgow in 2021, that the existing target to provide USD 100 billion of climate finance a year by 2020, in line with the outcomes of the Copenhagen Climate Summit of 2009, has been missed.

The key question is: how does Africa achieve the climate action goal (SDG 13) if the funding is not available to those who are most affected but who have played little or no role in the climate crisis?

With Africa's share of global population projected to increase from 17.5% currently to 40% by 2100, the path that the continent chooses or is forced to adopt will have significant impact on the planet's future sustainability, especially given that Africa's energy use will grow rapidly to meet its development needs.

The 2020 report by the Food and Agriculture Organization of the United Nations, *The State of Food Security and Nutrition in the World*, showed that the pandemic has exacerbated the difficulties in accessing food, with moderate to severe food insecurity in several African countries.

Stemming outflows

Africa has massive potential as a global economic driver, a leader for digital innovation, and an exemplar for climate-resilient infrastructure.

The African Continental Free Trade Area offers massive opportunities for development and trade access to a population of 1.3 billion people (expected to rise to 2.5 billion by 2050). Africa is ready for investment,

Strengthened domestic resource mobilization, ODA, blended finance, debt relief and restructuring, and promotion of financial investment are all instruments offered as solutions to the challenge of financing for development

and provides strong business opportunities.

However, many countries on the continent are short-changed by the challenges of losing billions each year in illegal movements of money. The UN Conference on Trade and Development estimates these illicit financial flows to run at some 3.7% of GDP, equivalent to USD 88.6 billion per year as at 2020. This is equivalent to the flows of official development assistance (ODA) and foreign direct investments (FDI) into Africa combined.

The United Nations estimates a funding gap of USD 200 billion per year needs to be filled if African countries are to meet the SDG targets by 2030. That's equal to the amounts of illicit financial flows and improved tax collections combined.

Millions of people, particularly the poor and vulnerable, have been pushed into poverty. Yet more are on the edge of falling into the poverty bracket. This is likely to increase both the legal and illegal migration of young people from Africa to other parts of the world.

This in turn will lead to a shortage of skilled workers across the continent, including engineers, artisans, physicians, and other professionals who are critical for national development.

Aligning finance with need

COVID-19 and the war in Ukraine have added extreme pressure to an already precarious African public finance situation with an accelerated build-up of government debt across the region. With so many demands on the limited fiscal space of many African

governments, this is an opportune moment to reflect on development cooperation and financing and ask the difficult question: "How will the funding needs of the LDCs be met?"

Strengthened domestic resource mobilization, ODA, blended finance, debt relief and restructuring, and promotion of financial investment are all instruments offered as solutions to the challenge of financing for development. All have pros and cons.

Developed countries have largely failed to provide 0.7% of their gross national income in aid to developing countries. But is leveraging development finance to mobilize private capital flows through blended finance the answer? What is certain is that all the above must be in the funding mix for LDCs, as public and private finance are guided by different interests and principles.

Overall, developed countries must step up on their ODA commitments. Private-sector investors do not typically fund the social programs and essential services for which the inequalities exposed by the pandemic have showed there is dire need (for example, community vaccination programs).

African countries must create strong alignments between national planning, budgeting, and revenue collection capacity. Nations also need budgets that operationally link national development plans to investments and impacts on the ground.

Finally, irrespective of the source of funding, there needs to be greater coherence, coordination, and accountability of actors, and – most importantly – alignment with the development objectives of the LDCs. ■



Information wars

Where freedom of speech flourishes, so does misinformation. With more than half the global population now using social media, striking the right balance in managing online spaces is critical for healthy democracies, public safety, and achieving the SDGs

By [Paolo Gerbaudo](#), Marie Skłodowska-Curie Researcher, Scuola Normale Superiore, Reader in Digital Politics, King's College London

In recent years there has been much discussion about the balance between fostering freedom of information and combating misinformation online.

In the era of social media, we are faced with contradictory tendencies. On the one hand, opportunities for the circulation of information have grown. But on the other, cases of abuse, misinformation, and political manipulation have skyrocketed.

These issues have become the object of intense attention in recent years. In the aftermath of Donald Trump's election as US president in 2016, journalists and

activists raised concerns about the way in which many right-wing populist candidates had profited from the circulation of misinformation online.

▲ People board a train in Lviv to escape the conflict in Ukraine. The discourse on the origins of the war, its course, and its potential resolution has been flooded with misinformation

Similarly, during the pandemic, the use of social media was widely decried as having contributed to the diffusion of fake news – from the promotion of dangerous alternative cures to the more general suspicion of science. Further, the spotlight has been drawn to manifold forms of online abuse, from rape threats to harassment, and the use of social media to fuel slander and false accusations.

What can be done to achieve the right balance between free speech and policing misinformation? This question is relevant to UN action and the SDGs

These various events have already led to significant changes in the way in which information is managed online. Facing pressure from policymakers and the public alike, companies such as Facebook, Twitter, and YouTube have been forced to abandon their claim to neutrality over the content they host. Instead, they have progressively employed moderators to delete illegal and harmful content, and to ban accounts that violate platform rules. Facebook alone employs around 15,000 content moderators. The companies have also attempted to tighten their codes of conduct and community guidelines in response to growing calls from users for greater protection from extreme content.

A delicate balance

These issues came to a head in January 2021. In the aftermath of the Capitol Hill riots, Facebook, Twitter, and other social media platforms banned the accounts of Donald Trump, American TV host Tucker Carlson, and other right-wing media politicians and pundits.

Many countries have since looked to tighten their legislation on online content. The EU Digital Services Act requires digital companies to police for illegal content or face billions of dollars in fines. In the US, digital companies

have for many years been deemed to fall under First Amendment protection. Yet, there are bipartisan laws currently being discussed in Congress that may make these firms liable for user-generated content.

In the UK, the Online Safety Bill proposed in April 2022 asserts that digital companies have a duty of care to tackle not only illegal but also harmful content.

This growth in moderation and regulation practices has raised concerns about the risks of increased censorship online. Critics on the left argue that corporations will be able to censor content that goes against their corporate interests. Those on the right, meanwhile, warn of a “cancel culture” in which progressive elites, such as those deemed to be in control of Silicon Valley, engage in stifling public debate.

These latter criticisms have been most recently voiced by Elon Musk, who, as part of his bid to buy Twitter, has argued that social media has become hampered by censorship, and that social media companies are treating their users like children. Musk has promised that if he were to control the platform he would ensure that restrictions on Donald Trump and other accounts are lifted.

Many other conservative advocates, such as those of the Cato Institute, have also countered any move toward the public regulation of online content.

This situation raises important questions for what would constitute a healthy contemporary democracy. What can be done to achieve the right balance between free speech and policing misinformation? This question is relevant to UN action and the Sustainable Development Goals

(SDGs). Even though there is no specific SDG related to information, opinion, and the internet, the questions raised by online freedom of expression are relevant for many of the SDGs, such as good health and well-being, gender equality, reduced inequality, climate action, peace, justice, and strong institutions.

In fact, it has been widely recognized both by academics and policymakers that without a healthy public sphere it is impossible to foster dialogue and nurture the political resolve that is necessary to address these issues.

Regulation of social media and the internet has often been voiced in other UN actions and resolutions. For example, the UN Human Rights Council has condemned internet access disruption as a violation of human rights, while UNESCO has launched a series of actions to foster freedom of information in line with its constitution, which promotes the “free flow of ideas by word and image.”

In June 2020, UN Secretary-General António Guterres launched a Roadmap for Digital Cooperation and re-asserted in January 2021 the need for a global regulation framework to ensure that digital companies do not overplay their hand.

As these initiatives suggest, online freedom of speech is not in contradiction with internet and social media regulation. In fact, the two should go hand in hand. Regardless of specific technological conditions, “free speech” is never completely free: even in countries that celebrate their freedom of speech most vocally, there are always forms of censorship for extreme content, and libel laws to counter reputational harms.

Many forms of censorship, such as those against child pornography, present in virtually all countries, or against incitation of terrorism and other criminal acts, are widely accepted by most people as necessary for a healthy public sphere.

It is also mostly uncontroversial that dangerous content that may result in damage to health and the public

– such as quack medical information – should be made illegal. The question is not whether this sort of content should be regulated, but how.

Courses of action

I recommend three courses of action.

First, attempts at state regulation of social media companies, such as those afoot in the US, EU, UK, and other countries, should be welcomed. They are filling an evident regulatory gap, where pre-existing laws on illegal content and libel are not matching the radical change in structural conditions brought by the diffusion of the internet and social media.

Companies' self-regulation can still play an important role. But, given its politically sensitive character, the regulation of public speech should rest as much as possible on democratically accountable state legislation. This will also prevent companies interfering in public and political debate.

Second, at the same time, such state regulation should be as light-touch as possible. It should clearly identify the most extreme and dangerous types of (illegal) content that digital companies should stamp out but carefully avoiding intervention in areas where it is more difficult to make such discernments.

Regulation should not police content that is potentially harmful yet legal, as bills such as the UK's Online Safety Bill have been accused of attempting to do. Legislation should also allow users to remain anonymous on social media. For example, LGBT people, victims of domestic violence, endangered journalists, activists, and others, could well be at risk of danger or harm if they were deprived of the cover of anonymity.

Third, governments and civil-society organizations need to promote a wider range of social media platforms. This means not just more competition

among private companies, but also more alternatives that are public or not-for-profit.

As Elon Musk has rightly said, social media has de facto become the new town square. However, traditional town squares were never the private property of multinational corporations. Hence, resources should be dedicated to establishing platforms that are not controlled by corporate interests.

The internet and social media are key spaces for opinion and freedom of expression. To guarantee that they contribute to the promotion of vibrant and cohesive polities capable of delivering on the SDGs, we must strike a careful balance between freedom of expression and regulation. The former cannot exist without the latter. ■

▼ Supporters of Donald Trump, and believers in the conspiracy theory that the presidency was stolen from him, storm the Capitol Building in Washington, US on January 6, 2021



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Education is the enabler for sustainable development

Education is key to achieving the entire Agenda 2030. With just eight years to go, 2022 will be critical for revitalizing national and global efforts to transform education, so that all people have the skills and knowledge to coexist in harmony with our planet

By [Patrick Paul Walsh](#),
Vice President of Education,
Sustainable Development Solutions
Network, and Director, SDG Academy

Almost seven years ago, over 150 world leaders gathered at the United Nations headquarters to approve the 2030 Agenda for Sustainable Development. The level of support for this ambitious agenda helped fuel optimism and a belief that

these goals really were achievable by 2030. However, even discounting the major global crises that have occurred in the interim, delivery on the SDGs has been sluggish.

One of the greatest impediments to progress has been a lack of scientific literacy, specifically an understanding of sustainability, among the generations that hold leadership positions. Globally, education for sustainable development (ESD) remains deficient and it has

been identified as a focus area for the Transforming Education Summit that the UN Secretary-General has convened for this year's General Assembly.

UNESCO is the lead UN agency on ESD and has an ESD for 2030 framework to “mobilize education to address the [Sustainable Development Goals (SDGs)] and provide everyone with the knowledge, skills, values and attitudes to generate transformative change for sustainable development.”

◀ **The primary school in Gaoui, a suburb of N'Djamena, the capital of Chad. The children stand outside their newly built classrooms, constructed from plastic bottles filled with sand**

UNESCO will launch an ESD for 2030 Network in 2022 that will closely connect to the GAP Programme (2015 to 2019) and the ESD for 2030 Roadmap, while taking on board the recommendations of the UNESCO World Conference on Education for Sustainable Development Declaration (adopted in Berlin in May 2021). UNESCO calls for a new social contract on education to better meet the needs and expectations of future generations.

In support of UNESCO's ESD for 2030 Roadmap, the SDG Academy (SDSN's flagship education initiative) is mandated to create and curate the best available educational content on sustainable development and make it available as a global public good. Initially the focus was on higher education institutions (HEIs), but the focus now is on the continuum of sustainable development education from pre-school into a lifelong effort of learning and practice. The mission of the SDG Academy (closely aligned to SDG Target 4.7) is to promote education pathways that will help learners to acquire the tools, skills, and knowledge to promote sustainable development at all stages of life.

HEIs are still a key actor in this mission as they are at the center of an intergenerational transfer and creation of knowledge for sustainable development. In addition, HEIs are responsible for training teachers and creating curricula in schools. Finally, HEIs also engage in upskilling of corporates and work within science-policy-practice interfaces. HEIs can and should be a key part of building SDG 4 capacities and pathways within and across nations at all stages of lifelong learning.

In 2020, the SDG Academy and Global Schools launched the global initiative Mission 4.7 in partnership with

UNESCO, the Ban Ki-moon Centre for Global Citizens, and the Center for Sustainable Development at Columbia University. Mission 4.7 brings together leaders from government, academia, civil society, and business to accelerate the implementation of Transformative Education for Sustainable Development around the world and highlight the critical importance of education in achieving the SDGs. (The Mission 4.7 website also lists important ESD events).

Mission 4.7's vision is a world in which the SDGs are achieved through the efforts of educators and practitioners (in government, corporates, and civil society) by providing them with the relevant educational content and fostering partnerships to advance sustainable development everywhere.

Ideally, at every stage of life, individuals should understand how they coexist in harmony with people and planet. We may not wish to harm people, or our common home, but all of us must “go back to school” and learn how to create positive linkages to people and nature in our everyday

Drawing on earlier work by The World in 2050 initiative, SDSN has introduced these six SDG transformations as modular building blocks of SDG achievement. Each transformation identifies priority investments and regulatory challenges, calling for actions by well-defined parts of government working with business and civil society.

None of these transformations can be operationalized if every individual in governments, corporates, and civil society has little exposure to ESD and little experience to put learnings into practice in their sphere of influence. Hence, the first transformation above (education, gender, and inequality) is the necessary condition to achieve the other five.

This is an important year for transforming education. The key event is the Transforming Education Summit in New York during the 77th UN General Assembly in September 2022. The summit seeks to “mobilize political ambition, action, solutions and solidarity to transform education towards sustainable development: to take stock of efforts to recover

// All of us must “go back to school” and learn how to create positive linkages to people and nature in our everyday activities

activities. Not only will this secure a much-improved life support system for today's people, but it also will secure a sustainable future for tomorrow's people.

ESD is the key to achieving sustainable development through the following six SDG transformations:

- education, gender, and inequality
- health, well-being, and demography
- energy decarbonization and sustainable industry
- sustainable food, land, water, and oceans
- sustainable cities and communities
- digital revolution for sustainable development

pandemic-related learning losses; to reimagine education systems for the world of today and tomorrow; and to revitalize national and global efforts to achieve SDG 4.”

There is also an important pre-summit run by UNESCO in Paris from June 28 to 30, 2022. The pre-summit's objective is to inform the UN Secretary-General's call to action that will mobilize ministers and leaders of all countries, using SDG 17 partnerships, to transform education systems into teaching and learning spaces that show how to care for people and planet in a sustainable peace. ■



Reversing the destructive forces of inequality

COVID has exacerbated already deep inequalities between rich and poor. If left unchecked, the forces creating inequality will become even more destructive as the climate crisis starts to bite, threatening all of Agenda 2030. The world must urgently redouble efforts to reverse these trends



◀ A tourist attraction against the backdrop of La Comuna 13 neighborhood in Medellín, Colombia. Colombia, which has one of the greatest levels of wealth inequality in the world, has recently elected Gustavo Petro, its first left-wing president

and environmental sustainability. With so many lives lost, and so many others struggling with sickness, lost work, and navigating overburdened healthcare and assistance systems, essential progress toward a better world has not only stalled, but in some cases reversed.

Through the pandemic, inequality was highlighted, heightened, and exploited. The World Bank estimates that an additional 75 to 95 million people moved into extreme poverty over the course of the pandemic, the equivalent of the entire population of Germany or Turkey. SDSN's annual Sustainable Development Report highlights that for the second year in a row SDG progress went down. Progress on ending poverty (SDG 1) and creating decent work (SDG 8) has

collaboration with the Poor People's Campaign showed that in the US, the death rates from COVID were at least two times as high in poor counties than in rich ones.

Other research in the US has shown that those in frontline or essential work, like line cooks, restaurant workers, construction workers, and teachers, were more likely to die from COVID than office workers. Global research has shown that access to vaccines has also been structured unequally, with rich countries wasting millions of doses of vaccines, while less than 20% of people in low-income countries have received even one dose of a vaccine.

The inability to access this essential piece of COVID mitigation leaves those in poorer countries more vulnerable to the worst impacts of COVID, intensifying existing inequality.

Growing gap

These inequalities became more visible during the pandemic, were deepened by the policy response to it, and were exploited by individuals and

Through the pandemic, inequality was highlighted, heightened, and exploited. The World Bank estimates that an additional 75 to 95 million people moved into extreme poverty over the course of the pandemic

By [Alainna Lynch](#), Senior Research Manager, Sustainable Development Solutions Network

The world is well into its third year of grappling with COVID-19, and more than 15 million people have died as a result. The set of goals agreed upon by all 193 Member States of the UN in 2015, the Sustainable Development Goals (SDGs), are nearly at their halfway point. We have just eight years to achieve an ambitious vision of economic, social,

not yet rebounded to pre-2019 levels, which themselves were improving too slowly to reach the 2030 targets.

Not all communities were shielded equally from coronavirus, heightening inequality through disparate COVID exposure and death. Official reports show that more people, in raw and relative numbers, died in high and upper-middle-income countries.

However, research from the US and UK suggests that it was the poor in these higher-income countries that were more likely to die from COVID. For example, a recent SDSN

institutions. Over the pandemic period the number of people living in extreme poverty increased at the same time that the most wealthy expanded their wealth.

An Oxfam report released in January of 2022 highlighted that the wealthiest 10 men doubled their income over the first two years of the pandemic, adding USD 1.3 billion a day to their personal wealth, in addition to the fact that “a new billionaire is created every 26 hours, as inequality contributes to the death of one person every four seconds.”

Communities that were less protected from COVID have had to bear the disproportionate burden of grief, and are less able to recover economically between waves of COVID, while those who were most protected are profiting wildly.

Changing our worldview

To solve this, we must first understand that inequality isn't just an outcome of an unjust world. Inequality is a foundational value of our social and economic systems that have decimated cultures, communities, and the living world.

The worldview that some deserve more dignity than others – that inequality is desirable – has animated the worst impulses in our history, from oligarchies to colonialization, from vaccine policy to human trafficking. Inequality has been actively pursued and justified through the lies of racism, ableism, misogyny, and more. The preference for inequality has led to the redefining of the relationship between humans and other living things, from one of respect and collaboration, to one of extraction.

As a first step, in the words of António Guterres, “we must go into emergency mode to reform global finance.” As outlined in the recent SDSN Sustainable Development Report, we must significantly increase fiscal space in low-income economies, expanding financing by approximately USD 1 trillion, or just 1% to 2% of gross world product (GWP).

A separate but similar need is for economies and states that have extracted resources from other countries through colonialism and war, or who have engaged in human trafficking and forced labor through enslavement, to move back into the right relationship with those states and communities. Vast wealth and inequality were developed through the investment of ill-gotten resources, and these wrongs must be faced if we hope to live a better way.

Although this would be a start, it would not be enough. The same

approach that treated humans as raw materials created devastating environmental consequences.

Taily Terena, of the Terena indigenous peoples of Brazil, highlights: “Colonialism caused climate change. Our rights and traditional knowledge are the solution.” Protecting indigenous sovereignty is an essential piece of addressing inequality and stopping climate change, as are concrete actions to address consumption and pollution.

High-income countries have contributed the most, historically,

countries don't find ways to drastically reduce their negative climate impacts, the biggest impacts will be on the poor, which will only worsen already deeply entrenched inequalities.

Closing the gaps

The inequalities at the macro level are replicated in almost every subnational and subregional system. Essential for closing gaps will be universal access to healthcare, education, electricity, internet, and other social protections. Those living in remote areas, or away from central cities, often have even less access to essential services, so

// We must first understand that inequality isn't just an outcome of an unjust world. Inequality is a foundational value of our social and economic systems that have decimated cultures, communities, and the living world

to CO₂ emissions, and are among the highest current emitters both in total CO₂ and in CO₂ per capita. SDSN's Global Common Stewardship Index and other spillover work has shown that high-income countries' consumption creates negative externalities on lower-income countries, in essence exporting negative environmental impacts to poorer countries, exacerbating inequality.

The consequences have thus far been most stark for low-income countries, small island developing states, and low-income residents of high-income countries. For example, global hunger is on the rise, due to, among other things, conflict, COVID, and the impacts of climate change.

The World Food Program warned earlier this month that nearly 10% of the world population is hungry, and the number of people facing acute food insecurity has doubled since 2019, with global populations the size of Russia and Japan combined facing acute hunger in 2022. If high-income

geographical attention must also be paid.

Without significant pressure to change, many of us resist it. The same is true for systems and structures. Relearning interdependence and building relationships help create the pressure for that change. Ruth Wilson Gilmore teaches about “building life-affirming institutions.” Creating spaces and opportunities for people to organize and practice new ways of being can also generate that pressure. These collective responses will be essential in addressing the inequality that underpins the deadly systems we have created.

It has been said that the SDGs represent a vision of the world we all want. To achieve them, we must work to end inequality as both an aim in itself, and through all efforts of environmental, social, and economic innovation. If we don't, we will simply continue to recreate in new forms the systems that have destroyed the natural world and our communities worldwide. ■



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Creativity Prize

1) The team led by Thalappil Pradeep (Indian Institute of Technology, Madras, India) for the creation and successful deployment of environmentally friendly “water positive” nanoscale materials for the affordable, sustainable and rapid removal of arsenic from drinking water. Team members include Avula Ani Kumar, Chennu Sudhakar, Sritama Mukherjee, Anshup, and Mohan Udhaya Sankar.



Dr. Thalappil Pradeep

2) The team led by Dionysios D. Dionysiou (University of Cincinnati, USA) for the development of innovative advanced oxidation technologies and nanotechnologies for environmental applications, particularly in the removal and monitoring of emerging contaminants. Team members include Wael H.M. Abdelraheem, Abdulaziz Al-Anazi, Jiong Gao, Ying Huang, and Vasileia Vogiaz.



Dr. Dionysios D. Dionysiou



Surface Water Prize

Dennis D. Baldocchi (University of California Berkeley, USA) for the development and implementation of effective models to understand, evaluate and predict evapotranspiration and water-use efficiency in various environments under climate change conditions.



Dr. Dennis D. Baldocchi



Groundwater Prize

Linda M. Abriola (Brown University, USA) for pioneering research on toxic Dense Non-Aqueous Phase Liquids (DNAPLs) in groundwater, ranging from the simulation of their fate to effective methods for cleaning contaminated sites.



Dr. Linda M. Abriola



Alternative Water Resources Prize

The team of Menachem Elimelech (Yale University, USA) and Chinedum Osuji (University of Pennsylvania, USA) for wide-ranging advances in nanostructured materials for next-generation water purification, focusing on implementation issues like manufacturing, sustainability, self-assembly, and biofouling.



Dr. Menachem Elimelech



Dr. Chinedum Osuji



Water Management and Protection Prize

The team led by Matthew McCabe (KAUST, Thuwal, Saudi Arabia) for employing CubeSat constellations in the sustainable management and security of linked water-food systems, along with estimates of agricultural water use at unprecedented spatial and temporal resolutions and with global coverage. Team members include Bruno Aragon (KAUST) and Rasmus Houborg (Planet Labs, USA).



Dr. Matthew McCabe

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What COVID-19 teaches us about public health

The pandemic was the ultimate stress test for the global health system, revealing both flaws and capabilities. We must build this new knowledge into health systems if we are to achieve good health and well-being for all

By [K. Srinath Reddy](#), President, Public Health Foundation of India

For all the death, disease, and distress caused by the SARS-CoV-2 virus in its global march since 2020, it must be accepted that the microbe has been a great teacher. It has challenged disease modelers and public health systems to cope with:

- asymptomatic infections
- frequently emerging variants
- false negative and false positive tests
- the increasing ability of each variant to become more infective and evade previously acquired immunity, then rebound after seemingly successful oral anti-viral therapy
- patients suffering with a post-COVID ensemble of several lingering ailments (long COVID)

However, it is in the response of health systems to this global public health emergency that the most valuable lessons have been learnt. Here below are some of them.

Build strong “business as usual” systems

There is a clear message that if we are to have a swift, strong, and sustained surge response during a public health

◀ **A community health volunteer in the Gorkha District, Nepal receives the COVID-19 vaccine, supplied through the COVAX initiative**

emergency, then we need efficient, equitable, and empathetic health systems that function in the steady state when there is no crisis. The health system cannot race fast on one leg. It needs to be already well resourced, in terms of infrastructure, human resources, and equipment, if it is to quickly rise to the challenge of a pandemic. A complex, adaptive system like health has to make a provision for some expansile capacity (or “slack”) that it can draw upon in an emergency.

Create strong surveillance

We also need strong surveillance systems. These include “One Health,” a multisectoral and transdisciplinary approach that links microbial surveillance across wildlife, captive-bred, or free-living veterinary populations and human communities, to quickly spot spillovers across species.

Syndromic surveillance, based on symptoms and signs, should be used for early case detection, followed by prompt testing. Since laboratory tests are associated with some levels of false negative and false positive results, clinical features and history of contact provide the “prior probability” estimate in a Bayesian prediction model that enables the test result to generate a context-appropriate post-test probability estimate.

Repeated tests may need to be performed during the course of an illness to reduce the occurrence of a false negative diagnosis, but that may not be possible for all health systems. Public health advisories must err on the side of caution if clinical features and history of close contact indicate a high pre-test probability.

Wastewater surveillance is emerging as an important public health approach to study microbial spread and evolution during outbreaks, by providing both

predictive and tracking value of transmission dynamics.

Use contact tracing wisely

Contact tracing is useful when outbreaks are beginning in clusters, but less useful once there is active transmission. It is also useful for tracking the spread of new variants, whether they arise from within the country or enter from outside.

It is essential to have trained public health personnel who are capable of tracing and assessing the level and impact of contact, through forward and backward tracing.

While apps are useful assists, depending solely or mostly on apps is unhelpful in achieving the objectives of contact tracing. It is the combination of shoe leather and smart phones that will enable effective contact tracing.

// *The health system cannot race fast on one leg. It needs to be already well resourced, in terms of infrastructure, human resources, and equipment*

Promote primary healthcare

Primary healthcare is the principal arena of public health action in a pandemic. As viruses and new variants make their way through international entry points and radiate from there, an alert and well-organised primary healthcare system can quickly locate the danger points and contain the spread.

Primary care offers critical pandemic response through actions such as:

- household surveys, to spot suspect cases (syndromic surveillance)
- early testing
- supportive and supervised home care of mild cases
- triaged referral for hospitalization of

serious cases

- post-COVID counseling and long COVID care
- vaccination
- advising on masks and other COVID-appropriate behaviors
- countering misinformation at the community level

Focusing solely on hospital care systems will lead to many missed opportunities in pandemic control.

Strengthen the healthcare workforce

Investments focusing on a technological response to the pandemic ignore the need for an adequate, well trained, and motivated health workforce. Without this, the health infrastructure is a carriage without wheels. In a pandemic, when the organized health system has shortages (exacerbated by illness and exhaustion among health workers), community participation can provide great strength to the response. Involvement of civil-society organizations and citizen volunteers has been a feature of only a few national responses.

Enable multisectoral action

Convergence of multidisciplinary knowledge streams, enabling multisectoral actions, is essential when a complex adaptive system like health is experiencing pandemic turbulence. To frame and steer an effective pandemic response, beyond identifying the biology of the virus and variants, we need input from a range of expertise, including:

- behavioral sciences (masking, physical distancing, hand hygiene)
- environmental sciences (ventilation, air flow, wastewater surveillance)
- management sciences (supply chain efficiency, transport regulation)
- communication sciences (risk communication, countering fake news)
- political sciences (building national consensus and international partnerships)

Unfortunately, the response to COVID-19 saw failures on many of these fronts.

Avoid travel bans

Travel bans don't work and are often counterproductive. From the ancestral virus reported from Wuhan to each successive variant, travel bans failed to prevent transmission across national borders. The virus could have well been reciting "love laughs at locksmiths" from Shakespeare's *Venus and Adonis*, as it sneaked past national boundaries.

Travel bans disrupt global supply chains, derail global collaborative efforts, separate families, and breed paranoia and prejudice. Testing of international travelers has some value in detecting new variants but does not effectively stall transmission.

Use lockdowns sparingly

Lockdowns are of value in the early stages of a pandemic, mostly to prepare national and international health and social systems to deal with the increasing stress that they will be subjected to as the virus gains ground. Repeatedly resorting to lockdowns blunts the impact of that instrument while heaping misery on people.

Describe vaccines accurately

Vaccine development, production, and administration constituted the signal success story of the pandemic response from the viewpoint of the strength of science. However, the hype around vaccines did no service to the veracity of science. It was clear from the beginning that systemically administered vaccines, while very effective in stimulating an adaptive immune response for fighting the virus after it enters the upper respiratory tract, cannot prevent viral infection *per se*, while good quality masks can.

Loud claims that the advent of clinical trial-proven vaccines would end transmission created false expectations that led to a loss of confidence in vaccines when a spate of "breakthrough infections" were reported in fully vaccinated and even boosted

// A simple message that "masks prevent infections while vaccines prevent severe illness" was not effectively communicated to the public

individuals. Such claims also led to vaccinated people abandoning masks or even governments prematurely withdrawing mask mandates. A simple message that "masks prevent infections while vaccines prevent severe illness" was not effectively communicated to the public.

Be wary of declaring victory

"Herd immunity" emerged as a seductive slogan but sparked controversy when it was used to prematurely declare victory and proclaim the end of the pandemic in some countries. The increased infectivity and immune escape capability of new variants upended estimates of herd immunity. While population-level protection against severe disease was enhanced by vaccines, there has been no herd immunity against infections.

Shun nationalism and greed

Vaccine nationalism and global vaccine inequity manifested in an unconscionable manner. While rich countries administered four shots to adults, only a small number of people got even one shot in many low-income countries. Refusal of requests to waive patent restrictions – on vaccines, medicines, and technologies needed for an effective pandemic response – has revealed a greater commitment of multinational pharmaceutical industries and some governments to profits over global health equity.

The short-sightedness of this approach was revealed when variants

emerged from immunocompromised individuals in under-vaccinated populations and spread globally to haunt the vaccine-rich countries. The accuracy of the slogan "no country is safe until every country is safe" was proved through the fallout of its violations.

Generate better data

Global health information systems were undermined by the incompleteness, inaccuracies, and non-sharing of data related to infections, hospitalization, and deaths. While "excess deaths" appears to provide a broad measure of COVID-attributable and COVID-associated deaths, there is a pressing need to record the human, economic, and social costs of pandemics with greater accuracy, transparency, and timeliness.

Respect ecological boundaries

While focusing as it must on the response to the current pandemic, the public health community must not fail to constantly remind the world that while zoonotic pandemics may be caused by microbes, they are engineered by humans.

Flagrant violation of ecological sanctity through deforestation damages the natural barriers that separate the microbes that cohabit with wildlife from veterinary and human populations. If we do not respect those boundaries, we open the gate to future pandemics.

Public health must ally with and amplify the concerns of those who call for protecting the planet, as a necessary step to preventing pandemics.

Conclusion

Global healthcare may have enjoyed an initial impetus from the sense of shared vulnerability, but it must now gain momentum from a commitment to shared values. That is the clear message of COVID to a confused and conflicted world. ■

This article expresses the author's personal views.



Towards a women-centered push for Agenda 2030

If progress on empowering women and girls was already far too slow, COVID-19 and the war in Ukraine have made entrenched gender inequalities even worse. We must urgently ramp up our support for women and girls across all spheres of development, or the SDGs are doomed to fail

By [Sima Bahous](#),
UN Under-Secretary-General and
UN Women Executive Director

Agreed in 2015, Agenda 2030 called boldly for ending poverty in all its forms and envisaged a world of “universal respect for human rights and human dignity, the rule of law, justice,

equality, and non-discrimination.” The Sustainable Development Goals (SDGs) formed the core of the 2030 Agenda and stood as a framework for guiding the pursuit of the agenda and measuring progress thereto.

Among the most important insights of Agenda 2030 and the SDGs was the integrated and indivisible nature of the Global Goals, including in the essential

recognition that “realizing gender equality and the empowerment of women and girls will make a crucial contribution to progress across all the Goals and targets.”

▲ [Hawa Games Dahab Gabjenda](#), founder of an organization to combat violence against women and girls, acted as a gender observer in the Juba Agreement for Peace in Sudan

In this way, the SDGs framework recognized that gender equality and women's empowerment are essential in their own right, by devoting Goal 5 to their achievement. It also underscored that fulfilling gender equality is pivotal to advancing on the entire spectrum of goals – from poverty reduction, to improved health, to responding to climate change, and to advancing peace and security.

Seven years on, despite the notable agency of women and girls worldwide, it is plain to see that this vital core of the SDGs is imperiled.

// The jobs and livelihoods crisis that came with the pandemic wiped out the fragile progress on women's economic empowerment which had been registered in previous years

From the impacts on women and girls of COVID-19, to conflict, economic volatility, and the rollbacks on rights, the path toward gender equality seems more riddled with obstacles than ever.

However, investing in gender equality and engaging women in finding solutions across all areas of development remains the single greatest opportunity to achieve the world we want. With eight years left to achieve the SDGs, a step change will be needed to bring a future of gender equality into view – and, along with it, the promise of the 2030 Agenda.

Careening from crisis to crisis

If the impacts of COVID-19 were as broad as they were deep, it is important to also recognize that they hit hardest on the well-being and prospects of women and girls. The jobs and livelihoods crisis that came with the pandemic wiped out the fragile progress on women's economic empowerment which had been registered in previous years. Women who were already disadvantaged in the labor force lost their jobs at a faster

rate and are now regaining them at a slower rate than men.

Moreover, the weaknesses of social protection systems left women with little to fall back on. Women and girls, who were already carrying out the vast majority of unpaid care work, took on even more during the pandemic. Worse still, violence against women and girls, already the most pervasive of human rights abuses, spiraled upwards during the crisis in every region of the world.

Unfortunately, the ebbing of the pandemic has not been the panacea for which the world hoped. Just as

many countries were beginning to recover from COVID-19, the war in Ukraine erupted, increasing food and fuel prices globally. Conflict and instability are the daily reality not only in Ukraine, but in Afghanistan, Ethiopia, Myanmar, Syria, Yemen, and many other countries. Added to this, the impacts of runaway climate change are already devastating communities.

Just as in the pandemic, we know that it is women and girls who bear the brunt of these crises – of conflict-related sexual violence, of increased food insecurity, of rising inflation, of harvests ruined by floods, of climate-related disasters, and of rollbacks on rights including sexual and reproductive rights.

In this context, it is no surprise that a review of progress by UN Women and the UN Statistical Division reveals that only one indicator under SDG 5 – the proportion of seats held by women in local government – is currently rated as being “close to target,” with women's representation in local government at 36% globally. In other areas, such as equality in time spent on unpaid care and domestic work,

and decision-making regarding sexual and reproductive health, the world is “far from target.”

Recalling the interlinked nature of the SDGs, it is similarly not surprising that across the framework the world is only on course to achieve a small subset of its overall targets.

Centering gender equality

As a framework intended to galvanize global and local action towards common development objectives rooted in the principles of the UN Charter, Agenda 2030 was always understood to be ambitious. The world must not abandon this ambition, even as we seek together to right our course.

As UN Women, we are committed to do our part to support this course correction, by vigorously pursuing our mandate to bring about a future of gender equality by driving outcomes across four interrelated impact areas that are key to driving progress on SDG 5 and the entirety of the Goals.

This includes supporting women's strengthened participation in governance and public life – for example, supporting the achievement of 50/50 gender parity in decision-making at all levels, leveraging temporary special measures, and deeper policy reforms. We will also utilize our convening power to bring women to the table where the voices are under-represented.

Women's economic empowerment is equally fundamental. The International Labour Organization has called for 400 million jobs to be created in green sectors alone. We are pushing for women to be the first in line for these opportunities and given training and support to access them, while also supporting gender-responsive policies to the care economy. We are pushing for investment in gender-responsible social protection systems that improve

► **Community workers promote COVID-19 awareness in the poorer districts of Dhaka, Bangladesh. Women and girls took on an even greater share of unpaid care work during the pandemic and violence against them soared**

conditions – especially for the world's 740 million women in the informal employment sector. Moreover, as countries seek to transition economies from fossil-fuel dependency to environmental sustainability, UN Women will fight to ensure that this is done in ways that also boost gender equity. In countries around the world, women are not only the most impacted by climate change – they are also the most engaged in finding solutions.

Ending violence against women and girls will be a focus, by expanding efforts to support states to develop, implement, and monitor national action plans on ending gender-based violence. Expanding our work with women's organizations, the private sector, and public services to ensure essential support and prevention services will be key to ensuring that commitments made are kept.

UN Women will also work to ensure that women and girls contribute to and have greater influence in building sustainable peace and resilience,

// The achievement of full human potential and of sustainable development is not possible if one half of humanity continues to be denied its full human rights and opportunities

and benefit equally from conflict and disaster prevention, and from humanitarian action. Working across the UN System and with national partners, we will support efforts to integrate gender perspectives in humanitarian responses, women and girls' access to humanitarian services, and women's continuous voice in shaping humanitarian and peacebuilding processes.

The pursuit of these priorities is carried out in the context of UN Women's Strategic Plan 2022–2025, a bold vision that centers the agency of women and girls and outlines our work across the normative sphere, UN coordination, and program implementation. Most importantly,

it is tailored to national contexts, and undertaken with national and international partners, including government, UN agencies, the private sector, and civil society, and focused on working with the women and girls who are expressing their agency for a better tomorrow – day in, day out.

Realizing gender equality will make a crucial contribution to progress across each of the SDGs. The achievement of full human potential and of sustainable development is not possible if one half of humanity continues to be denied its full human rights and opportunities. The time is now to accelerate our support for women and girls as they lead the way to the achievement of Agenda 2030 and the SDGs. ■



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Developing a humane response to displaced people

Climate change, the threat of famine, and conflicts are driving more people than ever from their homelands. While the international community's response to the Ukraine refugee crisis has been notable for its scale, solidarity, and humanity, there is still much work to do to ensure a fair and humane asylum system for all

By **Harlem Désir**, Senior Vice President Europe, International Rescue Committee (IRC)

100 million. This is the unimaginable number of people forcibly displaced around the world today. New data reveals that 89.3 million people were forced to flee their homes last year, taking the global toll to over 100 million, inclusive of Ukraine. The IRC will relentlessly pursue its call to world leaders to take concrete action to alleviate suffering, increase resettlement

efforts, and take diplomatic steps to address the root causes of displacement – not just around World Refugee Day, but every day.

Catastrophic displacement figures have become an annual norm, with violent conflicts, the threat of famine, and the impacts of climate change testing the resilience of millions in crisis zones worldwide. Some 274 million people are today in need of humanitarian assistance, an increase of 63% in just two years. The IRC's 2022 Emergency Watchlist warns world

leaders, policymakers, and concerned citizens not just where crises are deepening, but why – and what can be done to pull them back from the brink.

The vast majority of the crises highlighted in this year's Watchlist result from a combination of factors. But they are not just a series of unfortunate events; they reflect a broader system failure:

- states are failing in their duties to their citizens
- diplomacy is failing to resolve conflicts
- the legal regime is failing to protect well-established rights for civilians
- humanitarian operations are failing to fill the widening gaps between humanitarian needs and funding

Communities living in many conflicts and crises around the world are also experiencing the catastrophic consequences of climate change. In regions such as the Horn of Africa and the Sahel, and in countries such as Afghanistan and Syria, more frequent and intense natural disasters and extreme weather are destroying livelihoods, uprooting people from their homes, and worsening humanitarian crises.

◀ Syrian children do homework in a refugee camp in Zahlé, Lebanon. In Syria, the combination of climate change and conflict is displacing the population. There is a similar combination of circumstances in Afghanistan, the Sahel, and the Horn of Africa



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The countries featured in the IRC's latest Watchlist did not cause the climate crisis, but they are paying the greatest cost for it. Of the 10 countries least-prepared for climate change (according to ND-GAIN), six are on the 2022 Watchlist: Afghanistan, Central African Republic, Democratic Republic of the Congo, Niger, Somalia, and Sudan. The impact of the war in Ukraine has exacerbated this suffering, especially in areas already affected by food insecurity.

Appropriate response

People who are forced to flee their homes do not resign themselves to exile by choice. Understanding the causes of displacement is critical to understanding what types of response are appropriate, identifying both short and longer-term solutions – and ultimately to ensure people have the resources to make the best decisions for themselves and their families.

Many people in displacement have suffered unthinkable trauma, including facing violence in their country of origin, or fear and uncertainty on their journeys in search of protection elsewhere. Women face specific risks of exploitation and abuse, and it is crucial that their needs and requirements are given particular attention. Responding to the root causes of displacement will require a range of actions – from ramping up conflict prevention measures, to increasing funding to mitigate climate change, and scaling up the provision of aid to the most fragile and conflict-affected countries.

However, the international community also has a duty to ensure that people who flee their homes are protected, and can recover and regain control of their futures. Refugees bring so much more than they carry. They arrive in their new communities with a wealth of intangible gifts: experiences and talents, hopes and dreams, culture, resilience, and determination. When welcomed properly, refugees make immense contributions.

If these gifts are to be fully realized, host societies must be supportive,

inclusive, and welcoming. The solidarity displayed with refugees from Ukraine has been particularly remarkable – both from EU member states, and citizens who opened their homes. The Ukraine crisis has demonstrated that Europe and the EU institutions can welcome people fleeing conflict with respect and dignity when the political will exists to do so.

However, the stark reality is that people arriving in Europe fleeing equally devastating crises around the world, including Afghanistan and Syria, continue to face a very different reality. They are often left to languish in limbo, sometimes even in camps for years, are met with walls rather than welcome, and are isolated from their local communities.

For all refugees, there are lessons that must be heeded to ensure sustainable and effective integration. Coordination between states and civil-society actors will be key to developing a long-term approach to integration, which must start from day one. There are several ways in which this can be achieved.

Firstly, all integration programs – whether in healthcare, education, civil society, or local government – must provide effective and responsive services, be locally owned and led, and listen to the needs, preferences, and aspirations of displaced people.

Much of the IRC's work around the world focuses on education, access to the labor market, and strengthening health systems at the subnational and local level, as well as strengthening civil society. To design effective responses, refugees must be involved and included as these programs are designed and put into practice.

Secondly, displaced people must be empowered to shape the decisions that affect their lives. Information is key – yet refugees are often not well informed about their rights, services they are able to access, or asylum procedures. The IRC's Signpost project seeks to address this problem by providing digital channels for people in difficult or crisis situations, featuring accurate, accessible, and timely information, and access to essential services. Signpost's

digital information has reached over 20 million people and created empowering engagements with over four million people in 12 languages and 18 countries, including Iraq, Greece, Pakistan, Niger, and Afghanistan. It has now launched in Poland and Germany to support people fleeing Ukraine.

Thirdly, refugees must have access to opportunities to rebuild their lives. The chance to participate in training and join the labor market is critical to rebuild a sense of stability, self-confidence, and hope for the future. Particular attention should also be given to protecting refugees' mental health and well-being. After making horrifying journeys and experiencing often indescribable suffering, refugees need psychosocial support to integrate in their new community and begin to heal their trauma.

In Ukraine, for example, the IRC is working with partners to launch Safe Healing and Learning Spaces for children. These spaces provide a safe, caring, and predictable environment for children and adolescents in conflict and crisis settings, supporting them to both recover and thrive in later life.

Ensuring integration works

When successful, integration is a decisive factor in the acceptance of refugees and asylum seekers into new societies and the easing of tensions within the population. Governments, NGOs like the IRC, and civil-society groups are also responsible for ensuring that integration works – demonstrating the incredible contribution that refugees make to our societies, and fostering a peaceful intercultural dialogue that can only be fruitful. The recent response to the Ukraine crisis in Europe highlights how important the contribution of citizens can be to help people fleeing conflict.

The international community, including the EU, has a great deal to learn from its effective response to the Ukraine crisis. Now, it must finally put in place a fair and humane asylum system that upholds the rights of all refugees, regardless of their country of origin. There are no excuses for inaction. ■



Multipronged action on the SDGs

Dubai Electricity and Water Authority (DEWA) is undertaking a combination of pioneering projects in the UAE's Hatta region, which exemplify its holistic approach to the SDGs

The vision of the United Arab Emirates' wise leadership is to achieve sustainable and comprehensive development across the Emirates. DEWA is a leading force in fulfilling this vision in the Emirate of Dubai.

To this end, DEWA is implementing major initiatives and projects to diversify sources of clean energy production. This includes photovoltaic solar panels, concentrated solar power, pumped-storage hydroelectric power

plant, and a pilot project to use green hydrogen using renewable energy. DEWA is also implementing pioneering projects in Hatta, an inland exclave near the Hajar Mountains. Through these projects, DEWA aims to enable social, economic, and environmental development across the region.

At the heart of the Hatta development is a hydroelectric facility that will provide resilience for the country's energy systems and extend its renewable generation capacity. DEWA's ambition

▲ Aerial view of Hatta's new hydroelectric pumped-storage power plant, which is due to open in 2024

is to advance multiple Sustainable Development Goals (SDGs) with complementary projects. It surpasses the specifications of largescale hydro projects elsewhere: it protects and enhances society and the environment.

Construction uses the most advanced technologies, consistent with the local geology and ecology, and adhering to the strictest international environmental

standards. The development will also provide innovative job opportunities for the region's citizens, and enhance community happiness and wellbeing.

Hydroelectric power plant in Hatta

Construction work on Hatta's new hydroelectric pumped-storage power plant, due to open in 2024, is now 44% complete. The plant has attracted investment of around AED 1.421 billion (USD 386 million), and will be the first plant of its kind in the Gulf region. It will boast production capacity of 250 megawatts, storage capacity of 1,500 megawatt hours, and turnaround efficiency of 78.9%.

The plant will utilise the potential energy of the water stored in its upper dam, 150 meters above the Hatta Dam. The water from the upper dam is converted to kinetic energy as it flows through the 1.2 kilometer subterranean tunnel. The water rotates the turbine, converting mechanical energy to electrical energy, which is then sent to the DEWA grid. Then, clean energy generated at the Mohammed bin Rashid Al Maktoum Solar Park pumps the water back to the upper dam. This makes the whole project 100% renewable.

The first 37-meter-high roller-compacted concrete wall at the upper dam has been completed, while work is currently underway on the 70-meter main dam wall. Once open, the plant will have a life span of up to 80 years.

The plant is part of DEWA's efforts to achieve the vision and directives of His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE, and Ruler of Dubai. His Highness's vision is to achieve comprehensive and sustainable development, and to diversify the clean and renewable energy sources in Dubai to achieve the Dubai Clean Energy Strategy 2050 and Net Zero Carbon Emissions Strategy 2050. The goal is to provide 100% of Dubai's total power capacity from clean energy sources

by 2050. This includes all available technologies such as photovoltaic solar panels, concentrated solar power, and green hydrogen production using renewable energy. The new hydroelectric power plant is also part of the Comprehensive Development Plan for Hatta, launched by His Highness.

Dubai Mountain Peak and Hatta Sustainable Waterfalls

Meanwhile, two related projects – Dubai Mountain Peak and Hatta Sustainable Waterfalls – will offer a unique experience for UAE tourists, showing the beauty of the country's mountains. The projects include the construction of a 5.4 kilometer cable car, taking visitors over the Hatta Dam lake and the upper dam lake of the new power plant, up to the 1,300 meter summit of Jebel Umm Al Nisour – the highest natural summit in Dubai.

Investing in Hatta's people and landscape

The projects will provide around 200 technical, administrative, and operational jobs in Hatta. Another 300 jobs are expected to be created by a new visitor center, and other outdoor activities and tourist facilities associated with the projects.

Construction of all these projects utilizes the latest and safest drilling technologies suited to Hatta's geological features. The projects also adhere to

the strictest international environmental standards to protect the Hatta Mountain Reserve.

DEWA and the Sustainable Development Goals

Since 2016, DEWA has made a critical effort to align with the SDGs and support efforts for their effective delivery by Dubai and the UAE. DEWA has prioritized 16 of the SDGs into three tiers of importance. It identified six SDGs as top priority where it can have the greatest impact, these include Goals 6, 7, 8, 9, 12, and 13.

In addition, a key part of DEWA's contributions to the SDGs is its work in innovation, research, and development. By conducting cutting-edge research for solutions adapted to Dubai's climate, DEWA is advancing local efforts in this field. It is creating a hub for innovation in renewable energy, diversification, and energy efficiency.

The Hatta development encapsulates all these aspirations and its hydroelectric power plant will be instrumental in Dubai achieving Net Zero by 2050. ■

هيئة كهرباء ومياه دبي
Dubai Electricity & Water Authority



SDG Action thanks the Dubai Electricity and Water Authority for its generous support for this publication

► HE Saeed Mohammed Al Tayar, MD and CEO of DEWA, reviews progress of the hydroelectric power station in Hatta



A climate-safe future

Despite many countries announcing more ambitious political commitments to net-zero, the policies and actions announced to date fall woefully short of achieving 1.5°C. We must rapidly increase the transition to renewable energy if we are to avert climate catastrophe

By [Francesco La Camera](#), Director-General, International Renewable Energy Agency (IRENA)

We are running out of time. The time constraints on our ability to reach the 1.5°C goal have become increasingly apparent in recent years. Visible and devastating impacts around the world have put pressure on governments to abandon fossil fuels and ensure massive emissions reductions in line with the Paris climate objectives.

With its 1.5°C Pathway, IRENA offers a clear vision for governments to accelerate the decarbonization of the energy system. Our studies have made it clear that climate ambitions can be enhanced through an accelerated energy transition rooted in renewable energy. Achieving net zero by 2050 depends on sufficient action by 2030, with the next eight years being critical. Only radical, immediate actions can bring the enhanced ambitions into reality.

We have certainly seen more ambitious climate commitments announced in the past year. India, for example, now aims to meet 50% of its energy requirements through renewable energy by 2030. Germany has also made a bolder commitment by bringing forward its 100% renewable electricity target from 2040 to 2035. In the oil-rich

Middle East, the United Arab Emirates has become the first country in the region to announce a target of being net zero by 2050.

Last November's COP26 also brought progress with the commitment of frontrunner countries to phase out coal and scale up clean power. Additionally, the Glasgow Climate Pact confirms that a significant number of governments and public finance institutions are committed to annually direct USD 24 billion away from fossil fuels to clean energy in pursuit of a just and inclusive energy transition. The aspiration sounds encouraging, but can it mobilize enough action and drive necessary change?

IRENA's latest World Energy Transitions Outlook finds that we must move much faster. Our latest data shows that, despite global uncertainties, the deployment of renewables continued to grow by 260 GW last year. Yet, the current deployment falls short of the level needed to reach net zero. In line with recommendations by the Intergovernmental Panel on Climate Change, no less than annually tripling installed renewable power by 2030 is required to stay on course towards 1.5°C.

To do that, we need to invest USD 5.7 trillion in energy transition per year over the same period. It is by no means an easy feat, but we no longer have the luxury of time or options. Furthermore, accelerating the energy transitions is a no-loss investment.

The cost of renewables continues to undercut those of new fossil fuels. Every



USD 1 spent on the energy transition will yield benefits valued at between USD 2 and USD 5.5. IRENA's Outlook 2022 shows that this will create 85 million energy transition-related jobs worldwide by 2030, with over 26 million additional jobs in renewable energy alone. These figures show that investing in fossil fuels has become uneconomic, bearing the risks of stranded assets.

Shifting to renewables will bring more than just capital benefits. It will lead countries closer to universal access to modern energy, as encapsulated in Sustainable Development Goal (SDG) 7. Affordable and clean energy is the foundation of national welfare. It improves productivity, and enhances people's access to healthcare, water, and education.



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However, the SDG 7 Tracking Report 2021, authored by IRENA and fellow SDG 7 custodians, shows that the number of people without access to electricity remains stubbornly high, declining from 1.2 billion in 2010 to 759 million in 2019. This slow progress indicates that the SDG target of universal access appears unlikely to be met by 2030. The United Nations High-level Dialogue on Energy in 2021 clearly highlighted how far we are from realizing our pledge to ensure universal access to energy. This is not acceptable.

We also analyzed the overall trend of international public financial flows to developing countries in support of clean energy. The positive trend, however, is marred by the fact that financial commitments were concentrated in a few countries and

failed to reach those most in need. This finding points to the continued importance of enhancing international cooperation to increase the flows in a more equitable manner.

We must now look at 2030 as the finishing line to prioritize emission mitigation, energy access, clean cooking solutions, and technological innovations. Additionally, integrated electrification plans that consider both centralized and decentralized renewables in a coordinated manner must also be a priority.

A comprehensive set of cross-cutting and structural policies is needed to optimize the use of all available technological avenues. Our analysis identifies renewables, electrification, energy efficiency, and green hydrogen as the major enablers of decarbonization. Policies must

▲ A turbine at a wind farm in Karnataka state, India. India aims to fulfill half its energy requirements from renewable sources by 2030. This will entail more than tripling current renewable capacity

aim to incentivize solutions, foster innovations, and raise consumers' and citizens' awareness, among others.

Resetting our priorities to implement the above measures requires accelerated collaborative action. We are the ones causing this dangerous and widespread crisis, so we must take responsibility to correct the path. If we want to cling to any chance left for a liveable world, we have no other option but to put our words into action within the next eight years. ■



A more natural cityscape

After nearly a century of believing that engineering solutions could conquer nature to make cities productive and efficient centers of socio-economic development, some urban planners now realize that nature is something to design with, not against. But how do we invite nature back in when cities have been built to keep nature out?

By [Bambang Susantono](#), former Vice-President for Knowledge Management and Sustainable Development, Asian Development Bank

On July 20, 2021 a historic torrential downpour inundated Zhengzhou, a city of some 10 million people in China's

Henan province. Low-lying tunnels and underpasses trapped more than 500 passengers in a subway train, while hundreds of vehicles and buses were submerged within minutes. Businesses, homes, and office buildings were damaged from floods and landslides. The disaster claimed the lives of almost 300 people in Zhengzhou, with direct losses totaling USD 8.38 billion (CNY 53.2

billion). Outside the city, rivers and reservoirs swelled across the province, causing even bigger losses: a death toll of more than 500 people and an estimated economic hit of nearly USD 18 billion (CNY 114.3 billion).

The Zhengzhou downpour was billed by Zhengzhou's weather station as a "once in a thousand years" event, yet climate change is making urban



◀ Suzhou Creek, Shanghai, China after the rehabilitation project. The project addressed the environmental damage caused by the city's massive population growth in the first decade of this century. Pollution was cleaned up, and parks and green spaces were created

broad Sustainable Development Goals (SDG) agenda. Nature-positive approaches support SDG 11 to make cities and human settlements inclusive, safe, resilient, and sustainable. They also answer SDG 13's call for urgent action on climate change.

Nature-positive approaches offer new levels of protection against climate impacts, more equitable access to natural environments for good health and well-being, and reliable infrastructure.

Four ways to build forward better with nature

Whether retrofitting established cities or starting fresh with new urban areas, here are four nature-positive approaches ADB is spearheading to integrate nature in urban development planning.

1. The integrated approach

Urban leaders from municipal governments, the private sector, and stakeholder advocacy groups should commit to a "systems approach" to urban governance for breaking down smart city silos. A systems approach:

- considers the needs of all stakeholders
- moves away from decision-making

floods and other natural hazards more common and more severe in Asia and the Pacific.

With the region's urban population expected to grow from 1.84 billion in 2017 to 3 billion by 2050, and at a projected urbanization rate of 64%, we face urgent questions about how to prepare cities to address the impacts of climate change.

A nature-positive approach

Urban infrastructure has relied on engineering solutions, and we have defaulted to traditional engineering for quickly reinvigorating economies in the wake of COVID-19. But cities need new approaches, ones that build with nature, not against it: ones that build forward better and not just back. New strategies should combine best practice engineering with nature-based solutions.

The Asian Development Bank (ADB) believes a nature-positive approach

can transform energy, infrastructure, and transport in urban areas in ways that build greater resilience, enrich biodiversity, store carbon, and meet development needs.

Nature-positive approaches challenge conventional urban governance, spatial planning, traditional engineering, and even capital markets by offering broad opportunities for greater resilience.

Just as urban development is multi-sectoral, so nature-based urban development can contribute to the

/// Nature-positive approaches offer new levels of protection against climate impacts, more equitable access to natural environments for good health and well-being, and reliable infrastructure

driven by cost efficiencies, ad hoc urban planning, and traditional engineering and construction

- accounts for the economic value of natural ecosystems

Singapore is making that shift. The city state's statutory integrated and comprehensive master plan for land use, known as the Singapore Green Plan, guides the city's medium-term development with relevant government agencies, the private sector, and residents. The plan calls for one million new trees to be planted between 2020 and 2030, an increase in nature parks area by 50%, and ensuring a park is no more than a 10-minute walk from every household.

2. Spatial planning with nature

Governments must lead the integration of more nature into spatial planning decisions and restore a well-functioning ecological foundation in cities. This ecological layer will preserve nature habitats within and around cities, restore degraded land, and embed nature in new and updated infrastructure, such as green corridors along high streets, mass transit and pedestrian routes, and green roofs.

Governments can influence nature-based urban land use planning by funding programs that safeguard land for high ecological and conservation values. An example is China's "sponge city" approach. It incorporates green infrastructure – such as wetlands, water retention parks, and rain gardens – that retains and absorbs natural rainwater flows to naturally infiltrate the ground and recharge the groundwater.

China began testing the sponge city concept in 2015 with 16 pilot cities around the country. These include Jilin Yanji and Shenzhen where, through ADB's sovereign and non-sovereign services, bank-funded projects have started developing urban water infrastructure systems to replicate natural processes to soak up heavy rainfall and flooding and release stored water for reuse.

Over the longer term, nature-positive approaches will prove more adaptive, flexible, and more economical than traditional engineering alone

That "once in a thousand year" storm in Zhengzhou happened to a sponge city. An investigation following that catastrophic event highlighted what Zhengzhou and many cities urgently need: integrated planning, agile and informed government systems and leadership, and structural and nonstructural measures. Zhengzhou's experience has proven that integrating nature and climate risk assessments into urban planning is essential and cost-effective.

3. Nature-based solutions

Cities need solutions that reconnect them to the biosphere. Nature-based solutions provide natural ecosystem services that mitigate the impact of climate stressors, raise the climate resilience of urban areas, and improve people's everyday welfare.

An example is the New Clark City project in the Philippines. To mitigate flood risks, the government opted for greenfield urban development over traditional river channelizing and high embankments, which would have been costly and created risks of flooding downstream and reduced groundwater recharge.

With ADB's support, New Clark City instead created impounding areas, taking advantage of the river's natural features and innate capacity to restrain floods. This has conserved biodiversity, created public recreation space, and earned the city a reputation for working with nature and valuing native and indigenous plant species.

4. Enable capital investments in nature

The depreciation of natural capital as a development impact must be

accounted for in our financial analysis, reporting, and decision-making. Government and financial partners can hold themselves and the private sector accountable to nature by firstly including social and environmental impacts, whether positive or negative, in the project appraisal process.

Second, governments can use policy, regulatory, and financial incentives to compel the private sector to measure and disclose climate and nature-related financial risks, such as water stress and coastal flood risk assessment, related to their infrastructure assets, operations, and new project proposals.

Lastly, they can work with development partners to create new markets and models to de-risk private investment in nature and make nature an attractive investment.

Policy programs can support eco-compensation and market-based instruments, such as certified blue bonds and green bonds. ADB's non-sovereign operations have successfully brokered blue and green bonds for climate-resilient infrastructure and nature-based solutions.

A symbiotic relationship

Integrating nature-based solutions into urban development planning will add complexity to governance and project preparation. But, over the longer term, nature-positive approaches will prove more adaptive, flexible, and more economical than traditional engineering alone.

Cities need nature more than nature needs cities, so it is vital that nature is integrated into every aspect of a city's life. It is better for nature and cities to exist in a symbiotic relationship: changing and reinforcing each other. ■



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Cleaner economic growth

Our current state of economic development has been built on burning carbon. To achieve the SDGs, or even just retain what we have, that link needs to be broken – “decoupled.” The decoupling process has started but will need to be total

By [Nathalie Girouard](#), Head, Environmental Performance and Information Division, Environment Directorate, Organisation for Economic Co-operation and Development (OECD)

Transforming raw materials into productive output has driven the economic growth of

developed countries, yet such unchecked expansion has left behind a trail of environmental harm. The golden question facing our societies today is how to continue expanding our economic goods while reducing the ensuing environmental bads. This is where decoupling comes in.

Our socio-economic systems continuously require materials and energy for human activity, agriculture and livestock, and manufactured goods, all of

▲ Wind turbines in La Mancha, Spain. Spain is one of several countries that have demonstrated economic decoupling, creating economic growth while reducing their carbon emissions (both on a production and consumption basis)

which lead to emissions of greenhouse gases (GHGs), air and water pollutants, and waste. “Decoupling” refers to de-

linking our resource-hungry economic activity from environmental pressures, which can follow two paths:

- decoupling GDP growth from the resources it requires, such as energy and material use
- decoupling GDP growth from its impacts down the line, such as GHG emissions, air pollutants, and waste, which have direct impacts on human well-being

We saw two big paradigm shifts in the 20th century. First, a Keynesian focus on education and government spending, and then a neo-liberal emphasis on free markets. Now, we are entering the third paradigm shift, geared towards meeting the needs of every human being, current and future, and thus improving well-being in a

sustainable way. The UN Sustainable Development Goals (SDGs) list 17 interlinked global targets to guide global growth and development onto a sustainable path, and track our progress along the way. Eleven of the SDGs are environment related.

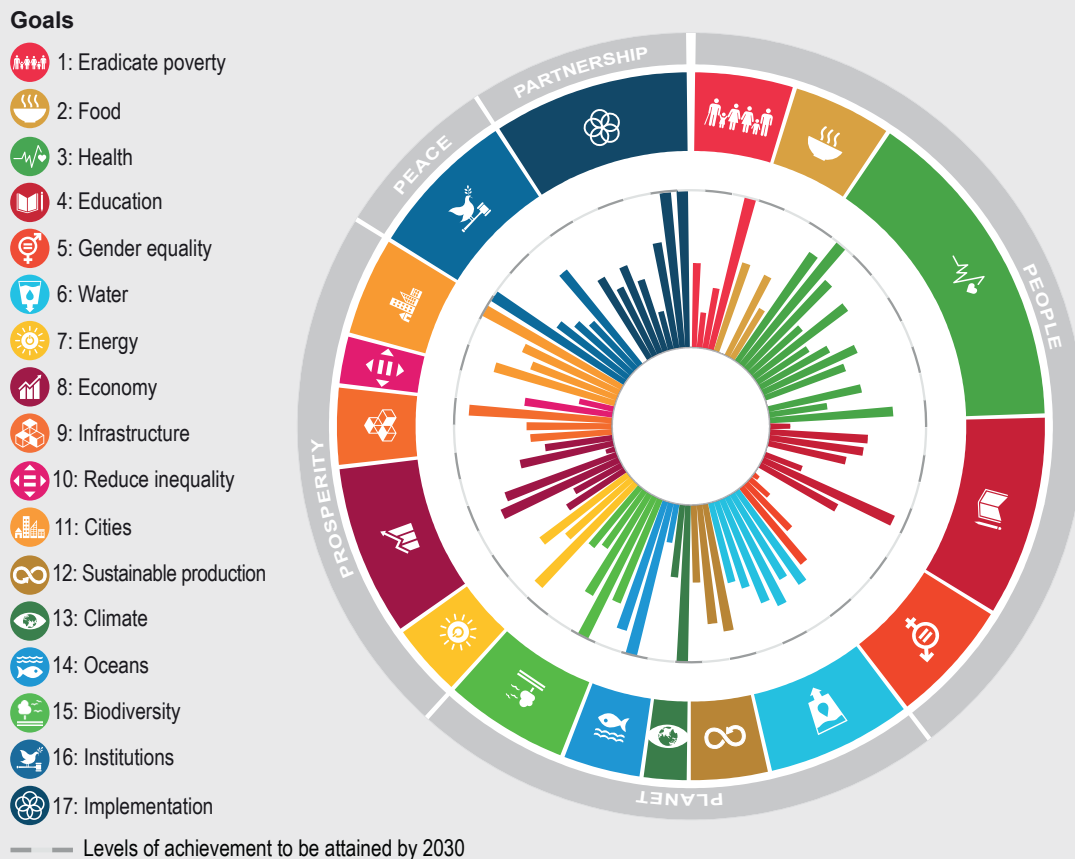
Figure 1 shows how far OECD countries (on average) are from achieving each target for which data are available. The longer the bars, the shorter the distance to be traveled by 2030. Target levels are represented by the outer dotted circle. The inner circle (the starting point for the bars) represents a score of three or more standardized distances away from target, which most OECD countries have achieved on most targets. Targets are shown by goal, and goals are clustered by the “5Ps” of the 2030

Agenda (people, prosperity, planet, partnership, and peace).

The idea of decoupling environmental pressures from economic growth – one of the main objectives of the OECD Environmental Strategy for the First Decade of the 21st Century – is to implement structural changes to create a more sustainable economy that can stand the test of time, outgrowing itself and its own impacts.

The evidence base provided by the OECD complements the SDGs and helps shed light on the extent of resource and impact decoupling achieved thus far. It highlights what remains to be done globally to continue on the trajectory towards sustainable development. Experience in the OECD area over the past three

FIGURE 1: OECD countries’ average distance from achieving SDG targets



Source: OECD 2019

decades shows us that decoupling GHG emissions from economic growth is not only possible, but well on its way.

In Figure 2, if we compare the growing purple line of GDP with the blue line representing GHG emissions, we can see how the growth of emissions was on a slower path than GDP growth, indicating relative decoupling, until 2008. Then, emissions growth began to decrease, achieving absolute decoupling.

The reasons behind this welcome development are twofold:

- energy efficiency has improved, meaning our activities require less energy than they used to
- we have begun to significantly substitute GHG-emitting fossil fuels with renewable fuels

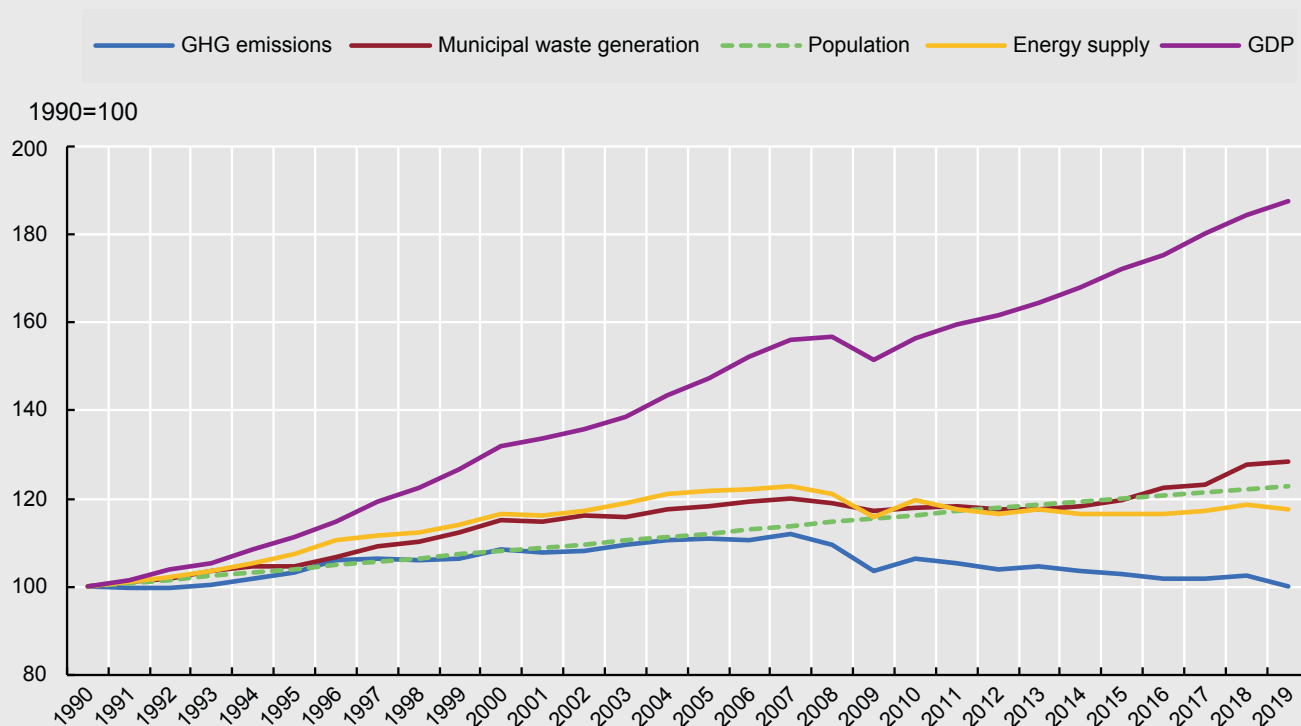
Decoupling can be achieved through higher efficiency in our material consumption and generation of waste, and through better substitution of non-renewable products with renewable products, by recycling

Both these factors have been at play, proof of which is the decreasing energy supply – around the time that emissions fell too – as well as the simultaneous increase in the share of renewables in the total energy supply, matched with a sharp decrease in coal production from 2010 onwards.

As for waste, the past three decades have seen a relative decoupling, with municipal waste generation continuing

to increase as our societies grow, albeit at a slower rhythm. Nonetheless, from 2016 onwards, waste generation has increased faster than population growth, being a source of concern to be aware of. Here, the same story applies as with emissions: decoupling can be achieved through higher efficiency in our material consumption and generation of waste, and through better substitution of non-renewable

FIGURE 2: Decoupling trends in the OECD area, 1990-2019



Source: OECD (2022), OECD Environment Statistics (database)

products with renewable products, by recycling.

Absolute decoupling of waste generation from GDP growth is yet to become a reality, as there is both a degree of higher efficiency and higher substitution that can be built upon. For this, recourse to the measurable milestones set out by the SDGs, and the sharing of mutual learning, is essential.

Lessons learned

There are many lessons to draw upon from the past three decades. A good place to gather practical lessons learned, monitor global progress, and sort through headline noise is the International Programme for Action on Climate (IPAC).

// The need for sustainability in our systems becomes more apparent than ever in the face of price and geopolitical volatility, against which decoupling can ensure a degree of stability

IPAC was launched in May 2021 to support progress towards a more sustainable economy by 2050, and helps countries to measure progress toward meeting their climate goals, while taking into account their respective capabilities and national circumstances. For instance, price signals have been instrumental in leading the way for the substitution of fossil energy and the decoupling of emissions from economic growth. The Climate Action Dashboard tracks climate-related tax revenue, effective carbon rates, and climate policy stringency – all essential in driving investment patterns toward climate neutrality.

There is also scope for applying the learned experience from the successfully decoupled energy emissions to the system of price incentives of waste – for example, to accelerate recycling. For this, IPAC's

Climate Policies in Practice platform encourages mutual learning by offering practical policy examples across various sectors and government levels, with the ultimate goal to inspire policymakers, business, and civil society to take action to move us towards a net-zero world.

This is complemented by country notes, which provide insight into a country's situation with a subnational lens, and targeted advice on selected policy areas, given the diverse array of approaches, circumstances, and starting points across and within countries.

For example, Ireland is following a credible tax trajectory, gradually increasing its carbon tax to reach €100 per tonne of carbon dioxide by 2030.

The country is extending the tax's scope to all fuels used in sectors not covered by the EU Emissions Trading System. This will help reduce Ireland's GHG emissions in line with SDG 13 and improve clean and affordable energy in line with SDG 7, thanks to revenue recycling and clean energy financing.

To tackle SDGs 7, 13, and 17 (on partnerships for implementation), Australia's Clean Energy Finance Corporation is pioneering green banking, with the purpose of scaling up investment in clean energy projects. Lithuania's law on alternative fuels, adopted in March 2021, additionally tackles SDG 11 on sustainable cities and communities, and SDG 12 on responsible consumption and production.

The law facilitates a green shift in the transport sector by increasing the number of electric vehicles and

charging stations, and expanding the use of cleaner fuels. Examples such as these, and many more, filtered by sector, SDG, country, and sub-national level, can be found under IPAC's Policies in Practice.

IPAC is part of a wider OECD effort to support the SDG Agenda through its experience of harnessing data and indicators to place climate change in the broader context of sustainable development.

Coming back to the key policy levers responsible for bringing about emissions decoupling, the OECD produces an Inventory of Support Measures for Fossil Fuels, which identifies and quantifies public financial flows benefiting fossil fuel production and consumption.

The inventory directly supports SDG indicator 12.c.1, "Amount of fossil-fuel subsidies per unit of GDP (production and consumption)," providing the methodological support, monitoring, and reporting capacity for the 50 economies covered in the inventory. The inventory also responds to the commitment to end fossil-fuel subsidies, now anchored in the UN process.

Providing stability

If we are serious about reaching our climate and sustainability targets while meeting the needs of every person – present and future – absolute decoupling of economic growth from its use of resources and its emission of environmental bads is a logical necessity.

True growth considers not only the short term, but also the medium and long term. That means we must track not only GDP but also measures of sustainability.

The need for sustainability in our systems becomes more apparent than ever in the face of price and geopolitical volatility, against which decoupling can ensure a degree of stability. Decoupling can therefore also provide stability in economic growth, underlying the well-being of our societies. ■

Powered by partnership

The Origin Green program has been driving sustainability across Ireland's food and drink sector for more than a decade

By **Deirdre Ryan**, Director of Sustainability and Quality Assurance, Origin Green

Sustainability has become something of a buzz word, but in Ireland we have been working hard for more than a decade leading a meaningful international sustainability program for our Irish food and drink industry, which is worth £11.5 billion (€13.5 billion).

Since 2012, Bord Bia (the Irish Food Board) has operated Origin Green, the first national sustainability program in the world. Powered by collaboration and partnership, Origin Green commits the entire industry, from Irish farmers and processors to foodservice and retailers, to take actions that reduce their carbon footprint and improve their environmental performance.

The monumental events of COVID-19 plus climate change and the war in Ukraine have changed a lot about how we see our lives and our health, and consumers are now more cognizant of sustainability around supply chains.

Realizing that no one country, sector, or individual business can solely lead the move towards global sustainable production, Bord Bia is committed to working with both domestic and international partners to drive sustainability progress in the industry through collaboration.

Bord Bia sees the importance of connecting the shared global ambitions of the Sustainable Development Goals (SDGs) to the sustainability targets and actions undertaken by Origin Green members.

Collaboration is at the heart of what Bord Bia does, and it is critical to acting sustainably – Origin Green aligns with 15 of the 17 SDGs, and to further support this, Bord Bia became



Organic beef farming in Wicklow, Ireland

a member of the United Nations Global Compact in 2018.

Currently Origin Green collaborates with approximately 55,000 farms and more than 300 leading Irish food and drink companies to prove and improve the sustainability credentials of Ireland's food, drink, and horticulture sectors to meet the evolving demands of customers and consumers.

The Origin Green program has recorded significant improvements among farmer members since 2019, such as a 6.3% average reduction in CO₂ per unit of beef from Sustainable Beef and Lamb Assurance Scheme (SBLAS) members and a 6% average reduction in CO₂ per unit of milk from Sustainable Dairy Assurance Scheme (SDAS) members.

Origin Green members have also achieved significant milestones across the supply chain, and account for 90% of Irish food and drink exports.

So what does the future hold?

Maintaining Ireland's international reputation for sustainable production and improving the environmental impact

of Ireland's food production methods must continue to be evidence-based. Origin Green remains the world's only national food and drink sustainability program and is part of a wider coalition of the willing across the island of Ireland, who are actively working to drive positive and lasting change.

There is no doubt that the global challenges ahead are significant, but utilizing the proof that we have compiled from our work with members and program partners over the past 10 years, Origin Green provides a strong base from which to position Ireland as a global leader in sustainable food systems now and into the future. ■

For more information, visit:
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Power beyond the grid

Off-grid and mini-grid electricity generation can bring immediate benefits across the SDGs. They offer a least-cost approach to electrification, yet investment in them remains limited. What needs to happen to ensure these technologies play their full part in tackling energy poverty?

By **Damilola Ogunbiyi**,
CEO, Sustainable Energy for All
(SEforALL), Special Representative of
the UN Secretary-General for SEforALL,
and Co-Chair of UN-Energy

Energy accounts for over two-thirds of global greenhouse gas emissions. Unaddressed, we will be perilously close to hitting the 1.5°C temperature rise (compared with pre-industrial levels) in the near term.

Last year, the UN Environment Programme published an emissions gap report, which stated that the new and updated nationally determined contributions would take only 7.5% off predicted 2030 emissions – way short of the staggering 55% reduction required to achieve the Paris Agreement. Reports from the Intergovernmental Panel on Climate Change paint a bleak picture of our planet's future at current trajectories – what the United Nations Secretary-General has called a code red for humanity.

At the same time, 759 million people lack access to electricity, and 2.6 billion people do not have access to clean cooking solutions. This is another crisis for humanity. Billions of people are being left behind in energy poverty, which impacts almost every aspect of what it means to live modern, dignified lives.

◀ **Installing a solar-powered irrigation system in Danghesta, Amhara region of Ethiopia**

Lack of electricity impacts healthcare, education, food security, public safety, and economic opportunity. In the absence of reliable electricity, many resort to fossil-fuel-dependent generators that come at a high economic and environmental price. Without clean cooking solutions, smoke inhalation prematurely kills nearly four million people a year –

While high-emitting, energy-abundant countries must invest heavily into greening their economies, we must also ensure that adequate investments flow to low-emitting, energy-poor countries

most of those being women and children.

These two challenges – the climate crisis and the energy crisis – are closely linked and require urgent action. It's not one or the other; we must do both. In fact, we will not be able to achieve our net-zero ambition and limit rising temperatures unless we address energy poverty.

While high-emitting, energy-abundant countries must invest heavily into greening their economies, we must also ensure that adequate investments flow to low-emitting, energy-poor countries to grow their economies and deliver on Sustainable Development Goal (SDG) 7 – achieving affordable, reliable, sustainable, and modern energy for all.

The role of decentralized renewable energy

Mini-grids and off-grid solar represent an enormous opportunity to address energy access without the challenges associated with standard grid electrification. In addition, achieving SDG 7 supports progress on several other SDGs. Ending energy poverty directly impacts:

- ending poverty (SDG 1)
- ending hunger, and improving nutrition, food security, and sustainable agricultural practices (SDG 2)
- ensuring healthy lives and promoting good health and well-being (SDG 3)
- inclusive and equitable quality education (SDG 4)
- achieving gender equality (SDG 5)
- improving access to water and sanitation (SDG 6)
- decent work and economic growth (SDG 8)
- reducing global inequalities (SDG 10)
- climate action (SDG 13)
- fostering partnerships (SDG 17)

Achieving SDG 7 aligned with the Paris Agreement will require a drastic

By developing truly integrated energy plans that take a holistic approach and encompass both on and off-grid energy solutions, countries can provide energy access to underserved populations at lower costs

reimagining of how we deliver energy services for households, businesses, buildings, transport, and public services. Scaled-up off-grid renewable energy will do well in many contexts and must be prioritized. This must be supported by improved regulatory frameworks, with greater finance committed, and innovative business models allowing the off-grid market to reach its full potential.

By developing truly integrated energy plans that take a holistic approach and encompass both on and off-grid energy solutions, countries can provide energy access to underserved populations at lower costs. Grid expansion is predominantly employed as the approach for providing electricity access, but off-grid technologies are a more economically viable alternative for remote areas where the grid might be hard or too expensive to reach. In these cases, off-grid renewable energy solutions, including mini-grids and stand-alone solar systems, offer a least-cost approach to electrification.

The recently launched Nigeria Integrated Energy Planning (IEP) Tool, developed by the Government of Nigeria with the support of Sustainable Energy for All (SEforALL), is an exemplar of a world-class IEP that includes on and off-grid electrification, clean cooking, and productive use.

The tool allows a range of stakeholders to model a variety of scenarios to deliver these solutions in the fastest and most cost-effective manner. According to this plan, mini-grids represent the least-cost technology for 8.9 million of the total 19.3 million additional connections required, while solar home systems

account for five million of these connections. With productive use demand from agricultural activities included in the analysis, the number of mini-grid least-cost communities increases by 200,000.

A study by SEforALL and Bloomberg New Energy Finance for the Mini-Grids Partnership, State of the Global Mini-grids Market Report 2020, estimated that nearly 111 million households could be served by mini-grids in sub-Saharan Africa, Asia, and small island nations by 2030, requiring capital investment of an estimated USD 128 billion.

Adequate and affordable finance, however, remains one of the top barriers to scaling off-grid solutions to help bridge energy access gaps. Last year's Energizing Finance report found that finance for residential electricity was less than a third of the USD 41 billion in annual investment required, and abysmally short of the USD 4.5 billion required for clean cooking. For the off-grid solar and mini-grid sector, tracked investment declined from USD 460 million in 2018 to a mere USD 294 million in 2019.

Limited investment in the mini-grid and off-grid solar sector can be addressed by policy reform and the adoption of sustainable and innovative business models and financial instruments. This will be crucial to accelerate the deployment of finance to the sector. A key step is to ensure market support to assess customer demand and improve credit assessment and financing mechanisms, including securitization, guarantees, and risk pooling. In addition, blended finance solutions to efficiently deploy grants

and concessional finance alongside commercial investment to de-risk energy access projects will be required.

Lastly, the formalization of licenses for private-sector mini-grid developers and the implementation of a coherent national policy around subsidy planning would increase the viability of private-sector involvement in the sector.

Enabling a just transition is critical

Developing countries need investment and technical support in creating and implementing comprehensive IEPs. Accelerated growth for the clean energy industry will mean new opportunities to develop robust local business ecosystems and supply chains alongside new jobs, and improved skills and labor markets.

Developing and emerging countries need to respond to the aspirations of their populations by providing sufficient and reliable energy for development. This must be balanced with the need for ensuring an energy transition that would put the world on a pathway to net zero. This is what a just, equitable, and inclusive clean energy transition would look like.

The road ahead

COP26 negotiations left stakeholders agreeing that much more will be required to meet our global goals, for addressing climate change, and ensuring sustainable energy for all. However, there was a clear signal from governments, the private sector, and other stakeholders that raised ambition on clean energy and energy access towards accelerating climate action and energy transitions were a priority. It set the ball rolling for COP27 where a just and equitable clean energy transition will be front and center. In the midst of the uncertainty of the current global energy landscape, what we need now more than ever is sustained and ambitious action and investment in a clean energy future that leaves no one behind. ■



Creating sustainable energy networks

Conversations on energy transition tend to focus on renewable generation or the end-user. However, too often, the complex systems that are required to connect the two are neglected. Relying on “the market” to develop solutions risks being too slow and inequitable

By **Keith Bell**, Scottish Power Chair in Future Power Systems, University of Strathclyde

For millennia, societies across the world have made use of energy for cooking, heating, light, and manufacturing of materials, usually from burning of wood. However, since the Industrial Revolution opened up the possibility of using fossil fuels to mechanize all sorts of processes, including mobility and the generation of electricity, economic growth has

been inextricably linked with carbon emissions. These were first postulated as causing global warming many decades ago, something that we now know with extremely high confidence to be true.

Working Group II of the Intergovernmental Panel on Climate Change noted in its August 2021 report that “Human-induced climate change, including more frequent and intense extreme events, has caused widespread adverse impacts and related losses and damages to nature and people, beyond natural climate variability.” The race is on

▲ Votna hydropower reservoir in Norway. Connecting the Nordic power grids, which have abundant hydropower, can help smooth out the peaks and troughs of solar and wind generation in the rest of Europe

to limit those impacts by limiting global temperature rise.

According to Climate Watch, 76% of global greenhouse gas (GHG) emissions in 2018 arose from the production and use of energy. It is therefore clear that economies across the world need to wean themselves off sources of energy

that emit carbon dioxide and cause leakage of methane, a GHG many times more powerful than carbon dioxide.

According to the International Energy Agency (IEA), coal, natural gas, and oil met 80% of global energy demand in 2019. Can that dependency be reduced, and how can the benefits of energy – mobility, light, cooking, heating, cooling, communication, computing, entertainment, and manufacturing – be harnessed, at the same time reducing pollution in cities, workplaces, and homes?

Energy systems are all about the ways in which energy is converted, from different sources and into different applications. Economies of scale and pooling of diverse resources can be achieved by using a common, intermediate form of energy to move it from one place to another.

The most flexible existing form is electricity. We can do pretty much anything we want with it and can generate it from multiple low-carbon sources: wind, solar, and hydro power, plus sources of heat in thermal power stations that use steam to turn turbines, such as nuclear fission or burning of biomass. Although fuels such as hydrogen or ammonia manufactured in low-carbon processes, or district heating networks using hot water, are likely to have at least some role as energy carriers, most energy system analysts see electricity as serving the vast majority of future needs.

Increasing efficiency

The scale of the challenge in decarbonizing the energy system can be reduced if we can make our use of energy much more efficient. The good news is that heating (using heat pumps to move energy from a cooler place to a warmer place, much as your fridge does) and transport (using electric motors) are much more efficient with electricity than with fossil fuels. The bad news is that the equipment is expensive and, of course, you need cost-effective, low-carbon sources of electricity.

Thanks to substantial innovation in recent years, in terms of the simple

“levelized cost of energy” (LCOE), wind and solar power are now by far the cheapest new sources of electricity. However, LCOE does not tell the whole story of satisfying demand for electrical energy all year round: demand varies minute by minute, day by day, and through the seasons, and it’s not windy and sunny all the time.

An electricity system needs generation and demand to be balanced at all times, second by second. System operators have learned how to do that, carefully planning the starting and stopping of generation to match the forecast variations of demand, making use of reservoirs to store water for hydro power stations (if you’re lucky enough to have a landscape that permits it), or stores of coal or gas to feed into thermal power stations. Clearly, the latter option is incompatible with a net-zero energy system, unless the carbon emissions are captured and stored.

You might build large amounts of wind and solar capacity to make lots of electrical energy when the wind is blowing and the sun is shining, but there will be periods when there are large surpluses of power relative to what end users want at that time. Can energy be stored in some way until the times when there’s a deficit of wind and solar production relative to demand? That’s possible.

For example, we could use batteries, water pumped up a hill and stored there, or hydrogen made via electrolyzers using electricity to split water with the hydrogen then stored in geological formations until it’s used to generate electricity. Unfortunately, there is a high capital cost for plant and there is always some energy lost in the “to and fro” conversion processes.

A further option is to export your surplus to a neighbor, something that depends on them having a use for it at that time and on building enough interconnector capacity. If you’ve got good wind or solar resources and they’ve got good reservoir capacity for hydropower, that can be a mutually beneficial arrangement: they save water

when it’s windy, and you can use their spare hydropower when it’s not.

Engineering and social challenges

The technologies for conversion of wind and solar power into electricity are very different from those in thermal power stations. This brings significant engineering challenges. However, there are also major social challenges around the transition.

Many local economies around the world have grown to be dependent on coal, an industry that worldwide employs thousands of people extracting a product that, to limit global warming, no one should want. While reduced dependency on imports of fossil fuels can lessen vulnerability to the kinds of global geopolitical shocks currently affecting energy markets, economies dependent on revenues from exports of those commodities need to find other sources of income.

There is also a challenge around access to other commodities such as lithium and cobalt for batteries and rare earth metals used in electrical machines, and the environmental impacts of their extraction. These issues are motivating research into effective alternatives.

From a power system perspective, hydropower is a fantastically flexible low-carbon resource, but reservoir developments have a huge impact on natural capital and displaced communities. Access to different resources both within and between countries depends on development of high-voltage electricity networks. This and construction of large wind farms have prompted vocal opposition from local people.

According to the IEA, across all developing countries, 20% of people lack access to electricity of any form, a proportion rising to 50% in sub-Saharan Africa. Small scale, local “microgrids” using solar power can bring many benefits, but who is going to pay for them? Network reinforcement is also needed to enable charging of electric vehicles (EVs), conversion to electric heating, or growth of demand for air conditioning.

Early adopters of those technologies are likely to be the wealthy but, normally, the costs of the network are spread among everyone. In addition, those able to afford solar photovoltaic panels on their own roofs would be able to reduce the fees they pay for the network. Would that be fair?

The question of who pays and who benefits is writ large across the transition to low-carbon production and use of energy. There has been a worldwide project since the early 1990s to mobilize private capital to renovate and expand electricity systems, with revenues for generators determined by forward trading of energy and spot markets designed to optimize the utilization of resources based on marginal costs.

Wind, solar, and hydro resources have no fuel costs so, once they've been built, and in the hours when they're operating, the spot market would clear at very low prices, providing insufficient revenue to cover the cost of the initial investment.

This “missing money problem” hardly seems likely to attract the initial investment. Unless the same price

signals encourage extra demand (battery charging or electrolysis, for example) that would help to lift the market price, some kind of government support for the development of low-carbon generation capacity would seem to be necessary.

However, this is argued by some economists to undercut signals that would encourage the timing of use of electricity towards the sunny, windy periods of plenty and away from times of paucity of renewables, and to soften the sorts of price extremes that would allow developers of energy storage – who buy energy when the price is low and sell it when it's high – to make a return.

It might instead be argued that reliance on market mechanisms leaves too much uncertainty, which would increase the cost of capital. Many commentators see a need for policymakers to overcome decades-old reluctance to “pick winners” and fear about the size of public debt following the 2008 financial crisis and the COVID pandemic, and both direct and financially underpin the energy transition.

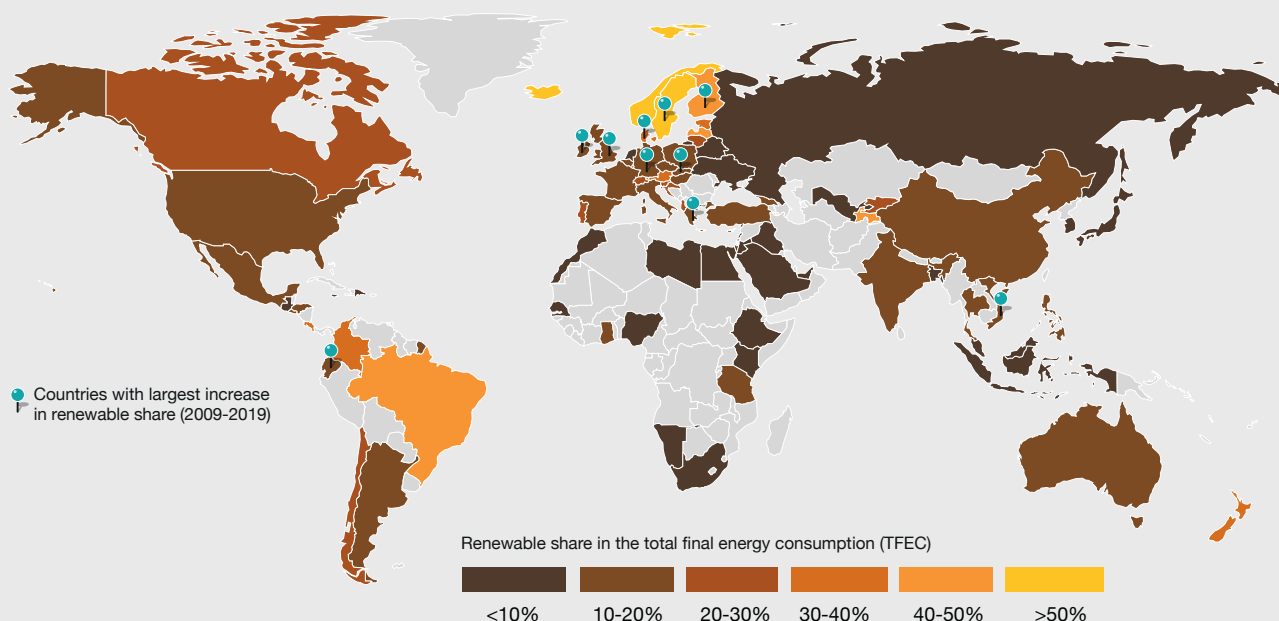
In principle, this would allow coordinated development of renewables, network capacity, and large volumes of energy storage to serve demand during, say, a one-in-ten-year “wind drought,” and investment in skills and supply chains.

A “graceful exit”

The strategic, engineering, and economic issues, and social challenges around the energy transition might be making politicians nervous, but they ought not to be insurmountable. Renewed concerns about energy security and reliance on oil and gas imports could tip the balance toward energy efficiency and renewables – or, if you've got your own reserves of fossil fuels, toward them.

For the sake of the climate and the people affected by it, policymakers need to tilt toward the former, to make a “graceful exit” from high-carbon industries, and to embrace the opportunities afforded by renewable energy industries, cleaner air and access to electricity. And they need to do it soon. ■

FIGURE 1: Renewable energy share in total final energy consumption for selected countries, 2019



Note: This figure includes a selection of 80 nations among the largest energy-consuming countries in the world.

Source: Based on IEA data



Is a high ESG score good for the SDGs?

ESG ratings are imperfect measures of a company's exposure to environmental, social, and governance risk, and they often ignore the impact that companies have on society. Complete redesign might help, but is that possible?

By [Jérôme Tagger](#), Chief Executive Officer, Preventable Surprises

It is boom time for ESG-labeled investment products. According to Morningstar,¹ ESG-labeled funds reached a total of USD 3.9 trillion in assets under management last year. This is out of a total of around USD 103 trillion in assets managed by global fund managers. This money is invested in company shares and

bonds across all sectors of the economy. Driven by the proposition that ESG is a way for investors to align their money with their values and achieve similar or higher-risk adjusted returns, ESG and Sustainable Development Goal (SDG)-aligned fund products are among the fastest growing sectors of the investment management industry.

ESG ratings are key to this process. So, do more ESG-labeled fund products mean good news for progress on the SDGs?

According to the UN, around USD 3.3 to 4.5 trillion in investment is required each year to finance the SDGs in time for 2030. Yet how do fund labeling and third-party ratings of investment funds and companies as SDG-aligned actually impact on progress towards the Goals?

ESG ratings have their roots in the system of credit ratings that emerged in the early 20th century in response to speculative investment fever in the



◀ A flotilla of small boats surrounds an oil drilling rig in Seattle, protesting Shell's plans to explore the Arctic (Shell subsequently abandoned all Arctic interests). Shell epitomizes the divide between ESG and the SDGs: the company has a high ESG rating but its purpose is incompatible with the aims of the SDGs

Materiality questions: corporate vs. societal risks?

What do ESG ratings actually rate? It is a fundamental question. ESG ratings are primarily based on publicly available data from corporate voluntary disclosure frameworks. Historically, these were the Global Reporting Initiative and the Sustainability Accounting Standards Board. With the growth of ESG reporting, there has been an effort in recent years to consolidate and standardize ESG reporting. The recent launch of the International Sustainability Standards Board (ISSB) – a merger of several other efforts – is meant to achieve just that. But criticism of the ISSB encapsulates fundamental debates about ESG data: what exactly is it, and who does it matter to?

Broadly speaking, should data reflect how companies' business prospects are affected by sustainability issues (for example, what is "material" to business and investors)? Or should data reflect how corporate practices affect the environment and society (for example, their impact)?

While these occasionally overlap, in practice it's rarely the case. For example, companies that pollute rarely pay a price for the pollution. Rather, while clients enjoy the benefit of the products, it is society – and the wider economy – that bears the environmental costs: it impacts the wider system. This is a fundamental problem. Ratings focused on ESG "risk to the company" will ignore risks borne by others. ESG carries an implicit promise of making the world better, but ratings do not provide a mechanism to truly deliver on this.

The challenge is that the consolidation of data reporting is happening around so-called material information. As we can see, it is insufficient to tell a proper story of how companies impact the environment and societies. There are regulatory efforts in the EU to require companies to do both (the term of art is "double materiality"), but this does not extend beyond the region. It is therefore at best an unreliable guide to the SDGs and doesn't say anything about companies' contribution to a sustainable economy.

Stocks and flow

A second, but nevertheless important, nuance to take into account is: what sort of entity is being rated, and does it say anything about financial flows? Here the answer is straightforward: it mostly doesn't. Most ESG ratings apply to companies that are listed on stock markets: their ownership may change hands (for example, if I sell my Tesla stock to you), but the money does not go to the company.

In other words, there is no new money or "additional" investment being made. What this means is that there is no relationship between most ESG ratings and the scale of capital investment that is required to achieve the SDGs: for example, the aforementioned USD 3.3 to 4.5 trillion needed each year to finance the SDGs.

There are some exceptions, such as ESG ratings for new sustainability or green bond issues (when a company turns to financial markets to find debt financing for green projects), but these are a minority: the market was estimated at USD 500 billion in 2021. It is poised to grow, although the other definitional and methodological challenges will remain.

Methodology questions

How is ESG data being tracked? As we have seen, ESG ratings rely mostly on company self-reporting and public information sources. As a result of this process and absent consistent regulation, companies' reporting can be haphazard. They may be tempted

United States. However, the two are distinct systems. The role of credit-rating agencies is to provide investors, governments, and banks with a well-recognized opinion on creditworthiness for a wide range of counterparties and financial instruments. Investors rely on rating agencies as cost-effective partners for assessing credit risk.

In contrast, an ESG rating is an evaluation of how well a company proactively manages environmental, social, and governance "issues," and is designed to help investors make sense of the ESG risks (and sometimes impacts – more on this below) of the companies they might invest in.

Alongside the typically central place of climate impacts, the social and governance components of these ratings may seek to measure corporate behavior on issues such as labor standards, health and safety policies, gender and racial diversity in the workforce, lobbying practices, and transparent corporate governance, among others.

// The ESG evaluation market is still young, but its impact on how people consider corporate sustainability practices is considerable. In fact, it now largely defines it

to paper over their most egregious negative impacts on society.

Typically, if a media outlet does not pick up on a negative story (a “controversy” in ESG parlance), then the issue will not be factored into ratings. This creates a first risk of bias. The EU is also working to address this from a regulatory standpoint, by asking companies to report on their principal adverse impacts, but this has yet to be implemented and is not present in other jurisdictions.

A second risk of bias stems from aggregation: current methodologies require ratings firms to amalgamate a huge number of disparate dimensions into a single ESG score. So, a human rights disaster can be quickly outweighed by a new emissions commitment or gender equity policy, and these various SDGs themes are not tracked or compared in a consistent or transparent manner over time.

This results in a mushy perspective: it can have some meaning about how companies relate to one another and call out leaders or worst offenders, but it can also be meaningless when it comes to answering whether a company is contributing to the SDGs.

A third risk of bias is the frequent lack of context for the ESG metrics which underpin the ratings. To give a simple example: water usage (say, by a plant) in an area of water stress is much more significant than in an area where water is plentiful. However, that is rarely reflected in ESG metrics.

The good news is that there is widespread understanding of the limitations of the current models. Several initiatives, such as the Impact Management Platform, the UN Environment Programme Finance Initiative’s Positive Impact Initiative, or r3.0 and the Sustainability Context

Group it manages, are working on providing much more meaningful data.

The more challenging news is that the market for ESG data is driven by institutions who do not have the capacity or interest to build a more granular understanding of sustainability data. There is no silver bullet, and improving ESG information will require ongoing advocacy by civil-society experts, and possibly regulation.

Can conflicts of interest be overcome?

A potentially larger question looms over the ESG ratings business, as it does over the financial ratings business: most ratings companies sell their research both to investors and to the companies that they rate. The research is often complemented by advisory services. This is not without risk, because it takes a lot of moral fortitude to provide objective information (especially if it’s negative) to organizations one has or courts as clients.

To wit, the world’s largest credit ratings providers, S&P, Moody’s, and Fitch, continue to dominate the market, years after the 2008 to 2009 Global Financial Crisis. These three giants and a number of their peers have moved into the ESG ratings business, influencing market sentiment and investor approaches to the SDGs. The sector has undergone rapid consolidation, including:

- Institutional Shareholder Services’ (ISS) acquisition of Oekom Research in 2018
- MSCI’s acquisition of GMI Ratings in 2014 followed by Carbon Delta in 2019
- Moody’s acquisition of Vigeo Eiris in 2019
- S&P’s acquisition of Trucost in 2016 and the ESG rating business of

RobecoSAM in 2019

- Morningstar’s acquisition of Sustainalytics in 2020
- Deutsche Börse’s acquisition of ISS in 2020

Once start-ups, ESG ratings firms may have seen selling their business to both companies and investors as a business necessity, even a means of survival. The issue is that these conflicts of interest end up being baked into the model once these firms grow or are acquired, because it is hard to let go of an existing and possibly lucrative revenue stream. This creates an overall risk for the quality of ESG information.

ESG ratings need essential reform

The ESG evaluation market is still young, but its impact on how people consider corporate sustainability practices is considerable. In fact, it now largely defines it. It is therefore essential to improve it.

But there are larger issues at play: ratings of company or fund-level ESG performance are meaningless without an intention by investors or corporate leaders to achieve change. If companies do not want to support a climate-secure world or gender pay parity, an ESG rating will not alter this reality. Meanwhile a narrow focus on risk factors and materiality in the ESG ratings process can miss wider, systemic issues and trends. These are rarely accounted for in existing rating methodologies and require more research.

For users of ratings, this means taking things with a (very large) grain of salt. Investors and other stakeholders cannot take ESG ratings at face value. They must invest the time to understand company intentions and capacity to support the SDGs, beyond a rating. They must also invest time and resources in clarifying their own intentions. ■

1. Morningstar was obliged to revise this figure, illustrating challenges that this article discusses.



Reversing nature loss

In 2022 we should aspire to a Paris-style agreement on restoring biodiversity. Ambition alone, articulated in several published pledges, is not enough: governments must now commit to a strengthened Global Biodiversity Framework that compels them to take meaningful action

By [Marco Lambertini](#), Director General, WWF International

Climate change may be perceived as the most pressing environmental challenge we face; sadly, it is far from the only one. Our unsustainable patterns of production and consumption are placing increasingly unbearable pressure on many of the world's

natural planetary systems. And, while the imperative to act on climate change is now, at last, firmly embedded in public consciousness, the same cannot yet be said for these other looming sustainability challenges.

Pressures like deforestation, overfishing, water scarcity, unsustainable infrastructure, mining, pesticides, fertilizer overuse – the list goes on – are all working in the same direction. They are undermining and degrading nature. We urgently need

concerted action by governments to protect nature and all life on Earth, including our own, and to address the root causes of its degradation: our unsustainable economic practices.

▲ A logger paddles his logs out of the flooded forest floor onto the river in Ondo State, Nigeria. In two decades up to 2021, Nigeria lost 1.14 million hectares of tree cover, including 8% of its primary forest

The good news is that a process is underway to take that action, through the Convention on Biological Diversity (CBD), an international agreement struck in 1992 at the Rio Earth Summit that also created the UN Framework Convention on Climate Change. In March 2022, negotiations are set to continue on a Global Biodiversity Framework, due to be agreed at COP15 in Kunming, China later this year, at a summit that has been delayed due to the COVID-19 pandemic.

The bad news is that these negotiations are not delivering the expected results – yet. Despite

soil, and forests and oceans that soak up our carbon emissions. The World Economic Forum estimates that around half of global GDP is generated by economic sectors that are dependent on nature.

But that nature is under intense pressure. Around one million species are threatened with extinction, according to the 2019 global assessment report from the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). WWF's own research has found that, since 1970, global wildlife populations have declined by a staggering 68%. Critical

have agreed, through the Leaders' Pledge for Nature, to "transition to sustainable patterns of production and consumption and sustainable food systems that meet people's needs while remaining within planetary boundaries."

- For the PreCOP of the CBD in August 2021, 115 member states and the European Union released a joint statement committing to eliminating harmful incentives while creating positive ones, and aligning financial flows to a nature-positive economy.
- Seventy-three countries have signed up to the High Ambition Coalition for Nature and People, which includes a target of protecting 30% of the world's land and oceans by 2030.

But, as we show in our new report, Bridging the Gap: Translating Political Commitments into an Ambitious Global Biodiversity Framework, these pledges collectively go much further than the current draft of the Global Biodiversity Framework. This disconnect puts the world in danger of repeating the failings of the last set of goals to protect nature agreed under the CBD, the 2010 Aichi Targets, all of which were missed.

A clear path

It is not too late to change course. On March 13, government negotiators met in Geneva to continue talks on the Global Biodiversity Framework, ahead of COP15, which is expected to take place in June or July in Kunming. Our report sets out key areas in which the Framework must be strengthened.

Overall, this is the chance to agree on a global goal for nature, similar to what we have agreed for climate change. Pursuing carbon neutrality and net-zero emissions offers a clear path for governments, companies, investors, and consumers to contribute to avoiding that emergency.

We need a similar common global direction for nature: a nature-positive global goal committed to ensuring we have more nature by the end

// We need a similar common global direction for nature: a nature-positive global goal committed to ensuring we have more nature by the end of the decade than today, through conservation, restoration, and sustainable use

commitments to protect nature that many world leaders have made in other fora, governments are collectively failing to apply them to the Global Biodiversity Framework. In so doing, they risk missing a once-in-a-decade opportunity to secure an ambitious and transformative agreement capable of reversing biodiversity loss.

Nature under pressure

But first, a step back. What is at stake? Nature is essential to human health, well-being, and prosperity. The services that ecosystems provide – regulating our climate, our water, removing toxins from air, water, and soil, providing food and fibre – literally make human life possible.

These systems also underpin our economy. Each year, nature provides an estimated USD 125 trillion worth of value to the global economy through services such as drinkable water, food, water for industrial processes, fresh air, heat absorption, productive

ecosystems, such as the Amazon, are close to tipping points past which recovery may be impossible. Nature is in crisis, and the consequences will be disastrous.

Governments have not been blind to this crisis. In a series of multilateral pledges, resolutions, alliances, coalitions, and compacts, world leaders have made commitments that, if they were to be met, would do much to address the world's nature crisis.

To give just a few examples:

- At the congress of the International Union for Conservation of Nature in 2020, governments passed Resolution 116 which, among other things, committed them to halting and reversing biodiversity loss by 2030, creating a "nature-positive world," with more nature by 2030 than we have at present.
- The 2030 Nature Compact, agreed by G7 leaders in July 2021, committed to end human-induced extinctions.
- The political heads of 93 countries

Boosting natural systems to mitigate climate change

All 1.5°C global warming scenarios call for carbon removal. Natural systems provide the most readily available mechanisms, so how can these be boosted to the levels required?

By [Aline Mosnier](#), Scientific Director, FABLE (Food, Agriculture, Biodiversity, Land-use, and Energy) Consortium

According to the Intergovernmental Panel on Climate Change, to limit global warming to 1.5°C by 2100 we need to:

- strongly reduce global net anthropogenic CO₂ emissions by 2030 and reach net zero around 2050
- deeply reduce agricultural emissions
- deploy at large scale afforestation, bioenergy, and carbon removal technologies

The more we delay reduction in CO₂ emissions, the more we will need carbon removals after 2050 to return warming to 1.5°C. Engineered approaches to carbon removal remain expensive and it is currently hard to fully understand the potential trade-offs with other ecosystem services. While continued research and development in engineered approaches is needed, “natural” approaches are often perceived as:

- easier and faster to implement
- good for other objectives such as biodiversity, clean air and water, and adaptation to climate change

Through photosynthesis and respiration, terrestrial ecosystems

currently remove more carbon than they emit, leading to a net sink at the global scale. However, in some regions, recent climate change has already shifted ecosystems to being net emitters of carbon. We need to rapidly reduce emissions from all sectors to avoid large temperature increases that could undermine the ability of natural ecosystems to absorb more carbon than they release, thus reinforcing climate change. The destruction of natural ecosystems to meet human demand has led to large emissions: it is estimated that deforestation and peatland drainage contribute to about 15% of total global greenhouse gas emissions, while also reducing the area where carbon can be naturally sequestered in the future.

Protecting and restoring ecosystems

Preventing agricultural expansion to carbon-rich natural ecosystems is key to mitigating climate change. Reducing or limiting human consumption of agricultural commodities can prevent or slow down agricultural expansion. Limiting the consumption of animal-based products is often highlighted as a game-changer, since it is currently estimated that a third of global cropland is used to feed livestock, while ruminant livestock also emits methane. For instance, the EAT-Lancet Commission recommends to not eat more than two meat portions per week.

The example of Brazil shows that a reduction in deforestation can be achieved without necessarily reducing agricultural production, when combined

with productivity gains. Annual deforestation in the Brazilian Amazon fell by about 75% between 2004 and 2009, while still enabling agricultural exports to grow. Several measures proved to be highly effective at curbing deforestation during that period:

- new protected areas and indigenous reserves at the deforestation frontier
- a robust satellite-based system for real-time detection of deforestation
- confiscation of equipment and/or livestock in illegally deforested areas
- restrictions to access rural credit in municipalities with high rates of illegal deforestation

Ecosystem restoration is the other critical lever for removing carbon from the atmosphere. Trees sequester carbon as they are growing, and (almost) all land cover types can be targeted for planting trees:

- forests can be restored and reforested
- burnt and abandoned agricultural land can be afforested
- perennial crops, trees planted in combination with annual crops or pasture, and/or green infrastructure can spread across agricultural land
- parks, green roofs, or urban orchards can expand in cities

Despite its small territory and high population density, Rwanda has become a restoration leader. It has pledged to restore two-thirds of its total land area by 2030 and reverse a long forest loss trend due to



◀ Reforestation in Yangambi, DRC. Forests suffered during the country's devastating wars, damaged by unregulated hunting, livestock grazing, logging, and massive refugee camps. Yangambi in the Congo River Basin is extremely rich in biodiversity and has been given protected status by UNESCO as a Biosphere Reserve – an area that demonstrates a balanced relationship between humans and the biosphere

unintended consequences. These can result in, for instance, higher pesticide, herbicide, or water use, and lower yields of the main cash crops due to labor shortages. High up-front costs and delayed benefits might also discourage economic actors to invest in these natural solutions.

Long vision, action now

A long-term vision of public and private decision-makers is necessary to boost carbon removals from nature. We urgently need in each country:

- quantifiable targets for ecosystem conservation, restoration, and soil carbon sequestration, in policy documents
- a holistic, inclusive land-use plan that can secure carbon-rich ecosystems and sequestered carbon, and enhance synergies with other objectives
- land and carbon monitoring systems, especially in carbon and biodiversity-rich ecosystems and in areas targeted for carbon sequestration
- economic incentives and products that can reduce the risk of economic actors who invest in natural carbon removals
- extensive research and knowledge capitalization from field experiments on potential solutions for natural carbon removals
- wide dissemination of this knowledge to policymakers, economic actors, and young generations. ■

conflict, pastureland expansion, and overexploitation of forest products to supply urban areas. Forest gain over the last decade has been possible through an ambitious National Forest Policy that set clear targets, and the promotion of land sharing with the establishment of tree plantations throughout agricultural land uses.

Co-benefits vs. trade-offs

Increasing carbon sequestration in soils has lower potential than protecting and restoring ecosystems for climate mitigation. However, it does offer co-benefits in terms of the increased long-term profitability and higher resilience of agriculture activities. Deep-root grass and moderate grazing, either through controlled livestock density or better grazing timing, can improve soil carbon in grasslands. Low-till or no-till practices, planting cover crops or double crops instead of leaving fields fallow, or applying compost or crop residues to fields can increase soil carbon in cropland.

However, soil carbon sequestration benefits are highly context specific, as they depend on how far soils currently are from their saturation point. The

adoption of regenerative agriculture practices is expected to lead to the largest carbon sequestration in currently depleted soils. For instance, grazing of relatively unmanaged rangelands has been identified as a strong driver of soil organic carbon loss, and large carbon sequestration benefits could be achieved in the rangelands of Argentina, southern Africa, and Australia.

Despite the potential for large co-benefits, there are significant risks that large-scale deployment of nature-based climate solutions will also create trade-offs. For instance, it is estimated that about half of the pledged reforestation is set to become mono-species commercial plantations that will be harvested after 10 to 20 years maximum. This will lead to lower carbon benefits than keeping existing forests, and potentially negative outcomes on water and biodiversity. In some countries, it leads to land grabs by governments and private investors.

On the agricultural side, farmers must manage a complex system where the change in practices can take several years to master, to avoid



Combating plastic pollution

Plastic waste is at crisis point, causing untold harm to wildlife and poisoning food chains. A new plastics treaty could help turn the tide and avoid irreversible damage to species and ecosystems – but bold action is needed

By [Susan Gardner](#), Director,
Ecosystem Division, UN
Environment Programme

From the highest glacial peaks to the deepest ocean trenches, from icy polar regions to the thin crust of fertile soil on which we depend for our food, it is safe to say we have unleashed a plastic plague upon our planet.

When thinking about this pervasive polymer, it's interesting

to see our homes as a microcosm of the world. So here is a task: take a meander to the kitchen, open your fridge or cupboards, and cast your eyes over everything you find that is made of plastic. Tubs, cartons, bottles, lids, wrappers, sleeves, sponges, and packets are likely to abound – and that's just the kitchen. You may, like me, try to do something about it: refusing the plastic straw, diligently using a tote bag for shopping trips and carefully separating out the recycling.

On an individual level, reducing plastic use by voting with our wallets, on what we choose to buy and use, is one of the easiest things we can do. Multiplied across the world's nearly eight billion people, this can certainly make a difference, but much more needs to be done. Without meaningful action, flows of plastic waste into aquatic ecosystems are set to triple by 2040 under a "business as usual" scenario – the equivalent of 50 kilograms of plastic per meter of coastline worldwide.



◀ Discarded fishing lines on a beach in Sri Lanka. Over 11 million tonnes of plastic pollution are added to the ocean each year and enter the marine food chain

When plastic ends up in the ocean, currently at a rate of over 11 million tonnes a year, it enters the marine food chain, including our seafood. It threatens the health and livelihoods of seafood-reliant communities. Some studies have suggested that a 1% decline in marine ecosystem services could equate to an annual loss of

First, we need to significantly reduce the production of virgin plastics, particularly single-use plastic products.

As the world transitions to clean energy, we need the leadership of the oil and gas sector and their petrochemical partners on plastic production. A total of 99% of feedstock for plastic production is fossil fuel-based, which accounts for 8% to 9% of global oil and gas consumption. Plastics exposed to ambient light have been found to emit traces of greenhouse gases (GHGs). If current trends in plastic production

Our ambition must be toward system-wide change and solutions across the entire plastic value chain. This is best addressed by rethinking how we make, use, and dispose of plastics, considering their full life cycle

USD 500 billion in global ecosystem benefits.

We still have a lot to learn about the impact of micro and nanoplastics on human and ecosystem health. In a recent study, over 2,400 chemicals used in plastics manufacturing were identified as potential concerns to human health. These include chemicals that can mimic, block, or alter the actions of hormones.

The plastic plague

In his last state of the planet address, United Nations Secretary-General António Guterres said humanity is “waging a suicidal war on nature.” In a war against nature, the plastic plague will be a key battlefield. We must get ourselves back on track in implementing the inter-related goals set out in the 2030 Agenda for Sustainable Development. Our ambition must be toward system-wide change and solutions across the entire plastic value chain. This is best addressed by rethinking how we make, use, and dispose of plastics, considering their full life cycle.

and use continue, GHG emissions from single-use plastics are likely to triple, accounting for up to 10% of global GHG emissions by 2050.

We cannot change this without the full engagement of industry and finance. Just 20 companies produce half of all single-use plastic products thrown away. Around 60% of the commercial finance for single-use plastic products production comes from 20 banks. If these entities lean in on the solutions and come to the table, we can make rapid progress.

Systemic change

Second, we must look at multiple solutions across the life cycle of plastic: from source to sea.

A system's failure means we need systemic change. Fundamentally, we need to adopt a full life-cycle approach to create a circular plastics economy: addressing everything from the extraction of raw materials to the creation of sustainable alternatives, to improved waste management. We need to be innovative. We must eliminate products that

It is easy to understand the attraction of products made of this so-called “wonder material.” Plastic products are cheap, light, versatile, and convenient – even more so in a global pandemic – but we should not imagine this makes plastic indispensable. To arrive at true value, those benefits need to be offset against the immense and irrefutable damage plastic is doing to nature and to the benefits that we derive from natural ecosystems.

Approximately 75% of the estimated 9,200 million tonnes of plastic produced between 1950 and 2017 became waste. Less than 10% of this waste was recycled. The rest? Incinerated, dumped, or released to pollute our soil, our waterways, and oceans. For a few minutes of blind convenience, we have employed the use of a material whose physical presence will generate impacts for generations to come.

are unnecessary, avoidable, or problematic. We must design products for reuse and recycling, and develop systems to ensure this happens. If we do this, we create a new and better plastics economy.

A comprehensive circular economy approach could reduce the volume of plastics entering our oceans by over 80% by 2040. It could reduce virgin plastic production by 55%. It could reduce GHG emissions by 25% and create 700,000 additional jobs, especially in the Global South.

Global collaboration

Third, we need to come together as a global community of nations to ensure system-wide change and solutions across the entire plastic value chain.

Progress has been made with some countries banning certain single-use plastics and reducing plastic packaging. We are also seeing progress at the global level in the control of the transboundary movement of plastic waste with amendments to the Basel Convention

in 2019, regulating the trade in plastic waste and making this trade more transparent.

The Global Partnership on Marine Litter brings together diverse actors to coordinate and collaborate through its multi-stakeholder digital platform. UNEP's Regional Seas Programme has seen 13 out of 18 regional seas adopt action plans to combat and address marine litter. Under The New Plastics Economy Global Commitment, several plastic packaging companies are also committing to move away from single-use products, with financial institutions joining or endorsing the commitment.

It is important to remember that while the number of voluntary multi-stakeholder initiatives and national regulations to address plastic pollution have more than doubled in the last few years, plastic pollution has continued to rise. While we clearly have the know-how and growing momentum to address plastic pollution, we cannot mistake this attention for action.

Nations took a major step toward expediting action and aligning efforts

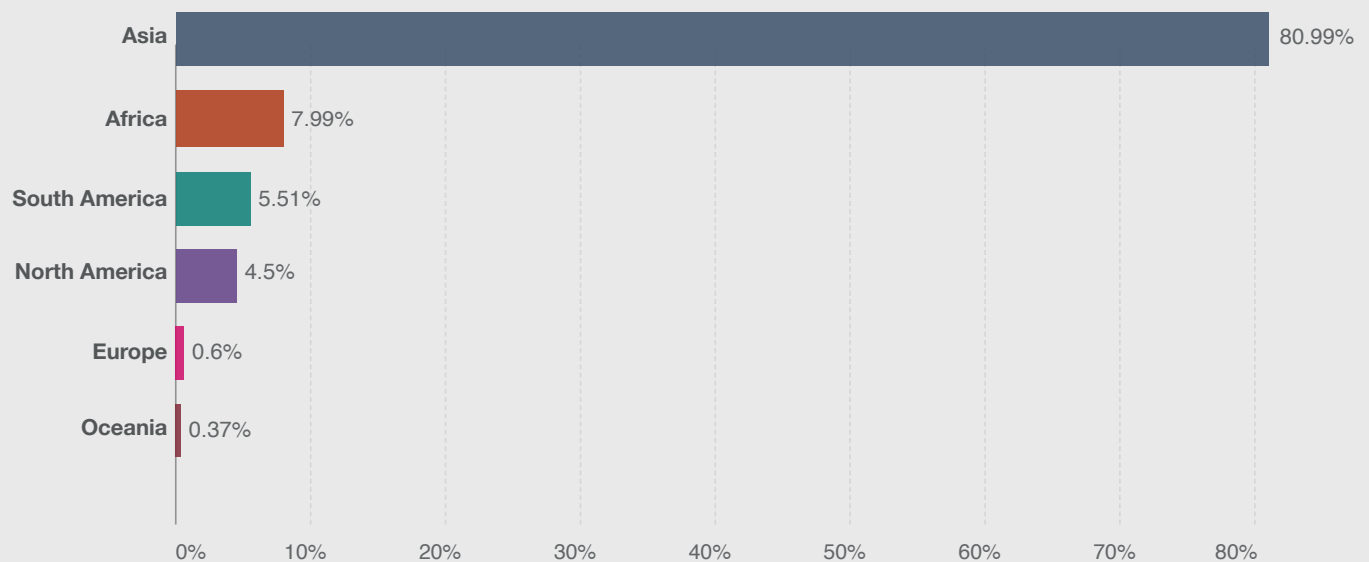
at the UN Environment Assembly in March 2022. All 175 attendee nations signed up to the creation of a legally binding treaty by 2024 to end plastic pollution. The Executive Director of UNEP called it: "The most significant environmental multilateral deal since the Paris accord."

To turn the tide, the negotiations and final treaty must seek to:

- fast-track action across the full life cycle of plastics
- garner consensus on how to measure and monitor progress
- stimulate innovation from the private sector
- raise the awareness of business users and consumers
- critically, unlock large-scale finance

The task will be complex. But if we get it right, we not only clean up our oceans, air, land, and water, we also protect our health, and the health of our planet. Through this, we also address many of the Sustainable Development Goals and restore a world in harmony with nature. ■

FIGURE 1: Share of global plastic waste emitted to the ocean, 2019



Source: Meijer et al. (2021). More than 1,000 rivers account for 80% of global riverine plastic emissions into the ocean. Science Advances



Cleaning up the air

Air pollution is killing an estimated seven million people per year, causing environmental damage and climate change. Taking bold action now on black carbon, methane, and other short-lived pollutants, using existing, affordable technologies, can help us achieve 1.5°C and improve well-being for all

By [Martina Otto](#), Head of Secretariat, Climate and Clean Air Coalition, United Nations Environment Programme (UNEP)

In no sense is it an exaggeration to say that air pollution is an emergency, both for public health and for the climate. It is the greatest environmental threat to human health: air pollution is responsible for about 7 million deaths each year globally, and this number is rising.

Almost everyone on Earth – 99% of the world's population – breathes air that exceeds WHO air quality limits. The University of Chicago

just found that air pollutants take 2.2 years off global average life expectancy. Worldwide, that is a combined 17 billion life years.

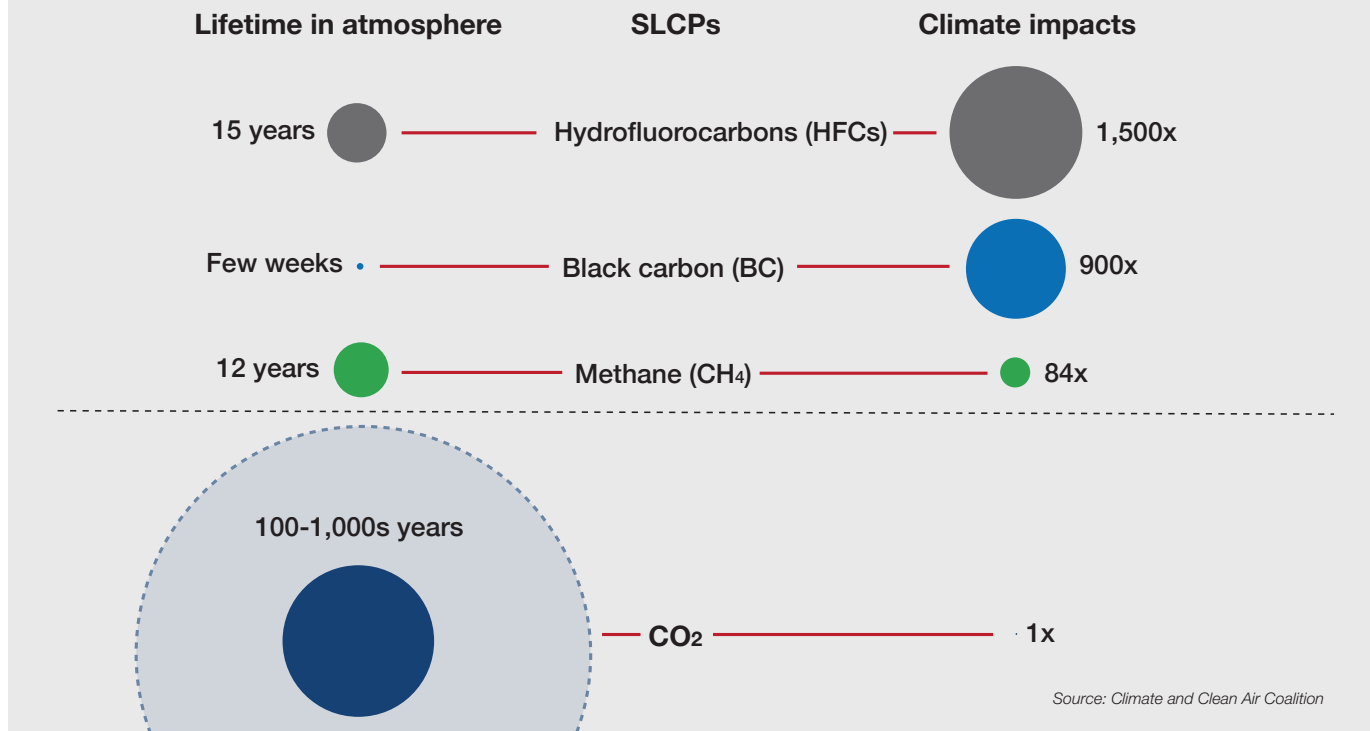
There is growing evidence that even low levels of air pollutants damage the human body, increasing the risk of respiratory illnesses like asthma and emphysema, heart disease, lung cancer, and other diseases. Studies have also shown that it exacerbates the effects of COVID-19. Air pollution disproportionately harms women, children, the elderly, and the poor. Children who grow up in heavily polluted places develop irreversible health effects, like lower lung capacity, than those in cleaner areas. It is an

issue of environmental justice. But air pollution does not just harm people.

The pollutants methane, hydrofluorocarbons, black carbon, and tropospheric ozone – known as short-lived climate pollutants, or SLCPs – are responsible for up to 45% of global warming today, contributing to rising

▲ Amritsar, India, farmers burn stubble after harvesting a paddy crop. Open burning is a major contributor to atmospheric black carbon (or soot), an extremely potent but short-lived climate pollutant. Eliminating this practice is a quick win for health, climate, and food production

FIGURE 1: Short-lived climate pollutants (SLCPs) are powerful climate forcers



sea levels and more frequent and extreme climatic events like droughts, fires, and storms. These pollutants are tens to thousands of times more powerful than carbon dioxide at warming the planet. Recent research actually indicates that keeping the world on a 1.5°C track requires dual action: CO₂ reduction and decisive action on methane.

Methane is also a central ingredient in ground-level ozone, which wreaks havoc on ecosystems and agricultural productivity worldwide. Unless this trajectory changes, we put several of the Sustainable Development Goals (SDGs) at risk: air pollution contributes massively to climate change (SDG 13), jeopardizes our health and well-being (SDG 3), threatens food security (SDG 2), and makes city inhabitants unsafe (SDG 11).

Reduction efforts

But there is good news: because they are in the atmosphere for a relatively short amount of time – a few days to a

few decades – SLCPs respond quickly to reduction efforts. Acting on black carbon and methane in key sectors could reduce projected global warming by 0.5°C by 2050, avoid millions of premature deaths from air pollution annually, prevent millions of tonnes of annual crop losses, and increase energy efficiency, among other additional benefits for human and planetary wellbeing. In fact, cutting SLCP emissions is regarded as the fastest and most effective way to keep us under 1.5°C.

Even better news: we already have ways to dramatically cut these emissions today, solutions which are based on existing technology and can be carried out at no or little cost. Three billion people around the world still use traditional stoves, solid fuels, and kerosene lamps, which have serious negative effects on both the environment and on the health of millions. Global adoption of clean and low-emission household energy solutions would reduce air pollution,

help mitigate climate change, and slow habitat and biodiversity loss.

The agricultural sector, responsible for around 40% of global black carbon and anthropogenic methane emissions, can also act quickly to avoid the effects of climate change, which are already negatively impacting agricultural production, increasing hunger, and hurting farmers.

Practices already in use, like saving water in paddy rice production or capturing methane as a resource from livestock manure, could cut SLCP emissions and avoid 52 million tonnes of staple crop losses annually by 2030. Agricultural waste and residues are often burned, contributing to transboundary air pollution. Instead, they can be put to productive use as alternative building materials or for energy. Similarly, the open burning of municipal waste, which fuels illness, premature death, and climate change, can be eliminated, and can instead contribute to the circular economy via waste-to-energy programs.

Significant progress

We have no time to lose. The Climate and Clean Air Coalition (CCAC) is the only global organization dedicated to cutting SLCPs to stabilize the climate, limit warming to 1.5°C, and drastically reduce air pollution. We bring together 75 state partners representing 50% of global SLCP emissions alongside intergovernmental organizations, businesses, scientific institutions, and civil-society organizations committed to protecting the climate and improving air quality through actions to reduce SLCPs.

Over the course of the last decade, the CCAC's work has led to significant progress on reducing SLCPs, including supporting the adoption of the Kigali Amendment to the Montreal Protocol to phase down hydrofluorocarbons. Our work, alongside global efforts to improve fuel standards and adopt more efficient and zero-emissions vehicles, and changes to technology and production methods in bricks and agriculture, means black carbon

emissions are also on a downward trend.

The CCAC was instrumental in the creation of the Global Methane Pledge, which aims to reduce global methane emissions by at least 30% by 2030 from 2020 levels. The BreatheLife campaign, co-led by the CCAC alongside the World Health Organization (WHO), the World Bank, and UNEP, calls for governments to commit to achieving WHO Air Quality Guidelines by 2030, which would halve current air pollution-related deaths and slow the rate of climate change. Alongside IKEA and the Stockholm Environment Institute (SEI), we are producing a practical guide to help businesses develop their own air pollutant emission inventories, track air pollutant emissions across a value chain, and take steps to reduce emissions.

There are dozens of proven policies to cut SLCPs quickly: these can reduce methane leaks from gas pipelines, improve building design to avoid the use of air conditioners, and more.

Today, as we look towards 2030, the world must scale these efforts to address this planetary and human emergency. We must ensure governments have the funding and

capacity to measure and analyze SLCP emissions so they can implement the policies necessary to cut them, thereby harnessing multiple benefits and achieving national priorities and global commitments.

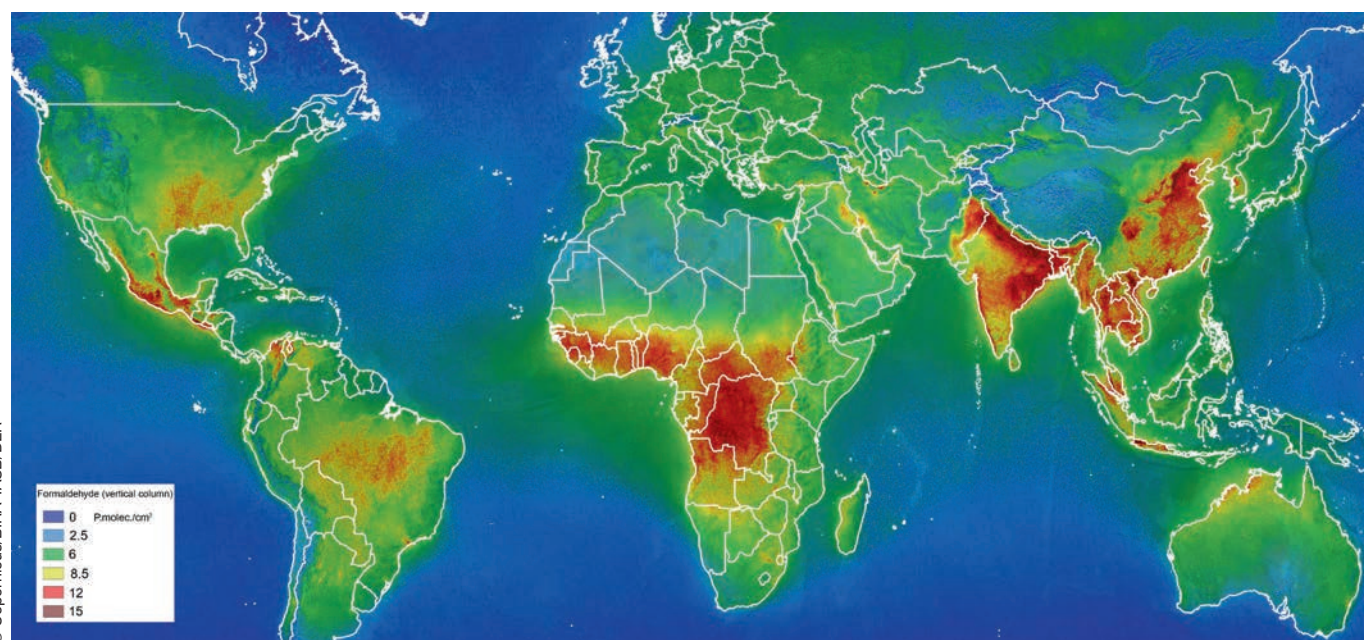
A climate and health emergency

We have made air – the thing that keeps us alive – the number one threat to our health and a huge threat to the viability of our planet, which is further exacerbating effects on human well-being. Air pollution does not recognize borders or boundaries. It must and can be addressed locally, regionally, and globally to combat this climate and health emergency.

This requires bold, immediate, and integrated action from stakeholders across the world and across the climate and health spaces, in a whole-of-government approach. If we are to keep global warming below 1.5°C and keep ourselves and our planet healthy, we must cut SLCPs quickly. The science tells us that this is possible. We know how to do it. Now, we must act. ■

This piece contains the views of the author and as such does not necessarily represent the views of UNEP or the CCAC.

▼ Levels of formaldehyde in the atmosphere, measured by the Copernicus Sentinel-5P satellite. Formaldehyde is an air pollutant released from forest fires and wood processing, and is harmful to health and climate





Biodiversity: The canary in the mine

Human activity is destroying life on Earth on an unprecedented scale. We must urgently and radically re-evaluate nature in our economic thinking and actions, or risk our own species' survival

By [John Podesta](#), Founder and Chair of the Board, Center for American Progress

Sixty years ago, American biologist Rachel Carson witnessed the devastation wrought by pesticide use and wrote, “[M]an is a part of nature, and his war against nature is inevitably a war against himself.” But she could hardly have imagined the unprecedented decline of nature we are seeing today. The oncoming global collapse of the systems that supply our food, water, and clean

air, of which biodiversity is the foundation, threatens to undermine human health, security, and general well-being. At least one million plant and animal species – one eighth of all species on the planet – are threatened with extinction. Scientists say that the biodiversity crisis is likely to be just as devastating to humanity as the climate crisis.

The public is familiar with these catastrophic headlines, and yet no country has yet acted, or even pledged to act, with anything resembling the urgency necessary to slow what scientists have termed a biological annihilation. Humanity is already feeling the ravages of climate

change in the form of increasingly frequent and severe weather events: drought-induced famine in Madagascar, deadly floods in Germany and Belgium, and melting permafrost that has forced communities across the Arctic to relocate.

But nature's decline is quiet. Most people do not notice a parking lot where there was once a pond, or silence where there once was birdsong. And so, the biodiversity crisis remains hidden in climate change's shadow.

Yet both the climate and biodiversity crises are driven by global systems that value profit over people, and



◀ Oil palm plantations encroaching the Padang-Sugihan wildlife reserve in Sumatra, Indonesia

Convention on Biodiversity Conference of the Parties in Kunming, China.

Public finance shows promise but, to date, donor countries have not come close to showing the level of ambition that is needed. Estimates suggest that global biodiversity finance amounted to between USD 78 and 91 billion in 2020, less than 15% of the USD 632 billion spent on climate – which itself is not close to enough. Most of this funding has come from governments. The corporations who have driven biodiversity loss – and made themselves wealthy at the expense of local communities and the natural systems they rely on – have paid or pledged little.

Addressing the biodiversity crisis in isolation and pretending it can be solved simply with more money and more protections, without transformative global behavioral and economic change forcing a close look at what we value and how we value it, will lead to failure. Look no further than the 2014 accord to cut deforestation in half by 2020 and end it entirely by 2030. Five years after that pledge, a group of experts estimated that the area of global forests destroyed had actually increased by 40%.

While the recent declaration in Glasgow to end deforestation by 2030 includes previously absent, forest-rich countries like Brazil, Russia, and China, it still lacks any means of enforcement for signatories that continue exploitative activities. It allows countries and corporations to escape any and all culpability for destroying nature on the cheap, often leaving the poorest people across the globe to shoulder the burden of biodiversity loss.

If we truly want to address the biodiversity crisis – and it is imperative – then institutions must change how they measure success to fully capture

nature's value. The UK-commissioned Dasgupta Review on the economics of biodiversity found that humanity has collectively mismanaged its “global portfolio” of natural assets. Current demands far exceed nature's capacity to supply the “goods and services” we all rely on.

Nature is our most precious asset, and reflecting its true worth in the market will require a profound shift in human behaviors, government priorities, and public and private accountability – the kind of shift that the Sustainable Development Goals (SDGs) were intended to measure and create.

A renewed commitment to the SDGs is, therefore, a critical approach to thinking bigger. The SDGs were developed to provide a framework for connecting 17 cross-cutting, intransigent global problems. For example, healthy ecosystems (SDGs 14 and 15) provide ecosystem-critical services that make up the foundation for global food security and nutrition (SDG 2), clean water (SDG 6), and sustainable economic activities (SDGs 1 and 8).

Recognizing the territorial rights to and sustainable management of resources by indigenous peoples and local communities often improves biodiversity outcomes, while also reducing inequalities among countries and social groups (SDGs 5 and 10).

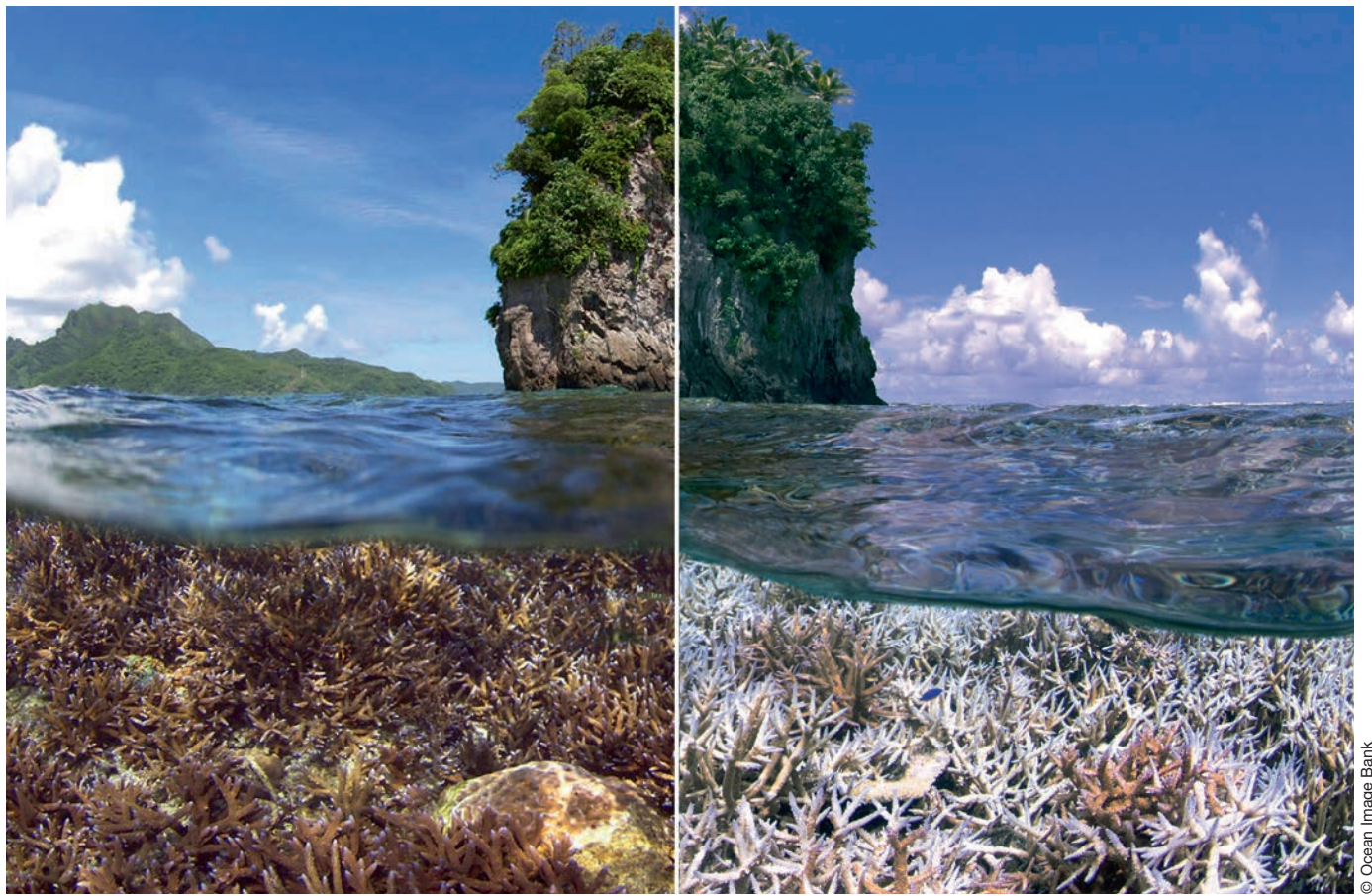
The SDGs are big and complex, matching the scale of the challenges we face. They set audacious goals to end extreme poverty through a people-centered, planet-sensitive, universal strategy of sustainable development. By recommitting to achieving them, we can unlock the large-scale, interconnected, and creative solutions we need.

Humanity has wiped out 60% of all individual animals – birds, mammals, reptiles, and fish – since 1970. We are only just barely starting to feel the impacts of this crisis, including a disruptive multi-year global pandemic likely spurred by biodiversity loss. We have a choice. We can accept our own destruction alongside nature, or we can act now. ■

the destruction of nature over its protection. The top four causes of the biodiversity crisis, according to the Intergovernmental Science-Policy Platform on Biodiversity (IPBES)'s 2019 report, are habitat destruction, over-exploiting species, climate change, and pollution – all a function of a global economy built on an insatiable appetite for consumption. To truly address the joint climate and biodiversity crises we must ask: how can humanity continue to grow our standard of living without destroying ourselves?

So far, institutions have thrown their weight behind policy tools like conservation and public finance to address the biodiversity crisis in the short term. Still, conservation lags far behind where it should be: only about 15% of land and 7% of ocean are protected globally, and less than 1% of the high seas are protected.

However, 50 countries have pledged to protect 30% of all lands and waters by 2030. While 30% may not ultimately be enough, it is a clear and unifying target that is likely to gain further traction during the upcoming 15th



© Ocean Image Bank

The ocean, climate's regulator

Restoring the ocean's health is vital to achieving many of the SDGs, as humankind will need the ocean to provide more food, energy, and jobs. Perhaps less well understood – but critical for our survival – is the vital role a healthy ocean will play in SDG 13: tackling climate change

By [Katherine Richardson](#), Professor in Biological Oceanography and Leader of the Sustainability Science Centre, University of Copenhagen

The Earth's climate and its global ocean are inextricably connected. The ocean is the driving force behind global weather systems, dictating rain and drought patterns, redistributing heat, and (with increasing frequency and severity in the 21st century) birthing violent storms and hurricanes.

Over the last 200 years, the ocean has also absorbed about a third of the all the excess carbon that human activities have pumped into the atmosphere. Through this, humans have gradually altered the very chemistry of the ocean – while most of that time remaining in blissful ignorance of the fact. Indeed, “ocean acidification” has only been seriously recognized and studied since the early 2000s.

A range of indicators for ocean health – from pollution levels to the ability to support vital ecosystems such as coral reefs – show numbers either moving

in the wrong direction or in need of urgent improvement. For example, the health and extent of vital carbon-storing habitats such as mangroves, seagrass beds, and salt marshes has been in decline for decades. It is unrealistic, then, to expect the ocean to continue to absorb anthropogenic CO₂ and retain its climate regulating abilities indefinitely.

The Global Goals are often referred to as a “compass” for societal development, but they are just as much a mirror reflecting societal

◀ **Composite image of coral bleaching in American Samoa. Before on the left in December 2014 and after on the right in February 2015**

understanding of the relationship between us humans and the world around us. From that perspective, the Sustainable Development Goals (SDGs) emerge as an enormous milestone in the evolution of our understanding of this relationship.

Most importantly, the SDGs implicitly acknowledge that societal development is dependent upon access to the Earth's resources and that those resources are limited. While it has been clear since NASA's Apollo missions sent pictures of our blue planet from space that the Earth's resources must be finite, resource limitation was, until the SDGs, not a serious component of the political discourse on societal development.

Thus, the SDGs can be considered a vision for how we want to share the Earth's limited resources not only among people but also all other living organisms.

Societal challenges

The other novelty of the SDGs is that they bring different societal challenges into one framework. Here, it is not only the challenges themselves that are in focus but also interactions between them.

In recent history, our societies have attempted to deal with environmental and social challenges by addressing them individually and in isolation from all other challenges. As a result, the solutions identified for addressing challenges potentially created new problems or were impossible to enact because of conditions elsewhere in society.

The beauty of the SDGs is that they bring all major societal challenges into a single framework. None of these challenges is new. All were acknowledged long before 2015. Indeed, the UN already had established agreements relating to most: climate, biodiversity, gender

equality, hunger, poverty, water, and so on, prior to 2015.

In bringing focus to interactions, the SDGs reflect a move from a traditional reductionist approach to dealing with societal challenges toward acknowledging that these challenges are elements in a complex system of interactions and, furthermore, that they must be managed in a system context.

With their focus on biodiversity, SDGs 14 and 15 emphasize the recognition underlying the SDGs that human societies are a part of nature. We are not elevated above nature and our strategy for dealing with the damage to nature generated by human activities must not be "damage repair"

// The SDGs can be considered a vision for how we want to share the Earth's limited resources not only among people but also all other living organisms

after the fact but, rather, minimization of damage through the careful design and execution of societal activities.

The SDG interpretation of the human-nature relationship reflects well the evolution in scientific thinking about this relationship where, in the 1980s, the focus was on "conservation biology": the study and protection of organisms and ecosystems on their own. In the 2000s, the focus moved to "conservation science" that revolves around human-nature interactions and "ecosystem services." The SDGs, then, reflect evolution in societal thinking: an evolution moulded by changes in scientific understanding and perspectives.

The SDGs capture well human interactions with other living organisms, but the world we live in is comprised of much more than living organisms. Science now recognizes that the Earth itself functions as a complex system. The environmental conditions on Earth and upon which we humans are dependent are determined by interactions between

the "biosphere" (all living organisms), the "geosphere" (energy and chemical elements comprising the Earth), and human activities.

While the SDGs directly address interactions occurring between humans and the biosphere, they are not as explicit with respect to the relationship between human activities and the geosphere. Only in SDG 13, where human perturbation of the Earth's energy balance is addressed, do the SDGs have a direct focus on the geosphere. Nevertheless, the impact of human activities on the geosphere is enormous and these impacts have the potential to drastically change conditions on Earth.

Let us return, then, to the ocean. It contains over 50 times more carbon than the atmosphere and covers over 70% of the Earth's surface. CO₂ is constantly moving between the ocean and atmosphere. In periods where more CO₂ enters than exits the ocean, the atmospheric CO₂ concentration is reduced and average temperatures are colder than when net exchange of CO₂ is in the opposite direction.

As the Earth moved in and out of ice ages, the accompanying changes in atmospheric CO₂ can largely be explained by changes in the relative amounts of CO₂ entering or exiting the ocean. The concentrations of CO₂ in the atmosphere and surface ocean are constantly trying to come into equilibrium. Thus, as the CO₂ concentration in the atmosphere increases, ever more CO₂ enters the ocean. Currently, the ocean takes up about a quarter of the CO₂ we release to the atmosphere every year.

The results of all the models used to develop scenarios for future climate conditions on Earth are heavily

dependent upon this air–sea exchange of CO₂. As long as CO₂ concentration in the atmosphere increases, the laws of physics dictate that the ocean will continue to remove CO₂ from the atmosphere.

However, the global goal is to stabilize – or even reduce – atmospheric CO₂ concentrations. The complex ocean response to reduced greenhouse gases (GHGs) will occur on different time scales. However, in a situation where the CO₂ in the atmosphere is lower than in the surface ocean, the oceanic CO₂ uptake will gradually decrease over time.

The climate change currently experienced on Earth is the result of a change in the Earth’s energy balance, where the GHG waste generated by human activities leads to more of the sun’s heat energy being stored near the surface of the Earth than has otherwise been the case in the Earth’s recent history. Over 90% of this extra heat energy is stored in

the ocean. Heat exchanges between the ocean and the atmosphere and changes in ocean currents also impact air temperatures. In fact, much of the interannual fluctuation in air temperature is due to changes in ocean currents and conditions. Under an El Niño, for example, average air temperatures tend to be higher than, for example, under a La Niña. Climate change potentially influences the relative occurrence of El Niño events.

The ocean also distributes heat around the globe. People living in northwest Europe can thank the ocean current that brings them heat from the Gulf Stream for the fact that they enjoy warmer winters than those living at the same latitudes in Siberia or Canada. That current, however, appears to be weakening.

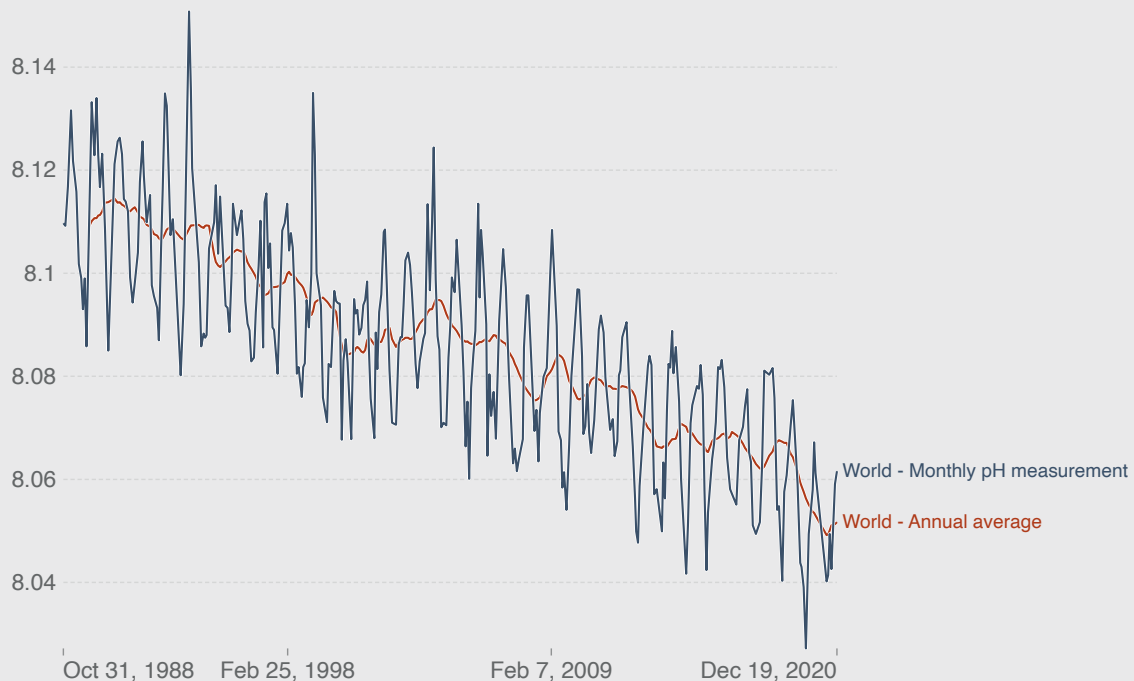
The only area on Earth where the Intergovernmental Panel on Climate Change reports surface temperatures are decreasing is an area above the ocean southwest of Iceland. We know

that there have been periods in the Earth’s history when this current did not flow into the North Atlantic. Thus, the observed changes in this current may be a sign that climate change is already altering ocean currents. Climate and ocean currents are interlinked and the effect of climate change on ocean currents could have enormous consequences for our societies.

These indirect effects of human activities on the ocean and the geosphere more generally are, of course, included in the SDGs but they are hiding deeply in the scientific understanding underpinning SDG 13. Thus, they are not visible for the non-specialist. This is a great pity as recognition of these effects greatly increases the imperative to achieve SDG 13 and the goals of the Paris Agreement. Although climate change impacts on the ocean are invisible to the vast majority of people, we ignore them at our peril. ■

FIGURE 1: Ocean acidification: mean seawater pH

Mean seawater pH is shown based on in-situ measurements of pH from the Aloha station in Hawaii



Source: University of Hawaii

About SDSN

The UN Sustainable Development Solutions Network promotes integrated approaches to implement the SDGs and the Paris Agreement on Climate Change, through education, research, policy analysis, and global cooperation



The UN Sustainable Development Solutions Network (SDSN) was set up in 2012 under the auspices of the UN Secretary-General. SDSN has created a global networks program; a membership-based alliance of top-tier knowledge-generating institutions focused on sustainable development, organized in national and regional clusters. As of 2022, SDSN has over 1,600 members in 47 networks across 137 countries.

In 2016, the SDSN expanded its mission with the creation of the SDG Academy. The SDG Academy creates and curates free, open educational resources on sustainable development and offers them as a global public good.

SDSN is guided by a Leadership Council, which brings together global

sustainable development leaders from all regions and all sectors, including civil society, public, and private sectors. The Leadership Council acts as the board of SDSN.

SDSN's global strategy is informed by its Six Transformations Framework, which is designed to mobilize transformative efforts toward the SDGs.

With commitments to the SDGs made by nation states, universities, private business, and civil society, SDSN's research and policy analysis work is helping promote solutions to realize the goals. SDSN synthesizes knowledge for sustainable development through our work on SDG pathways, data, policies, and financing. SDSN is the producer of the renowned Sustainable Development Report and World Happiness Report.

The SDSN Association is an independent 501(c)(3) nonprofit organization in the United States and a nonprofit Association 1901 in France. These entities host the Secretariat of SDSN, which supports and manages SDSN's programs and projects and the SDG Academy.

SDSN has offices in New York, Paris, and Kuala Lumpur. ■

For further information, visit:
www.unsdsn.org



GOVERNMENT RESPONSES TO COVID-19:

Lessons on gender equality
for a world in turmoil



The overlapping impacts of the COVID-19 pandemic, accelerating climate disasters and geopolitical conflict are a threat to gender equality and women's rights across the globe. This report from UN Women and UNDP shows what governments can do now to prevent further rollbacks and recover lost ground, while enhancing resilience and preparedness for future shocks.

Drawing on a unique global dataset of close to 5,000 measures adopted by 226 countries and territories in response to COVID-19, the report finds that overall, government responses paid insufficient attention to gender dynamics. At the same time, instances of innovation and learning hold important lessons for gender-responsive policymaking in times of crisis.

[Access the report](#)