GLOBAL GOALS YEARBOOK

2022

The **Sustainable Development Goals** in a **VUCA World**

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H.E. António Guterres
UN Secretary-General

Excerpt from UN Secretary-General's remarks prior to the EU-UN High-Level Dialogue, July 7, 2022

Our world is in big trouble. We still have Covid among us – look at people stranded at airports with airlines canceling flights because crews are ill. At the same time, the recovery from Covid has been uneven, increasing inequalities in the world, between developed and developing countries and within each country.

We are still facing a dramatic climate emergency. I would say that the goal to limit temperature rise to 1.5 degrees is in intensive care. We risk seeing it lost irreversibly in the years to come. It's absolutely essential to reduce emissions, and we are increasing them …

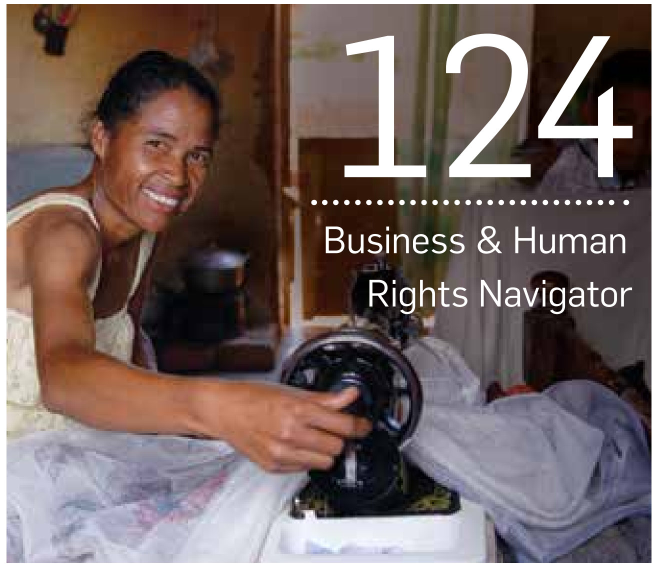
At the same time, conflicts are multiplying, and we have now the dramatic impact of the Russian invasion in Ukraine, which has led independently of the suffering of the Ukrainian people, to a terrible crisis also in food, energy, and in finance.

Now, in this context, it is obvious that no country can solve these problems alone. We need more than ever multilateralism. But not any kind of multilateralism, because no organization can also solve the problems of this world alone. We need a networked multilateralism.

16 After Hyper-Globalization

30 What Does Good SDG Management Look Like?

50 Chameleon Cate



124 Business & Human Rights Navigator

RETHINKING GLOBALIZATION

The dark shadows of the past are back: war, hunger, displacement, forced migration, inflation, and a world that is falling into spheres of power. The future is "VUCA" – volatile, uncertain, complex, and ambiguous. And so a concept is once again in the spotlight that some people have long wanted to bury: globalization. The concept as we have known it for 25 years is surely dead. But what comes next? And what happens to all the positive effects? Last but not least, SDGs, sustainability, and corporate responsibility are children of globalization. Their future must also be rethought.

By Dr. Elmer Lenzen, Publisher Global Goals Yearbook

Climate change, Covid-19, war, supply chain problems, hunger, mass migration from the East and South – the world as we know it is changing rapidly. Much optimism has been burned in recent weeks and months. The idea of shaping the future as a continuation of the present has faltered – and with it, the political and economic architecture of an era that began with the fall of the Berlin Wall in 1989. At the time, the so-called Washington Consensus established a global order that saw the West, its understanding of democracy, and its economic form as the victor for all eternity.

Gone. Yesterday's news. Permanent crisis mode is the new normal. Above all, the tightly interwoven world economy and what we commonly call globalization must reorder itself and reinvent itself in many places. It is better to actively reshape crisis-ridden globalization now than to leave it to populists and panic the next time crises strike. In areas where foreign policy is intermingled with "megatrends" such as climate security, cybersecurity, and data protection, we still have time to develop a considered approach.

Self-deception of an entire generation?

Our modern concept of peace goes back not least to a writing by Immanuel Kant in 1795. The title sounds like a sweet dream. And these days, like sheer mockery: "Zum ewigen Frieden" ("To Perpetual Peace"). Kant's writing is widely known. But most of them have only read the title. Otherwise they would have read how far we have always been from fulfillment, and how little we have contributed to it.

The Cold War period and even more the years after the fall of the iron curtain were misunderstood by many as a time of peace. This was absurd not only because of the implicit threat of an atomic war, but also in the light of constant armed conflicts all over the world. But at least in Europe, people had given in to the illusion that a *Pax Europea* would last because it was rationally justified. "Change through Trade" was the slogan that elevated economic exchange and globalization to the role of peacemaking. But this self-image should turn out to be self-deception. And if we are completely honest, the cracks in the foundation have been visible for a long time. You just had to look.

The silent descent of the globalization idea

We shouldn't be surprised by this development. The signs of the times have been pointing to a storm for some time. According to Lukas Menkhoff, head of the Department of Global Economics at the German Institute for Economic Research (DIW Berlin), "The idea of increasing >>

interdependence in the global economy has not been empirically established for a good 10 years now." Until now, such questions have been discussed from the perspective of efficiency and profitability. Since the corona pandemic and the war in Ukraine, it is increasingly also about the security factor — be it security of supply, health protection, or national defense.

Sustainability is more important than ever in the face of global crises. There are global challenges such as climate change, demographic change, corona reconstruction, and many other development goals that require decisive action. The resulting social and economic transformation is epochal. At stake is nothing less than the transition to a new age (farewell to Bretton Woods, the Washington Consensus, and the Industrial Age all at once). At the same time, the achievability of the SDGs is receding into the distant future. Actually, the 2020s should be a "decade of action," a departure. Instead, we are experiencing a decade of crises and setbacks.

To be fair, we should not only blame the war in Europe with all its consequences for the crisis of the Global Goals. Here, too, the roots of doubt go deeper. Adam Carrel and colleagues from EY Oceania recently stated in a remarkable position paper: "However, it would be unfair and inaccurate to overlook the humanist optimism that flowed from the end of the Cold War and the desire to sustain this towards the resolution of other global problems. A primary vehicle for this was Sustainable Development." But the dream contained therein burst: "What should have been an opportunity to rewrite the contract between society and capital somehow turned into a boon for incumbents and a near wipe out for anyone arguing for structural reform to the corporate model."

Today, less than half of humanity lives in democracies. The trend is downward. Globalization and capitalism are more controversial than ever. Analyses of the end of globalization are piling up, and even major asset managers such as BlackRock and the World Economic Forum in Davos recommend turning away from pure profit-thinking. BlackRock CEO Larry Fink sees the war instigated by Russia's President, Vladimir Putin, as a radical break. After the corona pandemic, this now puts a further strain on globalization. "We had already seen the connections between nations, companies, and even people strained by the two-year pandemic," the BlackRock chief says. Companies and governments around the globe were being forced to rethink their reliance on supply chains for manufacturing and assembly, he says, adding that these have already been challenged by the corona pandemic.

What does globalization actually mean?

Globalization does not proceed in a linear process of ever-more, ever-further, and ever-faster. Instead, globalization proceeds in waves. Time and again, it is interrupted by setbacks and can even come to a complete standstill. The benefits of globalization — through the freer flow of money, people, ideas, and trade — are many. But instead of a flat world, what has emerged is one of jagged peaks and rugged, deep valleys marked by disparities in wealth, debt, political recession, and imbalances in the world's economies. "It's a complicated issue, but I think globalization as a whole will decline," believes British economist Paul Donovan. Political scientist Ulrich Menzel, in an excellent essay on globalization in bondage, writes: "It goes without saying that crises of globalization do not already begin when critics of globalization — who have existed at all times — first speak out, but when the criticism becomes so strong that the pro-globalization discourse is no longer hegemonic."

Today, two very different models of globalization are clashing: on the one hand, David Ricardo's entrepreneurial approach based on price advantage, and on the other hand, the rent-based approach à la Hartmut Elsenhans. Menzel describes the latter group as follows: "Many globalization winners, such as the oil states in the Persian Gulf, but also the resource-rich African states and even Russia, are rent-based rather than profit-based economies. The high incomes of the rulers or the state class there do not arise from entrepreneurial activity, but from political control over income-generating resources. Consequently, part of the income is not invested to remain internationally competitive, but spent on the organs of the security apparatus (army, police, secret services, presidential guard, etc.) to maintain power and thus access to rent."

So instead of change through trade, trade is increasingly seen as a means of discipline.

Deconstruction, pause, or fragmentation — quo vadis globalization? Seven trends will be particularly important in the future.

1 Geopoliticization instead of economization

During the corona pandemic, the world order shifted almost unnoticed. The central geopolitical crises of our time have not disappeared — and are now returning with force. The West's deep shock at the war in Ukraine has led to a much greater geopoliticization of economic relations. We observe that more and more countries are trying to reduce so-called critical dependencies in their economic relations. Risks of globalization are being reevaluated and dependence on commodity markets drastically reduced wherever possible. For a long time, we were afraid that all areas of life would be economized. Since the financial crisis of 2008/2009, we have instead seen a politicization of all areas of life. The state is supposed to take care of its population. The state is supposed to provide security in a world that is increasingly experienced as insecure.

The West is increasingly using the financial markets as a sanctions weapon. Significantly, when Russia was excluded from the SWIFT system, it was referred to in martial terms as the "nuclear option." So instead of change through trade, trade is increasingly seen as a means of discipline. For example, Bangladesh >>

abstained from the UN's first resolution on Russia's military operation in Ukraine. Lithuania subsequently denied Bangladesh a promised tranche of nearly half a million Covid vaccine doses. The South Asian country agreed to the second resolution against Russia.

Ultimately, this translates into higher costs. This is the price of freedom, believes sinologist Cora Jungbluth: "It boils down to the fact that the advantages of the international division of labor will no longer be fully exploited in the future. Against the backdrop of the threat of real system conflicts, this is the political price. Because dependencies are always accompanied by potential political blackmail."

❷ Block trade instead of world trade?

Economist Thieß Petersen of the Bertelsmann Stiftung says: "More and more countries are looking not only at economic aspects but also at geopolitical considerations in their foreign economic relations. One example of this under Donald Trump was the trade conflict between the United States and China. That was ostensibly about trade balances and imbalances. In reality, however, it was about the question: Who will take over global technology leadership in important areas? After all, technological leadership is the basis for economic strength, and economic strength is the basis for political and military strength. Punitive tariffs and sanctions will therefore become more important." The international consequences will be many: trade conflicts, withdrawal from international organizations or the termination of international agreements and, above all, the refusal to cooperate in the further development of a new world order.

Both blocs will partially seal themselves off from each other and compete for peripheral areas: currently Eastern Europe, in the future possibly Taiwan – of this economic policy journalist Hendrik Müller is also convinced. He writes in *Der Spiegel*: "Trade between the blocs will suffer, also because more and more goods and services transactions contain knowledge and information ('intangibles') and entail data flows. Suppliers from countries that do not share the same values, do not have a comparable legal system, and must be regarded as adversaries are no longer trustworthy trading partners in the new bloc reality."

More and more countries are looking not only at economic aspects but also at geopolitical considerations in their foreign economic relations.

In addition, the new geostrategic situation will certainly also massively change global value chains. Companies will have to react to this, and investors will ask themselves the question: For which parts of the company can we be the best owner in the long term? Müller believes that global corporations with fine-grained world-spanning value chains will no longer fit into the coming era. "Western corporations will either have to withdraw from parts of the world or each form independent units that operate largely detached from headquarters – with limited exchange of inputs, capital, and knowledge." This is especially problematic for small and medium-sized companies.

❸ Availability instead of efficiency

Until now, the economic order has been oriented toward efficiency. Müller says: "Companies were sensitive to price and cost differentials. Now, however, many goods are becoming so scarce that what matters most is quantity: the sheer availability of scarce goods, at almost any price – from wheat to natural gas to neon for chip production."

Increasing hyper-specialization and trade through ever-deeper value chains undeniably offers efficiency advantages, but they are highly susceptible to disruption. In this respect, a monoculture in agriculture is basically little different from a graduated supply chain. For some years now, it has been possible to observe that many internationally active companies have begun to bring back production that was originally completely outsourced to Asia, to redistribute it, or to reorganize it in such a way that it is not dependent on supply in real time. Petersen says: "The previous globalization model, which was oriented toward maximum business efficiency such as just-in-time production with only one global supplier, has already been shaken by the corona pandemic. We will say goodbye to this globalization model. In the future, companies will again increasingly work with multiple suppliers."

Ever since globalization began to be increasingly viewed in terms of geostrategic risks, politicians have been concerned with systematic criteria for determining which critical dependencies must be reduced. One guideline in the discussion seems to be that supply must not depend on one supplier for more than one-third of the total. In the realignment of distribution channels, previously unloved free trade agreements are to play a key role.

❹ Democracies vs. autocracies?

The question is becoming increasingly urgent today: Are our structures in Western democracies too slow to cope with crises? Don't authoritarian systems do it better (they don't debate for long, but rule through)? The Biden administration is purposefully relying on the old Cold War schema of good versus evil to define relations between the great powers. Today, it reads as democracy versus autocracy – this Biden formula is tempting, but it is too simplistic. It's >>

about hegenomy, says Werner Widuckel: "Hegemony means dominance. In other words, it is about the question of who, as a power or power bloc, ultimately determines geostrategically what a world order looks like or what value orientation ultimately prevails. Here it becomes visible that the model of Western democracy, human rights, and the rule of law does not automatically prevail, but that alternative orders also counteract this – especially on the part of China and Russia."

Until now, the West has had more partners, whether in political–military alliances or international institutions. But this Western-influenced international order – evident especially in multilateral agreements such as climate protection and human rights – has been eroding for years. "China has sought influence primarily through economic means. That could change," Müller believes. And therein lies potential for conflict. Phases of hegemonic transition from a declining to an ascending power are, after all, always phases of fragmentation of the world, and thus potentially conflict-ridden.

In the process, we are less likely to be committed to the good-versus-evil narrative of Joe Biden. "Pessimistically, there is much to suggest that the post-globalized world order will be a contest between the model of liberal democracy and that of managed democracies," believes globalization author Michael O'Sullivan. "Managed democracies" are on the rise in more and more countries. In contrast, the number of free democracies is demonstrably declining. In the Global South, there is a growing perception that the ideas of liberal democracy may be only for the West. The deep divisions in some Western societies, particularly the United States, are used as evidence and cautionary examples of this. Perhaps, therefore, Biden's narrative is more of a cipher to plug the internal conflicts in US society? External enemies have always been good for that.

5 Multipolar instead of multilateral

Global multilateral institutions such as the United Nations and the European Union have lost a great deal of their binding power in recent years. Are we now experiencing a return to common ground as a result of the war in Ukraine? Will this be enough to make up for the reasons for the loss of attractiveness?

The current global crises are likely to lead to a new fragmentation of as yet unforeseeable intensity and duration. This has structural, institutional, and ideological causes. In this situation, strong institutions would be needed. It is unlikely that national central banks or even outdated instruments such as the World Bank, the International Monetary Fund, or the World Trade Organization will be able to fill this gap. Lukas Menkhoff warns: "Multilateralism also benefits from having stronger players to hold the institutions together. This will become more difficult in the future. Our world is multipolar, and whether multipolar and multilateral work well together is something we haven't really tried yet."

These differences are reflected in the negotiations, which are conducted in different ways, explains Aditi Sara Verghese, head of the World Trade Working Group at the World Economic Forum in Davos. Some negotiating approaches are "multilateral," meaning all members are involved, and others are "plurilateral," meaning some countries move forward based on common interests.

"A nice example is the development banks that China is initiating because it is dissatisfied with its role in the existing institutions. In the classic Bretton Woods institutions like the World Bank and the International Monetary Fund, the Americans and Europeans dominate," Lukas Menkhoff explains. "We find that normal because it has always been that way and we are big donors. But other countries, of course, don't find it normal at all, and they don't like it. That's why China is setting up competing institutions. India will follow a similar path as China. In a way, we have only ourselves to blame if we fail to take note of the new global realities and translate them into appropriate institutional arrangements."

6 What is China's role?

Already since the Obama administration, US policy has been busy pushing forward the end of the American century and the foundations of a multipolar world. This fundamentally includes a shift away from the role of "world policeman." In the "American decline" debate, the focus is on China. Since the opening of the country in 1978, China has experienced an unparalleled rise in world history and, above all, in economic terms. Ulrich Menzel says, "If China experiences 10 percent growth, then government revenues and military spending will also grow by 10 percent annually. So China is challenging not only the US's position as an economic leader, but also, in perspective, its status as an international regulatory power."

As a potential successor to the United States as a global hegemon, China faces far-reaching questions. Until now, the Middle Kingdom has been able to benefit from a Western trade order as a "free rider" without sharing in the costs of providing that international order. Says Menzel: "At the same time, the Chinese economy benefited more than any other from US liberalism: Without the huge and, for it, most important US sales market, the Chinese industrial and export miracle would have been inconceivable." If China now assumes the leadership role of the United States, it will also have to pay for the costs of the international order in the future, that is, security and stability in particular.

China's way out of this dilemma is that it does not plan to relieve the United States of its costly role as global leader. Rather, China is focused on providing an order within its zone of influence. China's model is a club of states that submit to Beijing's rules. One can clearly see this strategy in the development of the New Silk Road, where corresponding loyalties are being built through the construction of infrastructures such as railroads, roads, pipelines, power lines, and generous lending. In this context, Menzel points out the historical analogy to the tribute system of the Ming period at the beginning of the 15th century.

7 The populists' finest hour?

The real problem with the current hegemonic transition from a US-led multilateral order to a multipolar order is that, on the one hand, the situation is a relief and liberation for the United States. No longer does it have to do the "political dirty work" while its own allies merely look on. On the other hand, the departure from hegemony also means a loss of status. At least three major intellectual currents since the beginning of the millennium have been observed by historian Hans von Trotha in his *Deutschlandfunk* essay: "a vulgar nationalism, the upgrading of the private sphere to a political space for politically unrepresented groups, and finally a political irrationalism, whose most obvious representative is Donald Trump."

The consequences of China's rise are particularly noticeable in the United States: While the losers of globalization and deindustrialization are gathering in the US "rust belt" and in the countryside, urbanites on the coasts are experiencing a golden era of opportunity. Wolfgang Merkel of the Social Science Research Center Berlin (WZB) writes in the *Tagesanzeiger*: "Political competition has become two-dimensional in Europe as well as North America. On one pole of the cultural conflict line are the academized new middle classes endowed with high human and social capital. They live urban lives, are economically privileged, and follow a cosmopolitan worldview. They value gender-equitable language and climate policy. Economically, they are among the beneficiaries. At the other pole of the conflict axis are the communitarians. They have a lower level of formal education, advocate a strong nation-state from which they expect strict migration control, social protection, and financial support."

Menzel says: "With catchy slogans like 'America first' and 'Make America great again,' the Trumpists have since determined the anti-globalization discourse – and thus testified to the dialectic of a globalization policy that is now turning against its old power center. Despite Trump's ouster, hopes for a return to the hegemony of the pro-globalization paradigm are likely to remain in vain. The current Biden administration, too, must take structural factors into account and will by no means be able to undo everything that was done in the Trump era in terms of anti-globalization policy." ■

Short History of Globalization

Excerpts from an essay by Prof. Dr. Ulrich Menzel

The term "globalization" does not refer to a current period in world history, but to a process that proceeds in waves and is interrupted by deep slumps. The upswing phases are characterized by exponential growth until tipping points are reached. Parallel to this is a process of fragmentation that affects individual countries, large regions, or parts of a society, because there are always winners and losers in globalization.

The slump in the process of globalization extended from the outbreak of the First World War to the end of the Second. The world economic crisis of the 1930s following Black Friday on Wall Street, comparable as a tipping point to the Lehman bankruptcy of 2008, ensured that after a brief phase of renewed prosperity in world trade in the 1920s, the international public good of "stability" was no longer guaranteed. Great Britain was no longer able to do so, and in the US, both the means and the political will were lacking in the following years of the "Great Depression." Mass unemployment was fought with the New Deal, and Keynesian thinking (Keynes 1936) became hegemonic over neoclassical thinking: The state was once again assigned an important steering function instead of the market.

The new turnaround to give globalization a free rein was not initiated until the Bretton Woods Conference in 1944, when the US took the scepter in its own hands and showed itself ready to act as an international regulatory power not only for security but also for stability. The organizations founded on American initiative – the International Monetary Fund, the World Bank, and [the General Agreement on Tariffs and Trade], which later gave rise to the WTO – provided the institutional framework, which was also paradigmatically expressed in the "Washington Consensus" of the US administration and Washington-based international organizations. Since the 1970s, it was neoliberalism, propagated by Milton Friedman and his Chicago School, that first broke through the hegemony of Keynesianism and then determined the actions of policymakers. The neoliberal policy of budget consolidation, deregulation of markets, privatization of public services (or public goods) and state-owned enterprises such as railroads and postal services, and ever new rounds of tariff cuts, deregulation of financial markets, the media sector, and other services gave free rein to what was later called the second wave of globalization. While the states were still the drivers in the first wave, they became the driven in the second wave.

This brings us to the present, which began in the late 1990s. *Has Globalization Gone too Far?*, the slim book by the highly decorated economist Dani Rodrik (1997), marked the beginning of globalization skepticism. Here, a renowned and highly competent voice spoke out. In 2011, Rodrik (2011) followed up with *The Globalization Paradox*, in which he referred to the trilemma of democracy, national sovereignty, and hyperglobalization. The Turkish economist thus advanced to become the leading figure of migration-skeptical left-wing Brexit supporters, who can also be found in the Labour Party. Rodrik was followed by contributions critical of globalization from various perspectives by Elmar Altvater and Birgit Mahnkopf (1997), Joseph Stiglitz (2002), and Walden Bello (2005). The early critique of globalization became the anti-globalization discourse, which swelled into a veritable wave in 2018/19. Let us mention only Heiner Flassbeck's and Paul Steinhardt's (2018) and Michael Hüter's, Mathias Diermeier's, and Henry Goecke's (2018) books, respectively, for the German-speaking world, and Colin Crouch's (2018) and Michael O'Sullivan's (2019) for the Anglo-Saxon world. Mind you, the books cited were all written before the outbreak of the Corona crisis and were written rather under the impression of the financial and refugee crises.

A deep breach is being made in the grand narrative not least by climate change, which since 2019 has entered the consciousness of a broad public thanks to the "Fridays for Future" movement. Its consequences in the form of droughts, forest fires, heavy rainfall, melting glaciers, and the disappearance of polar ice, floods, and storms are becoming increasingly tangible even for laypeople. Here, however, it is not primarily the populist, but rather the cosmopolitan milieu that is mobilized in criticism of globalization. The mass consumption of raw materials and fossil fuels and thus the emission of CO_2 through global trade, mass tourism, and meat consumption bring the connection between globalization and climate change into focus. Terms like "flight shame," the criticism of cruises, domestic flights and SUVs, of slash-and-burn clearances of tropical forests – in order to create areas for the cultivation of soy, which makes mass livestock farming in this country possible, which in turn provides the "preliminary products" for the slaughterhouses "stocked" with Eastern European migrant workers to load the refrigerated ships for the export of pork to China, of all places – characterize this discourse critical of globalization.

Sorting through the globalization literature, a rough distinction can be made between five positions. First, the former neoliberal mainstream, which considers globalization processes to be fundamentally positive and therefore recommends everything that promotes them. This thinking, which dominated politics for many years, has gone on the defensive; in any case, it is no longer hegemonic. Second, the neoidealist position, which assumes that further globalization cannot be stopped, but that the state must be raised to a new level as a regulating authority in order to be able to stand up to the unleashed market under the terms "global governance" or "world governance without world government." In this approach, the enforcement of international norms to replace power with law in international relations plays a central role. This position has been all but silenced in the debate.

Third, the neorealist position, which claims that globalization cannot be steered into orderly channels in a multilateral way, but only in a hegemonic way. For them, the decisive factor is the global governance of the "benevolent hegemon," who provides the international public goods while keeping in mind not only his own self-interest but also the interest of the free riders' allegiance. This position currently has to deal with the problem of hegemonic transition: The old hegemon is weakening and refusing, and the new contender is not yet ready. Fourth, the left-wing opponents of globalization, who want to force at least partial deglobalization through the return of the state to politics or the renaissance of Keynesianism. And finally, fifth, the right-wing opponents of globalization who, although they do not yet have a coherent theoretical concept, are ready to support any populist ad hoc demand along the lines of "All we need is…" ■

Source: Prof. Dr. Ulrich Menzel: Corona und die gefesselte Globalisierung, Berliner Journal für Soziologie, July 2021.

After Hyper-Globalization

What should the next trading system be? Can we restore the capacity of the United States to produce – and of all nations to regulate capitalism?

By Prof. Dr. Robert Kuttner

Hyper-globalization is dead, killed by the rise of China, the supply chain catastrophe, the Covid pandemic, Russia's invasion of Ukraine, and the belated recognition that ultra-free trade was mainly designed to serve financial elites. The Biden administration is pursuing a course correction and looking inward for economic security. Many other nations are taking this approach. Even some businesses recognize that the risk of disruption brought about by extreme globalization does not justify the allure of weak regulation and low labor costs.

Despite this shift, a great deal of global trade will continue, under different rules. The task of the next decade is to figure out what those rules will look like. Is there a path back to a trading system that allows nation-states more room to govern capitalism, as in the Bretton Woods era? Can the successor system offer a better deal to developing countries of the Global South? Might a new trade regime give more weight to climate goals, labor rights, public health, or the public provision of goods? And where does China fit in?

The next trade regime will not be a single universal set of rules, as the sponsors of the World Trade Organization (WTO) imagined. It will be a hybrid that could provide more space to pursue progressive economic and social policies – nationally and globally – if we do not succumb to the lingering influence of trade traditionalists in government and their allies on Wall Street.

Corrupted ideology meets corrupted institutions

By hyper-globalization, I mean the premise that cross-border trade and capital movements should be free from regulatory restraints and national industrial policies. This became the new definition of "free trade" and the object of intense US diplomacy beginning in the 1980s. After 1990, this vision was codified in the WTO and in dozens of bilateral deals. Promoters of the shift invoked economic theory, but in practice it was driven by the corporate push to use trade rules aggressively to undermine the national regulation of capitalism, from banking (rebranded as "trade in financial services") to industry-created pollution.

The North American Free Trade Agreement (NAFTA) allowed corporations to sue in special courts to challenge health, safety, and environmental regulations as incursions on their trading rights. Within the European Union (EU), longstanding guarantees of collective bargaining were overturned as impinging on the cross-border rights of capital. WTO rules became obstacles to distributing free or cheap vaccines during a worldwide pandemic. Hyper-globalization was the global face of neoliberalism, as well as its enforcer.

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Global Goals Yearbook 2022

Russia's invasion of Ukraine led to a range of sanctions and embargoes that technically violate WTO rules, but are accepted as emergency measures of war.

From the start, the system was a bundle of contradictions. Western leaders who sponsored this shift knew from their national experience that unregulated markets are far from efficient. For almost a century, nations dealt with the anomalies of markets by regulating finance, labor, health, and the environment. They used industrial and research subsidies and public ownership to help their economies develop. Wherever nations failed to regulate, capitalism created gross inequality and environmental disasters, as well as periodic financial bubbles, systemic crashes, and prolonged depressions. But through some mysterious alchemy, when commerce crossed borders, unregulated markets were supposedly efficient after all. Free-traders never explained the inconsistency.

Under the dominant consensus toward "most favored nation" treatment, all nations were to get the same access to each other's markets, with no special deals. But the principle of equal access was increasingly honored in the breach. After the collapse of multilateral trade negotiations in Seattle in 1999, the United States moved increasingly to bilateral deals known as free trade agreements (FTAs), typically with export-dependent Third World countries. The basic template was to demand that the client country give US-based corporations access on the terms they wanted, and in return the lucky country's products received preferential entry to the US market. This was the opposite of multilateralism.

The tip-off as to who was really behind this push is the treatment of national sovereignty. In general, US corporations and politicians, especially Republicans, have fiercely resisted signing all manner of global agreements on human rights and the environment, claiming that they are an interference with American sovereignty. But when it comes to hamstringing the ability of the US government to regulate capitalism, American elites are all too eager to cede sovereignty to the WTO.

Since 2000, the global trade regime has also tolerated an extreme double standard for China. The Clinton administration believed that allowing China into the WTO with no enforceable quid pro quos would nudge China in the direction of political democracy and a less statist economy, as well as reduce the bilateral trade deficit. The opposite has occurred on all fronts. But the opening to China has been extremely lucrative to US corporations and banks, which were the prime promoters of the deal. In the politics of trade, China now benefits by having politically powerful US financiers and customers as a kind of Trojan horse that weakens any deviation from the status quo. There is no such foreign Trojan horse in Leninist China.

A fragmented trading system

Today, the world economy has fragmented into different nations that play by entirely different rules. These include kleptocratic and extractive capitalist nations (Russia, Saudi Arabia); the Chinese hybrid model of mercantilist state capitalism and Leninism; major economies that use the state when expedient (Japan, Korea, India, and Brazil); and smaller nations that find themselves allied with trading blocs of one large player or another. The WTO got everyone to sing from the same hymnal but failed utterly to harmonize actual practices.

The pandemic and the related supply chain crisis put one more nail in the globalist coffin. As The American Prospect has documented, just-in-time production relying on far-flung sources of global supply was supposed to make production more efficient. But the enthusiasts of this model left the risk of disruption out of their calculations. The supply chain crisis also laid bare the extreme dependence of US industry on China as a sole supplier.

Russia's invasion of Ukraine led to a range of sanctions and embargoes that technically violate WTO rules, but are accepted as emergency measures of war. Future threats to unfettered trade — from political unrest to the climate crisis — further informed the dire need to change this concentrated model, which now seems engineered for maximum risk.

It fell to Donald Trump to steal the Democrats' clothes and jettison hyper-globalization. He did it in a way that was xenophobic and offensive to America's allies. But once Trump acted, it became impossible to put Humpty Dumpty back together. President Joe Biden has broken with the trade orthodoxy of his three Democratic predecessors and is acting to restore America's capacity to regulate capitalism and to use industrial policies to reshore industries and jobs, and in a far more coherent and strategic fashion than Trump.

There are several possible paths going forward. We already have a rough template for a wholly different global trading order: the charter of the proposed International Trade Organization (ITO), which 56 nations launched in 1948. The ITO was supposed to be the third of the Bretton Woods institutions, along with the World Bank and the International Monetary Fund (IMF). But while the latter two went forward, the ITO was never ratified by the US Senate and was stillborn.

As originally conceived in the Roosevelt era, the three Bretton Woods institutions were understood as bulwarks against laissez-faire, the global counterpart to a domestic economy of managed capitalism and full employment. The World Bank would supply public capital; the IMF would advance loans on generous terms to spare debtor nations the need to pursue perverse austerity; and the ITO would reconcile expanded trade with labor and social standards to prevent trade from creating a race to the bottom. Those were the days! When the ITO died, a much weaker body — the General Agreement on Tariffs and Trade (GATT) — served mainly as a venue for negotiations, but without the enforcement powers that were later given to the WTO.

Today, there are calls for a new Bretton Woods. Draft legislation in the spirit of the ITO has been circulating among progressive members of Congress. Nations receiving barrier-free access to other markets would have to meet core labor, environmental, and consumer-protection standards. If they did not, nations that respected such standards would be free to impose social tariffs or other barriers.

But despite the disgrace of the current system, there is no politically feasible way of converting the WTO into something more like an ITO. Fundamental changes in the WTO require the assent of all its members. Even if smaller members could be pressured into going along, there is no support among most of the larger member nations for anything like the ITO.

A further problem is that there are no provisions for kicking a nation out of the WTO for even the most flagrant violations of its norms. So even as China chronically breaks the rules and Russia invades Ukraine, we are stuck with both China and Russia as members. The United States, as the world's largest market, could threaten to leave the WTO unless fundamental changes are made. But though the Biden administration has been far more willing to challenge the orthodoxy than its Democratic predecessors, it is hard to imagine Biden threatening to quit the WTO. That leaves two alternatives: incremental reform or malign neglect.

WTO: The case for malign neglect

The current trade regime, though largely designed by US administrations, has simply not served the US national interest. "We have the world's most open markets, we have a chronic trade deficit, and WTO dispute-resolution panels keep ruling against the US," says Robert Lighthizer, who served as Trump's top trade official.

Though a nominal Republican, Lighthizer was no Trumper. He was the best-informed critic of the hyper-global trading system on the scene. His views on economic nationalism were more those of a progressive Democrat when it came to industrial policy and good jobs. Through sheer luck, Trump decided to name him as US trade representative.

Lighthizer came up with a bit of strategic genius mixed with diplomatic hardball: sidelining the WTO by having the United States veto any more appointments to the institution's quasi-court, known as the appellate body. That body now lacks a quorum. With the United States blocking nominations, the WTO's power to issue binding rulings is now kaput. Letting the WTO wither on the vine opens up space to pursue industrial policies and impose countervailing tariffs that might otherwise fall afoul of WTO rules. In this moment, the United States can make free access to its markets conditional while rebuilding domestic capacity.

If the United States were to instead seek some modest, incremental improvements at the WTO, it would come under pressure to start cooperating with the organization again, beginning with restoring authority to the appellate body. In many ways, the United States is better off leaving the WTO sidelined. "The WTO can revert to being a standing body for trade negotiation, like the old GATT, but with no power of binding arbitration," Lighthizer says.

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One key area where even modest WTO reform has been blocked by industry power is the idea of waiving WTO rules on intellectual property, known by the acronym TRIPS (Agreement on Trade-Related Aspects of Intellectual Property Rights), to expedite the distribution of Covid vaccines. Biden proposed a TRIPS waiver early in his administration. The most recent TRIPS proposal by WTO Director-General Ngozi Okonjo-Iweala falls far short of what is needed to treat vaccines as social goods. "If you can't get a temporary, emergency TRIPS waiver in a global pandemic when millions of people have died and more will without access to effective vaccines and treatments, when are you going to get it?" says Lori Wallach, a prominent critic of the WTO trade regime.

Lighthizer's other breakthrough, which also violated WTO rules, was to act unilaterally to defend US economic interests. The process for proving that China illicitly subsidized its industries, one case at a time, was impossibly cumbersome. So Lighthizer decided to levy a general tariff against China's mercantilist system as a whole, averaging 25 percent. This was imprecise, but ballpark accurate. With the WTO dispute settlement out of business, there was little China could do other than retaliate, leading Lighthizer to further increase tariffs on some sectors.

There was shock and dismay among free-traders. But "the Earth did not tilt off its axis, as confidently predicted," as Wallach likes to say. Mostly, trade went on, just as it did in earlier eras when tariffs were the norm. Indeed, China's trade surplus with the United States has grown, though the tariffs did create some shelter for the United States to build key industries.

Trump did not grasp the details of Lighthizer's trade diplomacy, but he liked the idea that the headline could be anti-China. In the infighting, Lighthizer won out over the administration's corporate faction, led by Treasury Secretary Steve Mnuchin. When Biden came in, he fine-tuned the tariffs but retained Lighthizer's overall strategy.

The tariffs do two things that are somewhat at odds with each other, a contradiction that Biden papers over. They are described as leverage against China – part of a broad diplomatic strategy for a reset of the US-China relationship. But they also create some space for industries that have been decimated by Chinese mercantilism to survive. In that respect, there is a case for making at least some of the tariffs permanent.

For example, China's policy of subsidizing steel production led to a global supply glut, by dumping steel onto global markets at prices that make it impossible for US-integrated producers to compete. Since steel tariffs were imposed in 2018, America's domestic steel industry has made a modest recovery. Tougher enforcement of Buy American laws would also help. Those laws are also a flagrant (yet salutary) violation of the WTO regime, whose rules on procurement ban domestic preference.

Textiles are another important example of the value of the tariffs. The United States no longer manufactures much apparel, but it still has a viable textile industry with about 600,000 jobs. The raised consciousness about overreliance on China during a pandemic began with the shortage of personal protective equipment supplies, which are of course textiles.

US-made textiles also provide the materials for much of Central America's apparel industry. Tariffs on Chinese textiles have been an important factor in keeping domestic textile production viable. Though enforcement has been far from perfect, the Dominican Republic–Central America Free Trade Agreement (CAFTA-DR) does include labor rights, something entirely lacking in China trade. This supply chain of US textiles providing material for Central American apparel is an example of regional trade arrangements with at least modestly better social standards. Such regional deals are likely to expand, as the dystopian idea of universal free trade fades.

The sound of one hand clapping

Assertive policies to contain the impact of China's predatory trade policies are necessary if we are to restore domestic supply. But they are far from sufficient. In industries where China dominates the entire supply chain as well as the finished product, the United States will not regain production capacity without a strategic government-wide industrial policy.

Exhibit A is the solar industry. China's predatory pricing has been successful at driving out US and other manufacturers, not just of solar panels but of the multiple components that go into them. As a result, even domestic makers of solar panels depend on made-in-China inputs.

The issue is complicated by two overlapping US policies. One is the tariff on Chinese solar exports, which dates to the Obama presidency. The other is the Uyghur Forced Labor Prevention Act, which prohibits imports of products made with slave labor. Much of China's solar industry is based in the Uyghur heartland province of Xinjiang.

China has sought to avoid the tariffs by transshipping its solar products to other East Asian countries and pretending that the production originated there. The Commerce Department has launched a full-scale investigation of this subterfuge. But because of the dependence of US solar producers on Chinese inputs, there has been tremendous pressure from both domestic manufacturers and solar panel installers to kill or water down the investigation or allow waivers.

Both the "domestic" manufacturers (represented by the Solar Energy Industries Association and including several companies that actually originate in China) and the installers (represented by the American Clean Power Association) as well as some of their allies in the environmental movement function as part of the China lobby. *The New York Times* recently ran a totally one-sided piece telling the story of endangered solar supplies entirely from the viewpoint of these industries, without one word on the implications for trade policy. "Around the country," according to the breathless article, "solar companies are delaying projects, scrambling for supplies, shutting down construction sites and warning that tens of billions of dollars – and tens of thousands of jobs – are at risk."

The administration is divided on this question. John Kerry, Biden's presidential envoy for climate, has been lobbying to sideline the Commerce Department action on the grounds that we need the solar panels to meet environmental goals. Kerry is also an enthusiast of the wishful premise that collaboration with China on climate generally should take priority over other goals.

The larger problem is that the US government does not have a single senior official or office in charge of a comprehensive reshoring policy for solar, either at the Departments of Commerce or Energy, or even in the White House. If there were, a solar czar could fashion a coherent strategy, giving some temporary relief from tariffs to the extent that US producers could acquire the needed components to rebuild domestic supply chains. But though the White House has published two superb and detailed reports on the need for reshoring supply, there is no program to implement it because responsibility is fragmented.

The undertow

US Trade Representative Katherine Tai is a resolute supporter of a heterodox approach to trade. Until Tai, the main job of the USTR was to find new trade deals to negotiate, and to work with industry to dismantle supposed trade barriers. Tai has no interest in new deals and is working hard to retain the key China tariffs, in the face of corporate opposition and pushback from others in the administration.

As *The American Prospect* has reported, pressure for tariff cuts originated from the desire of some White House staffers to be able to claim that Biden was working to reduce inflation. The problem with that is that the tariffs began in 2017–2018, and inflation did not spike until late 2021. Public pronouncements in mid-April from Treasury Secretary Janet Yellen and White House staffer Daleep Singh calling for tariff cuts produced serious pushback from inside, notably from Tai, and also from outside the administration, notably from labor.

A problem, however, is that unlike previous people who held the post of US Trade Representative, Tai does not have a direct personal relationship with >>

China has sought to avoid the tariffs by transshipping its solar products to other East Asian countries and pretending that the production originated there.

the president. Biden has a very narrow inner circle of people with whom he goes back decades. Tai has to report (or complain) through them.

The old trade regime may be dead, but traditionalists keep trying to resuscitate it. Not only is there continuing pressure to cut or repeal the China tariffs and to freely let in the components needed as part of the domestic supply chain. Free-trade careerists and corporate lobbyists also keep pushing for the United States to do more trade deals. "Big Tech is trying to hijack the trade agenda to undermine President Biden and Congress's plans to combat Big Tech abuses and break their monopoly powers while simultaneously rolling back the best gig worker, privacy, and competition policies in other countries," says Lori Wallach. "To try to evade detection, they are selling this whole operation as a new 'digital trade' initiative."

> The next trade regime is more likely to be a series of regional arrangements by nations with kindred policies rather than the universal system long sought by dystopian free-traders.

One such deal, the Trans-Pacific Partnership, was advertised as an agreement with other Pacific nations to link them more closely to the United States and to serve as a counterweight to Chinese regional influence. On closer inspection, the deal was mainly a corporate wish list led by pharma, tech, and Wall Street that did nothing to contain China. Of the TPP's 30 chapters, 24 impose limits on food, financial, and other regulations and provide drug firms new monopoly rights. TPP, like NAFTA, also created a special corporate-dominated court for foreign investors. TPP was to be the crowning achievement of Obama's corporate free-traders, led by trade rep and former Citigroup executive Michael Froman. But Trump, whom nobody could accuse of being soft on China, pulled the United States out of the TPP.

A version of the deal without the United States lives on as the rebranded Comprehensive and Progressive Agreement for Trans-Pacific Partnership. Trade traditionalists and corporate lobbyists want the Biden administration to join. There is, mercifully, little interest on the administration's part. Indeed, so useless is the revised TPP as an instrument to limit China that Beijing has raised the idea of joining it.

A more promising regional deal now under discussion that could include labor and social rights is called the Indo-Pacific Economic Framework (IPEF). The devil is in the details, but the broad idea is that the United States and other nations in China's neighborhood need a set of common principles. But unlike the corporate-sponsored TPP, the IPEF could actually have labor, social, and environmental standards, and it could reverse the corporate use of trade deals to undermine regulation.

Biden has embraced the idea of a "worker-centered trade policy." The right brand of trade deal for the Indo-Pacific region could inject those principles internationally. Katherine Tai supports that version. But the administration is divided on goals for the IPEF, with the State Department and the National Security Council giving priority to the containment of China, and the Commerce Department more inclined to promote industry agendas.

Trading blocs as democratic collaboration

The next trade regime is more likely to be a series of regional arrangements by nations with kindred policies rather than the universal system long sought by dystopian free-traders. Trading blocs were a widespread aspect of the global system that postwar multilateralism was supposed to end. Under Roosevelt, legislation gave the president the right to negotiate reciprocal tariff reductions, subject to ratification by Congress. This process became generalized with the creation of the GATT and its successive rounds of multilateral negotiations, which reduced average tariffs on industrial goods from 22 percent in 1947 to less than 5 percent by 1994.

But preferential trading blocs never quite went away. When Britain's colonies gained their independence, most remained part of the British Commonwealth and enjoyed trade preferences. Likewise the former colonies of France. Many of these preferences have been continued by the EU. The use of bilateral and multilateral special trade deals, such as NAFTA and CAFTA-DR and dozens of similar deals sponsored by the EU, continued this process. China increasingly has its own special deals, often trading preferential access to scarce raw materials for investment in local infrastructure.

With Russia's invasion of Ukraine and a broad array of economic sanctions, there is talk of creating a concert of democracies that respect the rule of law, basic human rights, and trade norms. Secretary Yellen has described this as "friendshoring," as an antidote to offshoring. The core would be the United States, the EU, and Japan, who would be free to impose trade restrictions against China and Russia. Their relatively minor trade conflicts with each other would be negotiated directly, as was the case in the GATT era, when its findings were merely advisory rather than binding. Last October, Biden announced a deal with the EU to give trade preference to steel imports made with clean, less-polluting technology.

Trading blocs, regional trade agreements, and kindred ad hoc arrangements are a violation of earlier ideals that were never fully carried out. But they have their benefits. Harvard's Dani Rodrik was one of the first mainstream economists to break with the orthodoxy. In his pioneering 2011 book, *The Globalization Paradox*, Rodrik wrote, "[D]emocracy and national determination should trump hyper-globalization. Democracies have the right to protect their social arrangements, and when this right clashes with the requirements of the global economy, it is the latter that should give way."

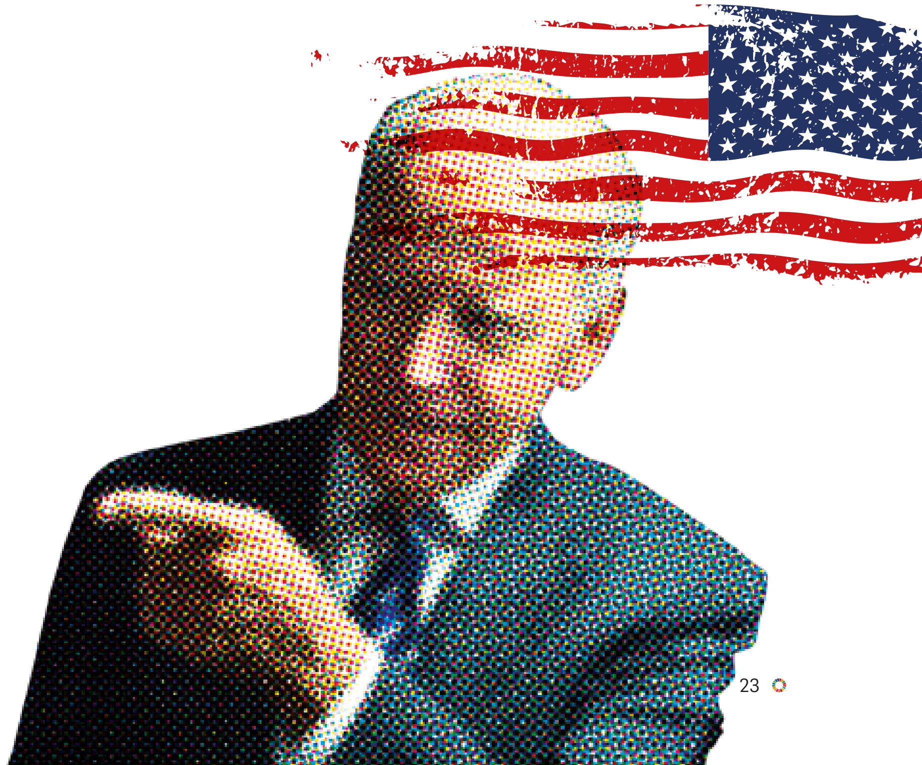
These kinds of regimes can include labor, human rights, public health, and anti-monopoly provisions that have been conspicuously absent from the WTO because of its corporate parentage. They can even provide a kind of race to the top.

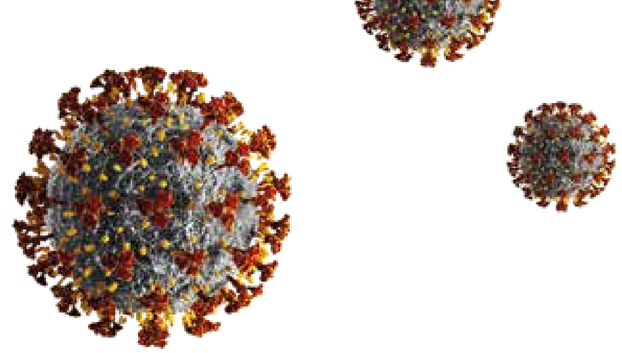
The EU, for instance, is worse than the United States in its enforcement of budgetary austerity — a requirement that was included in the EU's founding documents as a demand by the Germans in exchange for giving up the cherished deutsche mark in favor of the untested euro. But Europe is much better on issues such as anti-monopoly policy, privacy, and restraint of excesses by giant platform companies. Collaboration with the EU on these fronts can produce global gains that are legislatively blocked by corporate influence in the United States. Conversely, the US example has helped push the EU to loosen the screws on fiscal and monetary austerity. The pressures of the Russian invasion of Ukraine are also pushing the United States and Europe to collaborate on a more rapid transition to renewable energy.

Another example: When Trump scrapped NAFTA as a way of punishing Mexico, a surprising coalition of Trump (actually Lighthizer), progressive Democrats in Congress (led by Tai, who was top trade counsel for the Democratic-majority House Ways and Means Committee), and trade unions negotiated a successor deal known as the US–Mexico–Canada Agreement (USMCA). Trump may not have quite appreciated what was in USMCA, but one key provision guaranteed the rights of workers in all three countries to freely organize, with real enforcement measures, very much in the spirit of the proposed 1948 ITO. The revised treaty gives outside monitors the power to order and monitor union representation elections and award back-pay settlements. Thanks to USMCA, independent trade unions have begun to win fair elections, displacing corrupt incumbent company unions.

A second key provision of USMCA almost entirely scrapped NAFTA's chapter on investor-state dispute settlement, something most dear to multinational corporations, allowing them to sue in special courts to challenge regulations as violations of their trading rights. This doctrine has been disavowed by Biden for all future trade deals.

In this sense, what is conventionally termed trade policy is often actually about the governance of capitalism. Whether it produces a race to the top or to the bottom depends on the bal- >>





ance of political forces. But the practical collapse of the hyper-globalist regime under the weight of events has produced a new opening to constrain capital. We may not be able to negotiate a new ITO, but with the right vision and politics, we can get important elements of it piecemeal.

China: Decoupling or constructive engagement 2.0?

When the Clinton administration welcomed China into the WTO, the buzzword was “constructive engagement.” That strategy clearly failed. Now, the United States is willing to act unilaterally to defend its economic interests. But there is still a vast volume of trade between the United States and China, totaling $506 billion in US imports in 2021 and just $151 billion in exports. Though many have called for a “decoupling” between the United States and China, most of that trade will continue. Nor is there any feasible way of forcing China to alter its domestic model or preventing its rise as a global economic power.

The goal should be to bring more symmetry to the US-China economic relationship, and to attempt some kind of modus vivendi with China globally. Rodrik suggests that the United States pursue areas where it can narrow its differences with China, but without being played for a sucker.

In an important recent paper with Stephen Walt, “How to Construct a New Global Order,” Rodrik warns of a military or geopolitical bipolarity between the United States and China, but urges “a more benign version of bipolarity, where the United States and China compete on a number of fronts, continue to trade with and invest in each other’s economies, [and] do not challenge the legitimacy of each other’s domestic systems.” The practical question is whether the United States and China could find enough areas of common interest to allow for some de-escalation.

“We need a thinner globalization, more in the spirit of the GATT,” Rodrik told me. “But in some areas we need more globalization, such as human rights, climate, and labor.”

The strategic and diplomatic challenge is to find those areas of common interest while still resolutely defending the US economy against what is clearly Chinese predation. We are not likely to alter China’s model or goals, but we can change our own. If we make it sufficiently costly for China to treat Uyghurs as slave labor, we might even alter China’s behavior, at least marginally. At the same time, there is a naïveté on the part of China doves such as John Kerry who argue that other US policies or goals should be subordinated or sacrificed to collaboration with China on climate, which is likely to be illusory.

The economic success of China as a nation that violated all the norms and rules of free trade is an acute embarrassment to the old guard. One of the leading free-traders, Fred Bergsten, admits in his new book, *The United States vs. China*, “China appears to believe that it is getting the best of both worlds from the present international economic order. It gains hugely from the order’s openness while cheating on the rules.” Like Rodrik, Bergsten calls for a mix of competition and collaboration.

There is an odd convergence between the trade traditionalists and radicals who either admire China’s system or see it as a valuable counterweight against an imperialist America. On the left, some have cited China’s Belt and Road Initiative (BRI) as a blessing for the Third World, and even suggested that the United States seek to join it. The BRI is an effort to create a substantial Chinese global sphere of influence in which infrastructure investments are traded for preferential access to raw materials and other forms of subservience to China. And this challenges legitimate US interests.

At the same time, US-China competition for influence could be good for the Global South. The West will have to offer Third World nations a lot more than has been on offer in the past, if China is not to win this competition by default.

Who is us?

In 1990, Robert Reich wrote an influential article in the *Harvard Business Review* titled “Who Is Us?” Reich’s point was that corporate identity should not be confused with national identity. Which corporation was more “American,” he asked: one domiciled in the United States that produced offshore, or a foreign-owned corporation with branch plants in the United States?

Reich was asking the right question, but at the time he was more of a neoliberal and his remedy was off. Reich argued that if the United States invested sufficiently in worker skills, corporations would beat a path to America’s door and the competitiveness problem would take care of itself. But the issue of corporate identity and loyalty is more complicated.

Since 1990, US-based multinationals have become even more globally footloose. And even though the Supreme Court has defined corporations as citizens, they are far from loyal citizens. That makes the project of industrial policy that much harder.

Other nations can have industrial policies based on “national champions” because Mitsubishi, Mercedes, and Huawei know without being told where their national loyalty lies. That is far less the case with US-based or -owned corporations, from Apple to Intel, which take advantage of hyper-globalization to produce offshore.

In emerging industries such as solar, as China has underpriced US domestic producers, the reaction of many has been to move production to China. More insidiously, when China moves some production to the United States, it is in service not of minimizing labor costs or finding more skilled workers but to gain domestic clients as part of the China lobby. This kind of strategic trade is the opposite of what the United States has been promoting.

So if the United States is to have an industrial policy, we need to be crystal clear about the goals. The object is not just to promote domestic production if it helps predatory foreign firms. Chinese-owned firms that do final fabrication in the United States should not automatically get made-in-America preferences. And we cannot just assume that US-based firms are loyal US citizens.

Reshoring production means either subsidizing or creating US-owned firms that have a commitment to US output and US workers. In the postwar era of collective bargaining, that reciprocal loyalty was taken for granted. Now it has to be rebuilt.

At a time of global pandemic and global climate catastrophe, we also need to ask “who is us” in a broader way. Us has to be all of humanity. The economist Branko Milanović points out that if you look at the question of inequality nation by nation, most nations became more unequal over the past half-century. But if you look at the world as a whole, the global economy has become more equal, largely because China’s development policies have lifted hundreds of millions of people out of dire poverty.

It ought to be possible for this achievement to not be a zero-sum game, at the expense of broad prosperity in the West. In my lifetime, the gains to working people have been achieved within national polities, where national social compacts could be negotiated and enforced. Hyper-globalization deliberately undermined that project. But we may be on the verge of a different form of globalization that could produce gains for social justice, conceived globally as well as nationally, and not just for rampant capitalism. ■

At a time of global pandemic and global climate catastrophe, we also need to ask “who is us” in a broader way. Us has to be all of humanity.

Author: Dr. Robert Kuttner is co-founder and co-editor of The American Prospect and professor at Brandeis University’s Heller School. The next trade regime is more likely to be a series of regional arrangements by nations with kindred policies rather than the universal system long sought by dystopian free-traders. This article appeared in the June 2022 issue of The American Prospect magazine.

Corporate Sustainability in a World Running out of TIME

The corporate world is by far the most economically powerful and environmentally impactful bloc on the planet and short of a mass redistribution of that power and impact, voluntary corporate action will be an essential ingredient in the preservation of the biosphere.

As such, everybody should be invested in the state of corporate sustainability, just as everyone should be savvy to greenwashing, greenwashing and the oversimplification of "shared value" solutions.

By Adam Carrel, Tanya McKenna, Lauren Jones, and Tara Duane

Capitalism, it seems, is enjoying another unexpected revival. It was not long ago that widening inequality — paired with the political malaise of Western liberal democracy — had led many to announce that "capitalism was broken" and it was dragging the world down with it. This was not just a fringe perspective — it was taken up by numerous capitalism-friendly institutions, such as the World Economic Forum, and although few were announcing its imminent demise, many were calling for its root-and-branch reform. The common theme was that, despite the historic bounty capitalism had created, there were too many casualties of creative destruction for liberal democracy and the biosphere to sustain.

Although none of the underlying issues have gone away in the years that have followed, the case for capitalism, as well as the notion of self-regulation and market-based solutions, is being boosted from an unlikely quarter — the environmentally conscious, particularly those focused on the narrowing window to avoid catastrophic climate change.

Let us be clear, the global environmental community is far from being a cheerleader for the market or the neo-liberal ideologies that have shaped its current form. Capitalism is also still regarded as the central factor in the unsustainable consumption levels maintained by the "Global North" at the expense of the "Global South." The recent revival of support for market-oriented solutions stems from a begrudging acceptance that the mass-mobilization of private capital in support of sustainable business practices represents the last moveable lever to stimulate the massive decarbonization needed to keep global heating within 2°C.

This shift was clear during COP 26 in Glasgow, where — in the face of the painful incrementalism of the political process — even some of the most strident environmental NGOs observed that the only source of hope coming out of the conference was the massive amount of investor commitment toward decarbonization specifically, and ESG more broadly. To the more optimistic, this amounts to a belated-but-enormous reorientation of capital toward common sense. To the more pessimistic, it amounts at the very least to a point of contrast to shame political leaders into equivalent action. Either way, private sector-led efforts are now considered — by most people familiar with the extent and velocity of the problem — to be a critical ingredient to avoid climate and other catastrophes.

Careful what you wish for

Some might argue that the expectation that corporations would mobilize around sustainable development has always been there, which is why the corporate sustainability industry is more than 20 years old. Back in 1999, Kofi Anan, then Secretary-General of the United Nations, founded the Global Compact, which was not the first, but certainly the most prominent incorporation of the private sector into the sustainable development agenda. By many measures, the Global Compact has been a resounding success: At last count it had more than 12,000 participants and 3,000 businesses from more than 160 countries, and it continues to produce a steady stream of guidance on and engagement in corporate sustainability. However, the Global Compact and all of its allied initiatives share one common compromise — they have never actually required that their members become sustainable. >>

> “We have spent the better part of the last 20 years focused on being incrementally sustainable (in the midst of exponential economic growth) with no real pressure to expedite the hard structural changes to actually be sustainable.”

This sounds absurd, of course. The Global Compact is all about sustainable development. Surely the whole point of the exercise is that the business models of its members achieve a point of technical sustainability, that is, that they decouple their value chains from any degradation of the biosphere, right? Unfortunately, this is not the case. This issue is far broader than the Global Compact. Corporate sustainability as a whole, although great at extracting directional commitments and aspirational targets, has been poor at enforcing deadlines.

The notion that more than $130 trillion a year in capital has now been committed to put the global economy on a truly sustainable footing assumes that the global private sector broadly understands how sustainable it needs to be — and by when — to ensure it remains within key planetary thresholds. The uncomfortable truth is that it does not, and this is where the promise of sustainable corporate self-regulation crashes into reality.

The argument is that if sustainable finance, ESG, and other private sector-led sustainability vehicles are going to play a leading role in the sustainable reorganization of the global economy, then the concept of corporate sustainability needs to be fundamentally revisited. This needs to go far beyond universalized reporting frameworks and get to the heart of what it means to have genuine sustainability embedded into the structure and strategy of a private or corporate enterprise.

Done well, this should not make it easier for more companies to appeal to sustainable finance and conscious consumers, but harder. For if capitalism really can be harnessed to expedite the remedy of its own impacts, then it cannot be without its most storied attributes: competition and innovation. Given the extraordinary structural changes we need the global economy to make in the next decade, we simply cannot afford to let a few expeditious tweaks of disclosure qualify as evidence of sustainable realignment. Instead, we need to strip bare the paradoxes of mainstream corporate sustainability and recognize and reward those willing to break the mould.

This will be an immense challenge, but it is one that most people familiar with the industry recognize as being long overdue. If the first 20 years of corporate sustainability amounted to the normalization of sustainability within the mainstream corporate narrative, the next 20 years need to amount to its realization.

The point of this text and the engagement that surrounds it is to stimulate discussion and agreement on the key changes that need to occur within corporate sustainability for it to be worthy of its immense promise.

Where do we need new ideas?

We want to engage with readers of this report. In particular, we want input, ideas, and reflections on the questions below, which we believe remain unanalyzed:

- Who has seen or worked within an alternative organizational model for corporate sustainability? We know from our own experience that many organizations have elevated sustainability to genuine strategic relevance, but we have yet to recognize an alternative business model that effectively decouples growth from environmental decline and social inequality. For those who have, we would love to understand how this might have functioned and what made it effective?

What were the outcomes? Was sustainability a “function” or did it take some other form?

- Although we are relatively convinced that sustainable businesses should be, at a minimum, in a net neutral position in relation to the environmental thresholds to which they relate, we want to explore how these thresholds should be determined:

1. Should these thresholds be based on a measure of “materiality” or significance, or exclude those determined to be “de minimis”?

2. Against what criterion should this assessment be made? Within something so vast and interconnected as the biosphere, how can an organization best understand the aggregate quantum and boundaries of its impacts? Should this be calculated from the bottom up (e.g., on an ecosystem-by-ecosystem basis), from the top down (through next generation databases), or some combination of both?

3. Should corporations be self-assessing their impacts, or should an independent scientific entity play a role? And similarly, should the plans that a company makes in preparation for a transformation be developed and validated by a scientific entity?

4. To what degree of accuracy should assessments of value chain sustainability be made? Might the last 5 percent of data accuracy consume 50 percent of the time and resources?

5. Business models and value chains are rarely static. Inputs and outputs can change significantly within small periods of time. How should this be accommodated by organizations looking to maintain a permanently sustainable footing?

- The emphasis on reporting to stakeholders only grows. We beg the question as to whether there are more effective ways of telling a company’s sustainability “story” that negate the need for the almost half year of effort in preparing an externally facing report for stakeholders to analyse. How best can corporations provide their stakeholders and broader society with the information they need on their practices, products, and performance that allows more time for action and leads to fewer words?

- How do we break the cycle of incrementalism? In a world that is running out of time, we need a mode of action that is not constrained by annual corporate planning cycles and/or within a company’s “risk appetite.”

- In our current economic system, competition is a key feature of business. But to address the environmental crisis before us, we need collaboration. What needs to change to allow us to collectively shift from competition to collaboration — so that our efforts drive the change we need at scale, and fast?

- Do we need to reconsider the term “sustainability,” which, upon reflection, has potentially lost its meaning in a world that has already far exceeded the tipping points sustaining life and humanity on the planet? Should we be talking about impact, or evolving to regeneration, or to something else?

- Lastly, how do we elevate the role of systems thinkers — those who understand that the planet and our current economy operate as a system of inextricably linked patterns, and that when one thing changes, it affects something else, and so on? “Sustainability” cannot be achieved with a focus on one “topic” at the expense of another.

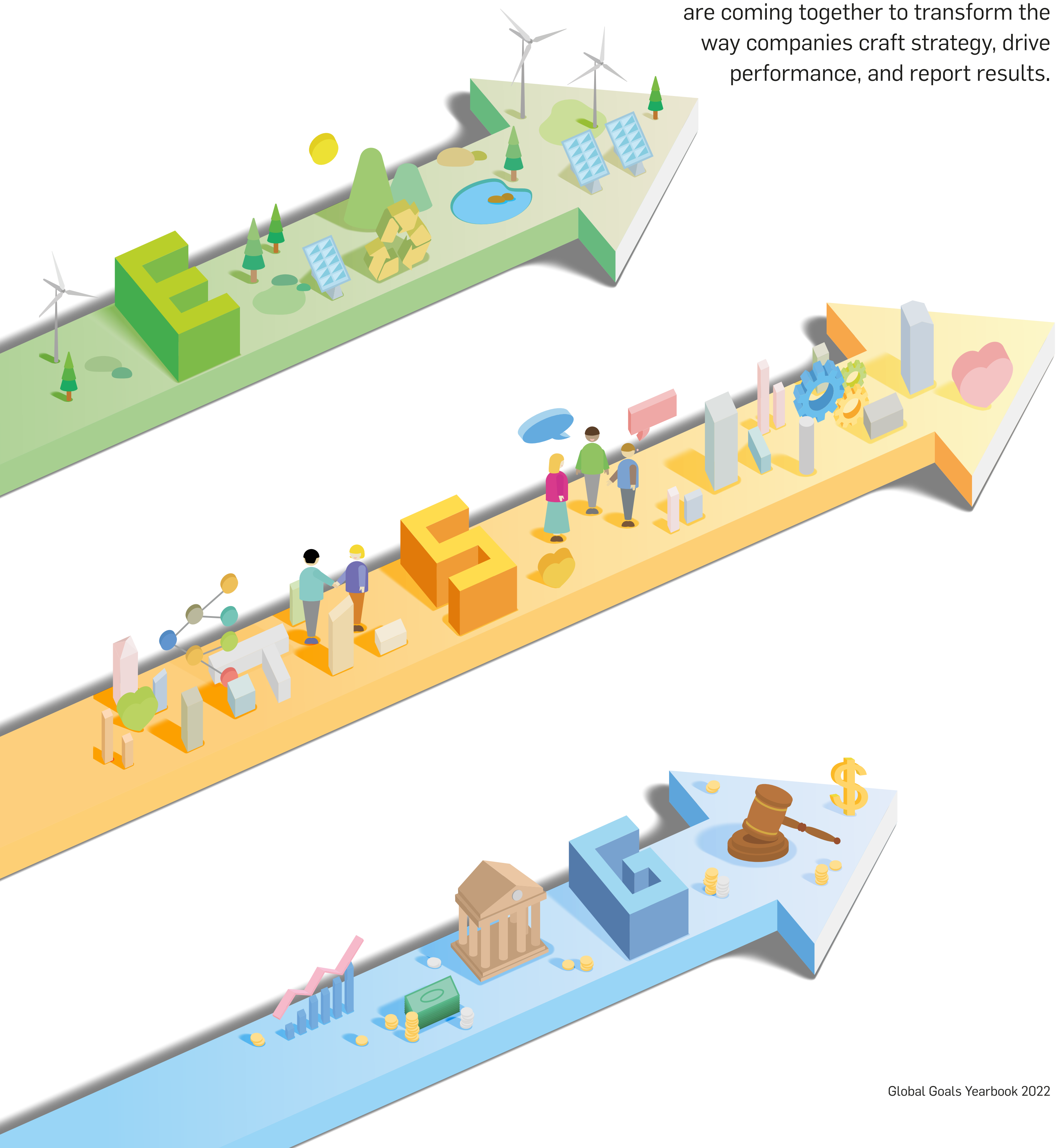
We appreciate that it is more customary for consultants to answer questions than it is for us to pose them, but this subject is too important to be productized and privatized by one part of the corporate sustainability community. Instead, we need to wire corporate sustainability into the wider network of scientific agencies, civil society bodies, multilaterals, and education institutions to retrieve it from being a silo of half measures and make it part of a unified effort to restore the long-term health of the biosphere. We hope that the conversations initiated by this first report — and the summary of those conversations that will follow — shall in some small way contribute to this aim. ■

To contact the authors of this article, please write to us at antithesisproject@au.ey.com

About: Adam Carrel is Partner, Climate Change & Sustainability Services, Ernst & Young.
This text is an excerpt of the EY Oceania publication “Enough – A review of corporate sustainability, in a world running out of time”.

Are You Ready for the ESG Revolution?

Societal need and business opportunity are coming together to transform the way companies craft strategy, drive performance, and report results.



By Peter Gassmann, Casey Herman, and Colm Kelly

What is often heard in today's boardrooms and C-suites and their virtual equivalents is a mixture of anxiety and enthusiasm about environmental, social, and governance (ESG) issues. "What risks are we sitting on?" leaders (and investors) are asking, as pressure for ESG disclosures mount. "How do we measure and manage them when there are no common standards? Where should we focus when the list of potential issues is a mile long?" And, critically, this is where the enthusiasm comes in: "As we take a hard look at our business, what opportunities can we identify to solve big problems and create value in new ways?" The answers to these questions are interrelated, as are the initiatives those answers will motivate: reimagined reporting, strategic reinvention, and, ultimately, wholesale business transformation.

The underlying forces at work are well known. Investors, lenders, and rating agencies expect greater visibility of an ever-broader range of nonfinancial metrics to better understand diverse social and environmental risks. Governments' ambitious, top-down commitments to limit carbon emissions are increasingly backed by new regulations and new taxes. More — much more — can be expected. Activist shareholders, among many other stakeholders, are advocating for net-zero policies and for tighter linkages between ESG targets and executive compensation packages. Socially conscious consumers are more inclined to vote with their wallets, encouraging businesses to reappraise their products and purpose, including their role as employers of diverse, engaged workforces. And the global pandemic has created significant additional momentum for change.

Against this backdrop, the ESG maturity level of companies varies widely. When PwC segmented executives responding to a recent survey according to their awareness and prioritization of ESG issues, their personal commitment, and their belief in the potential for business to positively impact society, it became clear that leaders in most organizations (nearly three-quarters) were in the early stages of their ESG journey. A few companies, though, have begun reorienting their business toward a value-creation ecosystem that adds environmental sustainability, employee engagement, external partnerships, and broader societal impact to financial imperatives as measures of success. Companies that have earned top ratings on ESG indexes and that also produce solid investor returns include asset managers such as Norges Bank; tech companies such as Adobe, Salesforce, and Microsoft; and consumer-oriented firms such as Procter & Gamble and Best Buy.

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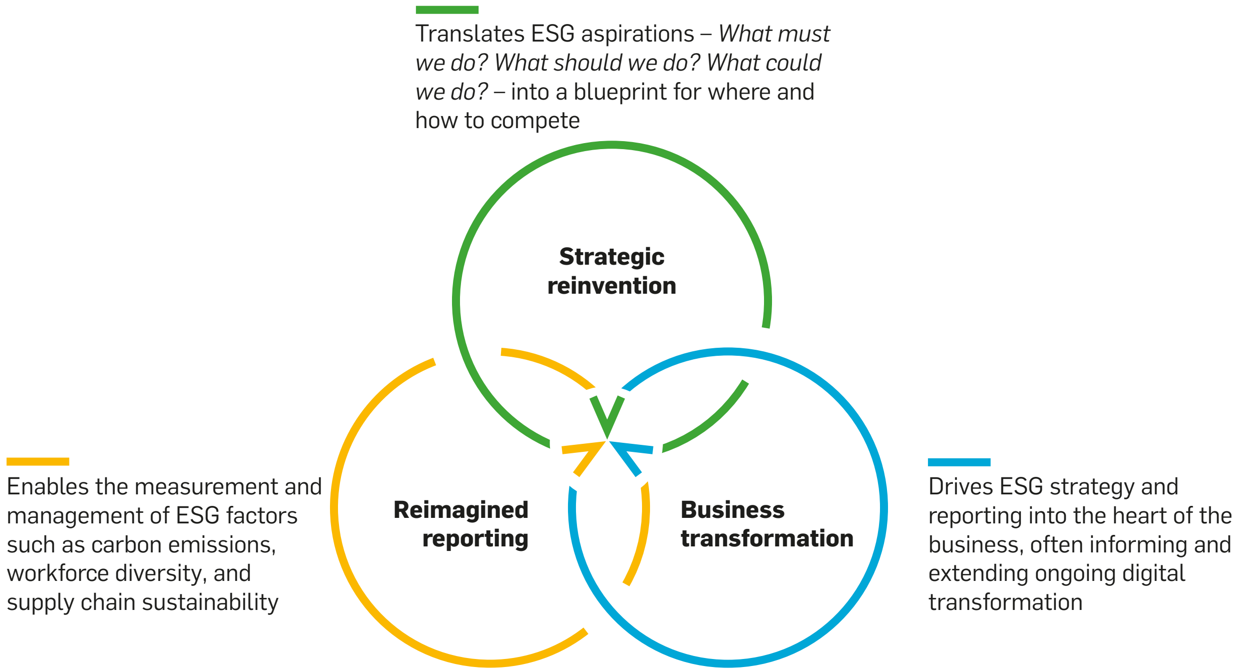
THE THREE DIMENSIONS OF THE ESG REVOLUTION

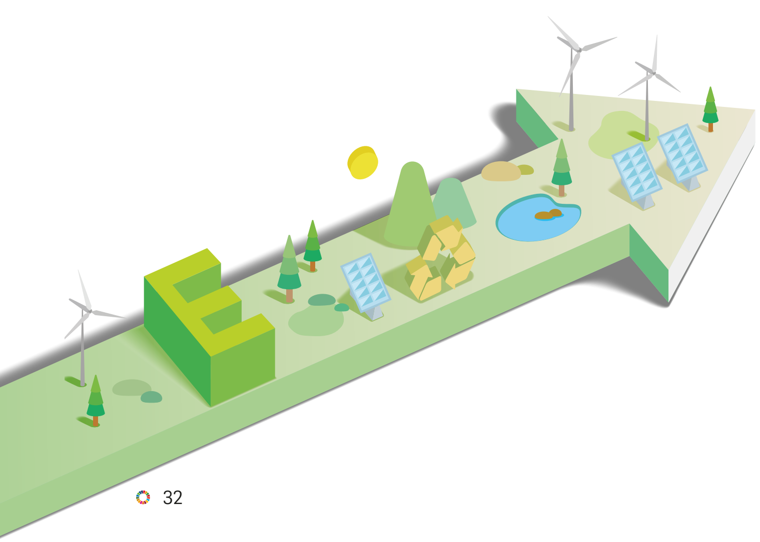


Source: PwC analysis

Whatever the starting point for the ESG dialogue, the project will result in changes in all dimensions of a business, including strategic decision-making, implementation of the new direction, and reporting of progress and outcomes.

Not only are those dimensions interdependent, but each of them can create momentum that helps fuel the others. In industries as varied as oil and gas, consumer goods, telecommunications, manufacturing, and hospitality and other services, companies are striving to build trust among — and deliver sustained outcomes to — their stakeholders. They are doing so by tackling the following imperatives.

Reimagined reporting. The most immediate call for action often is some combination of heightened regulatory requirements, risk-awareness, and a demand for data and transparency to enable the management and disclosure of ESG factors. Everything from carbon emissions to racial and gender balance to the sustainability of sourcing strategies is under the microscope; investors, governments, and other stakeholders are interested in assessing whether businesses have identified and are managing ESG risks. As companies reevaluate what they report publicly, formal nonfinancial disclosures are starting to augment or replace nonbinding frameworks.



Strategic reinvention. In some cases, reimagined reporting will convince companies that to make progress against new metrics, they must rethink basic strategic questions about where and how to compete. In other cases, companies are moving aggressively to redefine their strategy with ESG at its core before grappling with changes in the reporting environment. Management teams are taking a fresh look at difficult strategic trade-offs in response to both new opportunities and external pressures, such as concerns about heavy carbon emissions (very much on the radar, for example, of energy companies and cement manufacturers) and about a range of social concerns, including health, race, gender, and inclusion and inequality. If its current strategic priorities are resulting in outcomes that are increasingly viewed as unsustainable (or even unacceptable), a business needs a strategy that addresses such concerns, exploits different opportunities, and, ultimately, redefines not only what the business does, but how it does it.

Business transformation. A business that begins to report against broader nonfinancial metrics will quickly find that it needs to define objectives to manage these metrics, and therefore to drive change — transformation — to achieve these objectives. Similarly, a business that has had to redefine its strategic priorities to ensure its sustainability and relevance will urgently need to transform if it is to deliver on the new strategic objectives. Either way, businesses will have to actively manage ESG outcomes by internalizing ESG into strategy, by transforming to implement the related change, and by reporting on both progress and outcomes.

Senior leaders have a critical role to play in driving this agenda for transformation, which is not separate from ongoing digital transformations, but which will inform and build on them, redefining their context (and their purpose).

Every company is uniquely situated, and so is the scope of change it needs. Regardless of the motivations — an ambitious emissions target that inspires strategic reinvention; deals to exit or restructure businesses that are unsustainable; ambitious diversity, equity, and inclusion (DEI) priorities; or supply chain overhaul — the resulting ESG agenda will eventually encompass reporting, strategic, and business transformation initiatives. It all adds up to a new equation for business: behaviors based on purpose and trust that create value by finding solutions to the challenges society is facing.

Reimagined reporting

If you spend much time in management reviews or board meetings these days, you will probably be presented at some point with a lengthy description of ESG issues, initiatives, and metrics that someone is tracking. Unfortunately, it is rarely clear what the objective of each initiative is, let alone how far the organization is from that goal, or how all the parts add up to an overall aspiration or value-creation goal. One result is endless discussion of which benchmarks to use, instead of where the company wants to go on its ESG journey.

Part of the challenge is the proliferation of ESG ratings and risk-assessment metrics, which largely were developed in silos. Scoring is opaque and noncomparable because the ratings are based on different criteria plucked from frameworks set out by multiple standard-setting bodies. Not surprisingly, the “lack of reporting standards” was cited as a top barrier to ESG effectiveness by executives in a recent PwC survey.

TOP BARRIERS TO ESG EFFECTIVENESS, SHARE OF RESPONDENTS

	Overall	ESG leaders	Difference in percentage points	ESG laggards
Balancing ESG with growth targets	40%	39%	+1	40%
Lack of reporting standards and regulations / complexity	37%	31%	+8	39%
Lack of attention or support from leadership	33%	30%	+4	34%
Volatility of regulatory requirements	31%	36%	6	30%
Difficulty quantifying potential ROI	31%	31%	0	31%

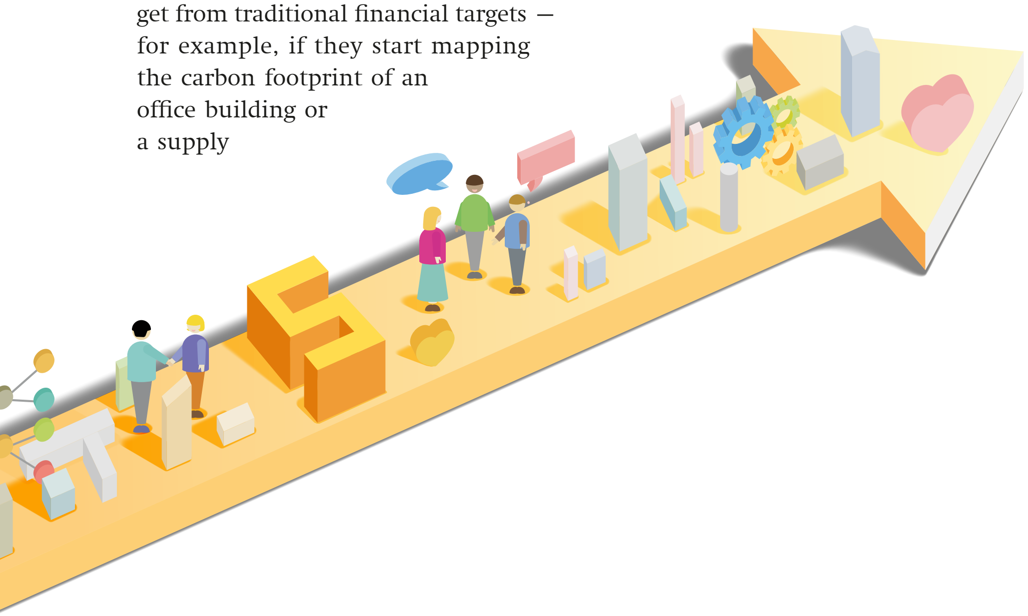
Source: PwC Consumer Intelligence Series survey on ESG, 2021

To be sure, ESG standards are winnowing as the mandatory assurance of corporate nonfinancial statements comes into effect. It is happening first in the European Union, for both asset managers and larger companies, as part of the European Green Deal. The US Securities and Exchange Commission is considering following suit, a move that would be consistent with a May 2021 executive order from President Joe Biden on climate-related financial risk. In the near future, it will not be enough simply to have ESG targets on DEI or emission reductions; they will need to be benchmarked, measured, disclosed, tracked over time, and assured.

Urgent as the need is for common, external reporting standards to guide corporate disclosures, each business will also need to identify and then manage the critical factors that are most relevant for that particular business. This requires a rigorous approach to understanding and defining the critical metrics for the business, establishing a baseline, and enhancing measurement and reporting for management purposes.

Establishing a baseline

Any kind of rigorous reporting regime needs a baseline. The farther businesses get from traditional financial targets — for example, if they start mapping the carbon footprint of an office building or a supply chain, or assessing whether a manufacturing facility or crops are vulnerable to flooding or droughts — the more difficult it can be to define relevant baselines. Breakthroughs are possible, though, if you gather the right data.



Regulatory targets in British Columbia, Canada, for example, led an energy supplier to set an ambitious midterm climate goal: a 30 percent reduction in emissions by 2030. The first step was to identify the measures that could contribute to significant emission reductions. Then the utility created a governance and reporting structure that provides senior leadership with oversight and the ability to communicate progress toward the target. The company will be tracking activities through a series of milestones on the way to achieving the target over the next 10 years. It now has a narrative that regulators and stakeholders can assess and checkpoints along the way that help ensure it is on track. Those milestones build confidence to make decisions about capital expenditures, invest in training, and approach the capital markets in the future.

Enhancing measurement

Carbon footprinting, though complex, is becoming more common, of necessity, just as valuing stranded assets such as coal and oil in the ground is now well understood. Across sectors, companies will have to measure and report on their impact in an abundance of areas that are far from obvious. Consider the following examples.

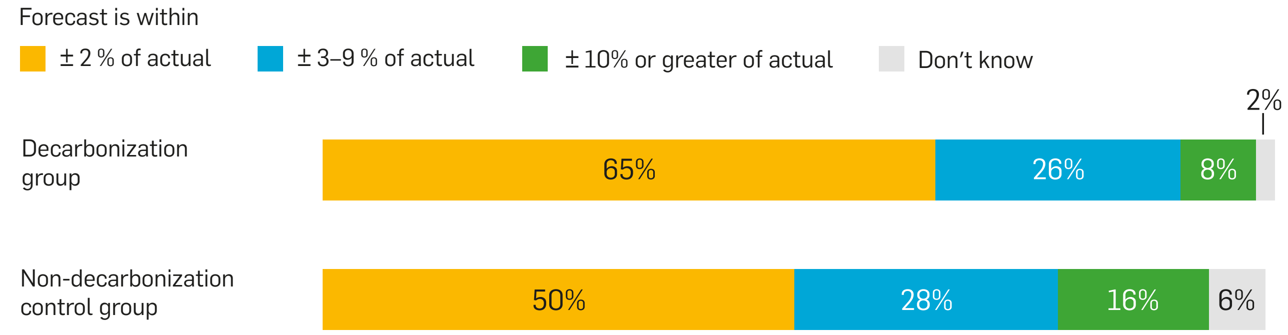
A telecom company has begun forecasting and reporting on the financial impact that severe weather could have on its business operations a decade from now in order to inform long-term capital expenditure decisions for itself, its customers, and its investors.

A beverage company is undertaking research on the degree to which teenagers who attend lectures on the effects of binge drinking change their attitudes toward alcohol use and abuse. The goal is not only to encourage responsible drinking — which helps the company's brand — but also to collect auditable data that shows it is taking action to mitigate potentially dangerous behavior with social consequences.

When it was applying for permission to build an offshore wind farm as part of its transition out of fossil fuels, an energy company was pushed by local authorities and residents to address and quantify the environmental effects of overground versus underground electricity transmission.

All these assessments, and many more, will show up on nonfinancial statements. In 2019, 90 percent of the constituents of the S&P 500 published sustainability reports; 29 percent had some kind of assurance review. Not surprisingly, the process of gathering, verifying, and presenting this data is having profound effects. Companies providing information to rating agencies need specific, granular data to feed into the ratings algorithms that determine membership in ESG-branded stock indexes. In turn, the expanded outlook of stakeholders is forcing leaders to reassess their strategies and capabilities as they address issues that were not on the radar a decade ago.

ORGANIZATION'S TYPICAL FORECASTING ACCURACY FOR 12-MONTH REVENUE GROWTH
(under normal circumstances – i.e., before Covid-19), share of respondents



Note: Figures may not sum to 100% because of rounding.
Source: PwC 24th Annual Global CEO Survey; Science Based Targets initiative (SBTi)

Strategic reinvention

Whether the cause is new disclosure requirements, stakeholder scrutiny, climate risk, or green growth opportunities, at some point, ESG issues will bring leaders to the heart of their strategy — their blueprint for where and how to compete that reflects their view of the future, the opportunities and threats they face, and the capabilities they can bring to bear. In practice, that might mean moving from carbon mapping and greenhouse gas reduction to creating a product road map for new, low-carbon products.

Strategic dialogue may start with questions of ambition: What must we do? What should we do? What could we do? The answers to these questions help define a company's degree of strategic freedom and must reflect an informed sense of the risks and opportunities that face the business in the short, medium, and long terms. Given the long time frames associated with some of the fundamental shifts that an ESG strategy requires (transitions from fossil fuels, supply chain overhauls, investing in upskilling), the ability to fine-tune forecasting is crucial. Interestingly, the CEOs in PwC's 24th Annual Global CEO Survey whose companies have set formal decarbonization targets through the Science Based Targets initiative (SBTi) of the World Resources Institute have significantly greater confidence in their organization's revenue-forecasting capabilities than do a control group of CEOs in the survey matched for country, industry, and company size.

Although it is still early days for most companies' strategic reinvention, one message is already clear: As the context within which business operates changes rapidly, so too must the strategic journey. Leaders need to establish a constantly iterating process — underpinned by high-quality data — to assess, adjust, and flex strategic priorities and milestones that ensure resilience and success in a highly dynamic world. To bring that dynamism to life, we describe the experiences of a chemicals company and an industrial company that have been revisiting their strategies with ESG in mind.

Reformulating a chemicals company's product portfolio

Over the course of a decade, a global chemicals company changed many of its products and operations following the realization that its processes, which are carbon-intensive, and its products — literally thousands of chemical components — could end up being outlawed or shunned by customers, even though the bulk of what the company produced was beneficial to society. (One example: biodegradable and bio-based packaging for consumer products.)

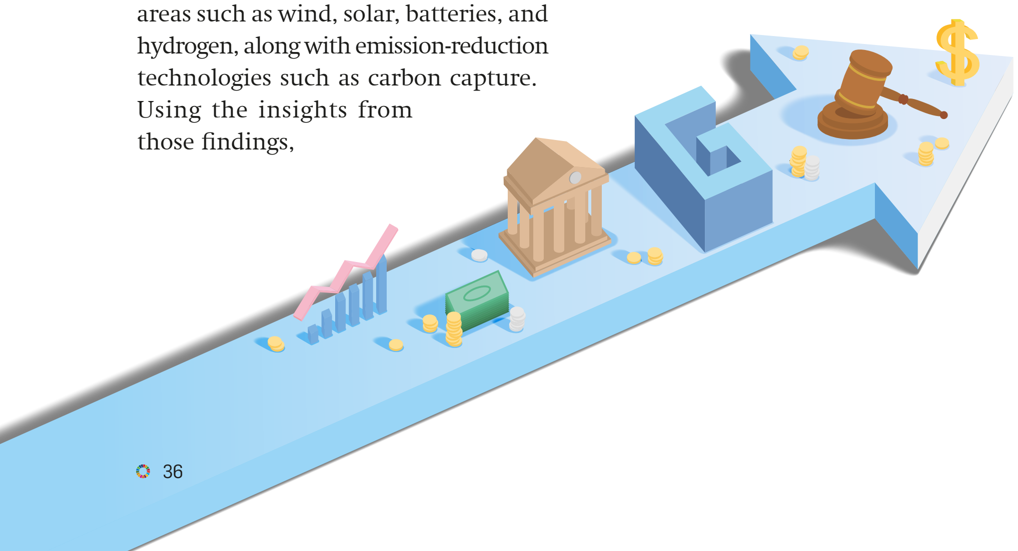
To reformulate its strategy in the face of this threat, the company undertook a massive product portfolio review with several purposes: to establish where it was hurting the environment and what needed to change; to identify which products to reengineer; and to pinpoint where it was adding the most value and how it could remain competitive in its field.

As a means of better informing strategy formulation, the company now uses an impact-assessment tool that brings together tailored economic and operational data to determine the effects of a decision – such as its product portfolio changes – on ESG criteria, including pollution outputs, CO_2 emissions, labor practices, social welfare, and more. This creates the kind of granularity that helps leaders make strategic decisions, understand trade-offs, identify opportunities, and tell their story to all their stakeholders. The tool has also enabled the company to develop and regularly refine a road map for refocusing R&D, overhauling operations, changing incentives, and evolving hiring practices.

Resetting an industrial company's carbon strategy

Consider next the experience of an industrial company that has begun taking far-reaching steps to put itself on a more sustainable trajectory. The company began by defining a clear ambition centered on bold targets, initially aiming for short-term operational emission reductions and becoming a net-zero company by 2050. To achieve these goals, the organization elevated sustainability to a strategic priority and identified a set of supporting management interventions, starting with a revamped planning process with sustainability at its core.

To inform its strategic priorities, the company studied new energy technologies in areas such as wind, solar, batteries, and hydrogen, along with emission-reduction technologies such as carbon capture. Using the insights from those findings, the company developed a portfolio strategy out to 2050, showing the rate at which it would need to divest traditional businesses and power sources, and how quickly it would need to replace those with greener options. Then, to generate early options, the company created a venture fund that could identify and invest in promising technologies, through straight investments or joint ventures with others.



Next, the company began applying a sustainability lens to future capital investments. For example, before constructing a new facility, the organization had previously used traditional financial analyses such as net present value to determine whether that facility represented the best use of capital. In that analysis, the carbon component was relegated to an afterthought (an internal carbon-pricing mechanism). The company realized that this approach was no longer sufficient to deliver on its strategic goals. When it began to factor in carbon in a more explicit way, the company actually changed the design and construction methods for new sites, expressly to reduce emissions. As it reallocates capital as a result, the company is evolving its strategic commitments.

Business transformation

An ESG transformation can flow from a new strategy, from changed reporting requirements, or from ongoing efforts to rewire processes or data-informed decision-making. ESG transformation is not distinct from, but rather should inform and extend digital transformation efforts, which have been a critical area of focus for many companies in recent years. The business transformation also can extend beyond a company's borders to its broader ecosystem. Below, we look in more detail at ESG-flavored ecosystem and digital transformations for the chemicals and industrial companies we just described – and at the role of senior leadership in company-wide transitions.

Ecosystem evolution, digital transformation

Let us return to the chemicals company, whose reinvention effort caused it to look beyond its own four walls. One example is the promotion of the sustainable use of plastics, which was a significant opportunity for the company to transform toward a more circular business model characterized by recyclable design, use of alternative raw materials, and remanufacturing in a new value ecosystem.

Such initiatives can lead to innovative collaborations born of the need to improve processes and outputs. In the case of the chemicals company, this happened with the polymers it supplies to carmakers, which can now be recycled. To maximize circular opportunities, those carmakers have to know when the car is at the end of its life cycle, which could be more than 10 years from manufacture, and must have a way to retrieve the plastic. These car companies have teamed up with dealers, recyclers, and others in the value chain to make this happen.

The industrial company, too, is working more closely with its suppliers to push the net-zero agenda out across its entire network. This step is critical because for this industrial company – as for many other large organizations – the bulk of the carbon footprint is in the supply chain, not within the boundaries of the company itself. Digital transformation is enabling this ecosystem effort: One of the company's business units recently put its entire supply chain on a cloud-based ERP (enterprise resource planning) system – an important first step in helping suppliers track, report, and reduce their carbon impact.

Already, the industrial company has good news to report: It is a year ahead of schedule in achieving its short-term operational emissions targets. Those successes have heartened executives, employees, and other stakeholders directing their energies toward the next wave of progress and more ambitious targets. To cement those goals in the minds of executives, the company set aside millions of dollars in management incentives that are linked to sustainability performance. It is now creating a similar incentive structure for the full workforce.

Leading the transformation

The far-reaching effects of ESG transformations mean their success is heavily dependent on the focus and drive of senior leaders. In many organizations, the needed leadership is still emerging. The "lack of attention or support from leadership" ranked high on the list of barriers to ESG effectiveness in PwC's recent executive survey.

In our experience, committed leaders can make an enormous difference by focusing on two priorities. First, leaders need to be able to connect ESG initiatives with the organization's overall direction. For example, a large asset manager is undertaking a set of pilot projects to encourage the decarbonization of three portfolio companies. It would be easy for three small experiments to get swallowed up or fall by the wayside but for the fact that they connect with a much bigger aspiration: to focus the asset manager's entire investment portfolio on companies whose operations are consistent with limiting global warming to 1.5°C above pre-industrial levels. In short, the pilots, which are running simultaneously with a full program to assess emissions across the portfolio, have a purpose that extends beyond their individual results. The senior team is staying close to those outcomes, which are creating energy for deeper transformation.

A second critical priority for leaders is to back up their ESG initiatives and aspirations with real resources. This is easier said than done in most organizations because budgets are sticky, there is considerable competition for capital and the best people, and it is easy for here-and-now priorities to trump ESG investments. The executives surveyed by PwC called out "balancing ESG with growth targets" as the top barrier to ESG effectiveness; "difficulty quantifying potential ROI" was not far behind. Strong leaders can help change the conversation, though. The CEO and COO of a North American utility, for example, developed and frequently repeated a simple slogan to describe the (costly) shift they envisioned from coal- and gas-powered plants to wind- and solar-powered ones. Not only has this helped galvanize the organization, it has also supported their efforts to educate the investor community about the long-term financial benefits of their strategy as alternative energy economics improve, which, in turn, has helped keep the needed capital flowing their way.

When leaders connect ESG with their strategy – as opposed to having it be a "bolt-on" set of initiatives – and focus intently on ESG resourcing, they are better able to develop a true agenda for ESG transformation. Such an agenda can be invaluable for leaders as they seek to make the right trade-offs between compliance and ESG leadership, to capture the imaginations of stakeholders, and to maintain focus in busy organizations that frequently are trying to transform in other ways, too.

The impetus for business to address ESG issues and opportunities is likely to continue to grow, spurred by investors and shareholders, governments and policymakers, employees, suppliers, customers, and citizens more broadly. There is a heightened awareness of the risks that need to be identified and managed, but there is also a growing sense of the huge opportunities offered by the scale of the transformation society is now facing. Whether your journey starts as a response to a new reporting requirement or reflects a top-down strategy refresh, it will lead to a pervasive reappraisal of operations, activities, and (especially) outcomes throughout the business. It will also create opportunities to identify and realize significant new sources of value creation. ■

Peter Gassmann,
Managing Director, Strategy& Europe,
and Global ESG Leader, PwC Germany

Casey Herman
Environmental, social, and
governance (ESG) Leader, PwC US

Colm Kelly
Global Leader for Purpose,
Policy and Corporate Responsibility Partner,
PwC Ireland

“4.Zero”

DIGITALIZATION MEETS DECARBONIZATION

Digitalization and sustainability transformation are gigantic challenges for companies. But the opportunities for companies that combine the two are just as great. The book “4.Zero – The ESG Revolution" shows which locations can become pioneers.

Floods, droughts, extreme temperature fluctuations, climate migration: The drastic consequences of climate change are already becoming increasingly noticeable, even here in Germany. And the following finding by the International Energy Agency is downright frightening: Even if all parties involved adhered to the measures agreed at the climate conference in November 2021, the Earth would warm by 1.8°C by the year 2100. The Intergovernmental Panel on Climate Change also repeatedly points out that the sustainability transformation is proceeding far too slowly.

Corporate activities put to the test

After all, the European Union (EU) wants to reduce CO_2 emissions by 55 percent by 2030 compared with 1990 levels, and Europe should be climate-neutral by 2050 at the latest. With the EU taxonomy, among other things, it is increasing the pressure on companies to also do more for climate and environmental protection. The taxonomy assesses the impact of individual economic activities on environmental, social, and corporate governance (ESG).

This is forcing many companies to redefine their roles and tasks in society. The challenges associated with this are enormous: More and more corporate activities and branches are coming under scrutiny, sometimes even entire business models. In a nutshell: Sustainability can have a similarly disruptive effect on individual companies, and even entire industries such as digitalization. At the same time, the sustainability transformation holds enormous opportunities – especially for companies that succeed in leveraging the potential of digitalization and sustainability in equal measure.

Sustainability in the focus of companies, employees, and consumers

Some companies have already recognized this and are moving forward. In the First Movers Coalition (FMC), 55 corporations committed in 2021 to using products and services that are as emissions-free as possible at the initiative of the US government and the World Economic Forum. The “first movers” include Apple, Microsoft, and Amazon as well as Deutsche Post DHL Group, HeidelbergCement, and PwC. And the more than 450 financial companies from 45 countries that are members of the Glasgow Financial Alliance for Net-Zero (GFANZ) want to align the management of what is now $130 trillion with the net-zero target, and thus accelerate the transition to a CO_2-free global economy.

More and more consumers are also demanding this and are increasingly asking, among other things, about the conditions under which companies manufacture their products, information about their carbon footprints and quotas for women as well as their anti-corruption rules. Incidentally, more than seven out of ten employees in Germany would like to see companies acting transparently in terms of environmental impacts, diversity and inclusion, and health protection. This is shown in the current “Hopes & Fears” study by PwC. Sustainability is therefore also a recruiting issue.

Climate risks are investment risks

Sustainability factors are also playing an increasingly important role on the capital market. The European Banking Authority, for example, requires financial institutions to report on ESG risks; they are supposed to show the share of >>

EU taxonomy-compliant assets in all assets, using a new key figure called the Green Asset Ratio. ESG criteria are also increasingly important to investors worldwide. Almost 80 percent take them into account when deciding whether or not to invest, according to PwC's Global Investor Survey 2021. Almost half of those surveyed would also divest from portfolio companies if, in their opinion, they did not (sufficiently) fulfill ESG obligations.

Climate risks are investment risks – this was the point made by Larry Fink, CEO of the US investment firm BlackRock, in his letter to CEOs at the beginning of 2022. In it, he wrote of a "tectonic shift of capital toward sustainable investments." And indeed: ESG investments by institutional investors in Germany, Austria, and Switzerland rose from €176 billion to €576 billion between 2017 and 2019.

In short, sustainability is – or should be – part of every business strategy today, also with a view to the capital market. Putting this into daily practice is unquestionably challenging. After all, this often requires the transformation of the entire company – away from the pursuit of profit in shorter cycles to long-term and sustainable value creation. This makes it all the more important to approach the sustainability transformation strategically and holistically.

To become a climate tech pioneer with a clear roadmap

Let us not kid ourselves: The digitalization lead of US tech giants and Asian companies is almost unassailable for German and European companies. That is why we believe that the greatest opportunities for domestic companies lie elsewhere: As "hidden champions," many companies are global leaders in their industries. We should combine their engineering and production expertise with sustainability and digital competence. This idea was already at the core of the "Industry 4.0" concept: Here, companies use digitalization to obtain more precise data on their value chains – for example, they analyze it and thus optimize processes in all areas of the company, from production to logistics and shipping. The idea behind it is that if you use resources and materials more efficiently thanks to precise data, you save costs and protect the climate.

"Industry 4.0" concept: Here, companies use digitalization to obtain more precise data on their value chains – for example, they analyze it and thus optimize processes in all areas of the company, from production to logistics and shipping.

It is precisely this dovetailing of "Industry 4.0" approaches with "net zero" goals that we call "4.Zero." And we are convinced that a location such as Germany can play a pioneering role worldwide in this area. But only if it succeeds in avoiding the biggest mistakes of digitalization in sustainability transformation. In the past, decision-makers often found it difficult to find the right starting point for their digital transformations – some companies even got lost in individual projects. This must not happen to us in the sustainability transformation! Germany can still become a global climate tech pioneer. In our book, we make a clear plea to seize this opportunity: "Germany must put all the technologies of the Fourth Industrial Revolution to the test in an ideology-free manner and evaluate them according to whether they can put us on the right climate path and establish us as a 'climate tech' pioneer. The goal should be not only to get the existing economy emission-free, but to transform it so that emissions become a business model. The more emissions are reduced by inventions 'Made in Germany,' the more lucrative it is for the respective company and for Germany as a business location."

If this is to succeed, it will undoubtedly require enormous efforts by all those involved – and also enormous investments. They will certainly amount to several hundred billion euros in the coming years. Some industries will have to change central processes, while others will have to create entirely new ones. There is no general answer to how this change will succeed at the corporate level. Each company must find the right balance between long-term, sustainable goals and short-term performance. And, of course, the government is also called upon to set the right framework conditions and incentives. What is absolutely necessary is a clear roadmap for this far-reaching sustainable change – it will occupy us in the years and decades to come.

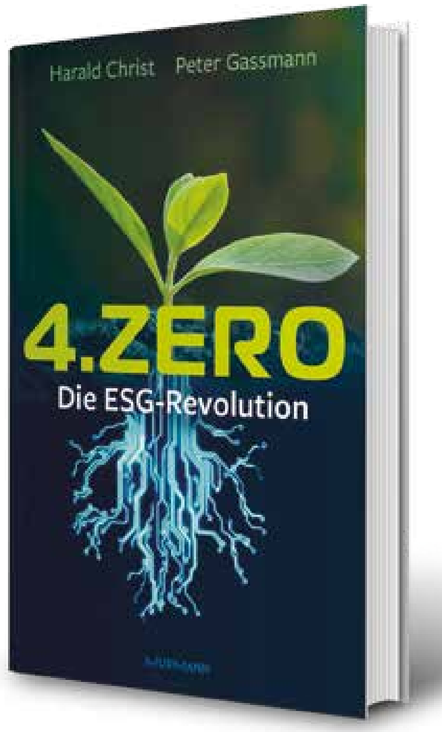
4.Zero offers opportunities for new and sustainable business models

Successful examples of digital "climate tech" companies already exist: startups that use satellite images to study how the health of forests is developing or monitor wind turbines on the high seas remotely using sensors; others offer software that allows companies to identify and manage their biggest sources of CO_2 emissions; cloud platforms use data to analyze suppliers to determine the extent to which they observe ESG criteria. The list could go on and on.

One thing is certain: "Climate tech" solutions are in demand worldwide and many countries support renewable energies and energy efficiency. And "Made in Germany" continues to be a seal of quality; the export opportunities are enormous. Thus, the Federal Environment Agency (UBA) also sees clear indications of expansive market development in applications that protect the environment and reduce emissions. This segment grew by 2 percent in 2019, while the industry as a whole shrank by 1.9 percent. According to the Federal Environment Agency, the export volume of potential environmental protection goods reached a new peak of €63 billion in 2019. And Berlin – along with London, Boston, New York City, and the Bay Area around San Francisco – is already one of the world's "Top 5 Investment Hubs," according to the PwC "State of Climate Tech" study. The annual growth of the climate tech industry was recently 210 percent.

4.Zero is future provable with numbers

These figures alone show that "4.Zero" is not a utopia, but rather the future – and it can be proven with figures. Companies that recognize this and align their actions accordingly as quickly as possible can become global pioneers. To be sure, costs are one obstacle, and the necessary changes – sometimes even upheavals – are another. To cope with them in the best possible way, companies must open themselves up to innovation and new, perhaps even unusual, collaborations. Those who want to take advantage of the opportunities of 4.Zero must set out to do so now. ■



Recently, Dr. Peter Gassmann and Harald Christ's new book "4.Zero. The ESG Revolution." published by Murmann Verlag.

The Talent Market for ESG As Skills Shortages Expose a Potential Bubble

By Tom Strelczak

There are numerous terms associated with ESG, some interchangeable, some not. For the purposes of the points being made in this essay, we refer to ESG as an umbrella term, albeit appreciating how businesses may position or structure these functions differently. Looking objectively at the talent war for sustainability professionals, in simple terms, demand has outstripped supply, as firms have been seeking to add ESG capabilities at a rate not supported by the available talent across the market.

Asset managers who already have a foothold within ESG have been seeking to grow and expand their teams, whereas asset managers without this capability have been scrambling to make sense of their "position" in reactionary measures largely driven by client demand and broader sustainability-led industry narratives.

Some of the more mainstream asset managers leading the discussion around sustainable investing globally have hired all the available talent in the market at price points arguably far higher than the value they bring to the company itself. This has, in turn, caused salary inflation associated with ESG skillsets that often allow candidates to set their own value in the market. There are short-term ramifications to this approach. Many of these same candidates discover a conflict between their employer's true intent within sustainable investing and the reality of being paid accordingly to do the company's bidding.

Market challenges

Asset managers have been competing for the same talent in such a comparatively short space of time that an artificial wage price inflation bubble has been created. Ultimately, these companies have themselves to blame for increasing their own associated costs of growing and maintaining market-leading, responsible investment functions. As can often be the case, once this bubble bursts, we start to see how companies evolve their functions from being bloated to being more streamlined and efficient. This includes the investment in and training of junior talent for succession planning purposes and more sustainable growth plans in the future.

Another significant challenge for asset managers would be the type of expertise. This presents itself in several different formats, such as background, seniority, investment focus, and ideology. When firms establish that they do not have the financial stretch to headhunt from rival institutions, the next best thing is often to turn to corporate sustainability, nonprofits, and think tanks. Candidates from these corners of the market are paid substantially less than what financial services companies are willing to pay — and in a profession that has largely gone unrecognized in recent years, taking these excessive compensation packages is an easy decision for most. The knock-on effect in hiring more sustainability-focused candidates from outside of financial services is the >>

TWS is an independent search firm based out of London, specializing in the placement of ESG and sustainable investment professionals into asset management businesses across Amsterdam, London, and the United States. We partner primarily with institutional asset managers across equity and fixed income, as well as hedge funds and private equity seeking to make primary hires into newly launched ESG strategies.

As a result, we see the human capital contrast between highly established, responsible investment functions who have been in place for decades, and newer entrants into the market who have decided in recent years to react to the tide of public opinion.

lack of investment focus, which in turn causes conflict with the business itself. Many ESG functions operate as a center of excellence that supports and advises the business as opposed to intrinsically driving value from a position of ideological advantage. With the increase of regulation in the pipeline, ESG functions can often feel like another obstacle to doing business. It is this position that means ESG professionals and those on the investment side of the business are establishing a way to coexist. In many cases, the manner in which this takes place does not immediately feel obvious.

One of the main reasons provided to me by candidates for wanting to leave their current role is in fact that their firm does not take ESG seriously enough and that they have been hired in a largely ceremonial and superficial capacity. Real moves are being made by the SEC to investigate and restrict asset managers from falsely labeling funds, and these actions will give greater power to those within ESG roles who may ultimately have the power of approval for what companies go into which funds. Repurposing a senior investment director or portfolio manager as "Head of ESG" is another tactic being phased out by firms that acknowledge that competency greenwashing does very little to attract the right talent into their business.

Our business takes an increasingly progressive approach to new client due diligence, making sure that the firms for whom we run searches are offering an attractive platform for the caliber of ESG professionals in our network. Put simply, if we are attaching our name to a client that is launching a new ESG strategy, it is crucial that the employment opportunity is positioned appropriately in the business with the right reporting lines and requisite authority to create impact. If a cultural or commercial disconnect between a new ESG hire and the business becomes apparent early on, candidates are not wasting time fighting an uphill battle. This can often be despite a company having pledged the best of intentions and, in most cases, not being culturally prepared for an ESG strategy.

Fighting a talent war

As is often the case, the best solution can be to do nothing. We have worked with firms in the past two years that were unable to articulate what ESG meant to them, and despite scouring the market, we were unable to find someone who aligned with their current state. In many cases, this meant deferring to their supposed future state, seeing how their peers conducted themselves, and letting the hiring hysteria around ESG settle down a little before proceeding. If everything we hear is to be believed, ESG is here to stay, and for the long term. Not all companies are looking to jump on the hiring bandwagon; for some, simply purchasing a suite of ESG data solutions and encouraging analysts to incorporate them into the research process can be a good enough start.

In a recent conversation with the Head of Sustainable Investing at a global top 10 hedge fund, it was refreshing to hear that the first port of call upon entering the business was not to hire a team around them. In fact, quite the opposite, it was to learn about the business, identify entry points where ESG was relevant and applicable, and position an educational and commercial viewpoint. When pressed about development plans for the team, the priority was a lean structure, training, and investing in talent through their internship program. This is a leaf many companies could take from this book: Rather than spending vast sums of money on band-aid measures, it could be better to invest in the up-and-coming talent that would learn and grow with the business. There are plenty of high-profile universities offering sustainable investment courses, and even more qualifications bodies providing corporations a means of spending their ESG professional development budgets.

If short-term measures are preferred to mid- to long-term measures, the options are simply to identify people with transferrable skillsets. For example, if a firm is looking to hire someone to conduct ESG research, it is possible they are more likely to find an equity research professional looking to diversify their experience than someone with average technical or financial analysis capability, commanding salary levels not commensurate with the value they bring to the team. Similarly, with private equity firms looking to make primary ESG hires instead of paying extortionate sums of money to consulting firms putting graduates on their most coveted ESG projects, it would be just as easy to hire those without transactional expertise from larger asset managers who bring the depth and breadth of ESG experience required within an asset-owner environment.

Talent bubbles set to burst

This is a question asked of us very often: Has the ESG talent bubble burst? The answer to that depends on who you ask and where you ask it. For example, if you speak to larger European asset managers, you will see that, for their ESG functions, budgets are being reduced and there are whispers of redundancies as many realize that they hired too fast — and too aggressively — not considering the challenges currently being faced by global markets. One might argue that such hiring has become an indulgence rather than a considered sustainable growth function. I would still say that this represents a small number of businesses, and that by and large, the appetite to add ESG talent still exists, even if it has somewhat plateaued. On the other hand, if you were to ask asset managers in the United States, you would find that their ESG hiring spree has only recently started to gather pace, with an even deeper issue surrounding existing sustainability skillsets.

Over the past few years, ESG requirements with our clients have increased dramatically, and it becomes important to understand the difference between the skepticism of ESG as a strategy and the skepticism of ESG hiring practices. The latter is what we are focused on addressing in such a way that we can navigate the ESG talent bubble, offering clients an opportunity to hire the talent they need without falling foul of the artificially high compensation requirements in the market. There will certainly be those who disagree with me — I welcome opposing views. Ultimately, it is healthy debate around this topic that will encourage companies to come up with solutions that do not add to the spiraling level of ESG-related wage price inflation and result in near-term redundancies when these can no longer be supported by the business. ■

Tom Strelczak is Director, ESG & Responsible Investment at TWS Search Limited.

The Best Response to Increasing Duties **Is Training**

The “turning point” in foreign and security policy caused by the war in Ukraine also means reassessments in areas of sustainable development. In the future, it will be much more about resilience in climate protection, energy supply, supply chains, and human rights risks. The EU is responding with stricter rules for companies. The best response to this is training.

By Dr. Elmer Lenzen

In 2021 the European Commission presented a directive on corporate sustainability reporting (CSRD). This tightens the requirements for non-financial reporting and contains a number of important requirements, such as:

- the requirement for an external audit of the reporting information (initially limited assurance);
- reporting in accordance with an announced mandatory EU standard for sustainability reporting;
- the inclusion of key suppliers in data consolidation (qualitative Scope 3 reporting); and
- the obligation for companies to digitally mark their reported information so that it becomes machine-readable, and thus accessible to the capital markets.

One of the most important questions being asked now is: Does the CSRD apply to my company? If you meet two of the following three criteria, then the answer is “yes”:

- more than 250 employees, and/or
- €40 million turnover, and/or
- €20 million in total assets.

For suppliers, the question is answered by evaluating their own role: Are your services/products important to the company being supplied? Do your products contain significant amounts of CO_2e?

What is required of your company?

1. European companies will have to measure and report their greenhouse gas (GHG) data (Scope 1, 2, and 3 emissions), in compliance with the GHG Protocol. This explicitly includes qualitative data from the supply chain. Measuring these impacts requires a full environmental footprint of your company (covering 15+ environmental impact categories). Here, both the EU Taxonomy and CSRD highly recommend the scientific footprinting method Life Cycle Assessments (LCA).

2. The Climate Border Adjustment Mechanism (CBAM) is intended to make imported products that are more harmful to the climate outside the EU than those produced in Europe more expensive. In return, the EU wants to levy a CO_2 surcharge at its borders, and thus protect domestic producers from dirty and thus cheaper-producing competition from abroad. Suppliers outside the EU can circumvent this tax by providing proof of climate data.

3. The EU Commission lays down rules for companies to respect human rights and the environment in global value chains. Companies in scope will need to take appropriate measures (“obligation of means”) in light of the severity and likelihood of different impacts, the measures available to the company in the specific circumstances, and the need to set priorities.

4. The CSRD significantly expands and standardizes the existing non-financial reporting requirements on the aspects of environment, social and human rights, and governance. The new European reporting standard is intended to eliminate the existing “patchwork” of different voluntarily applicable sustainability frameworks and standards. The first drafts of the European Sustainability Reporting Standard (ESRS) impressively show how challenging the new reporting requirements are in terms of depth and breadth.

The disclosure requirements include, in particular, information about:

- business model and strategy, including resilience to risks, actions taken, compatibility with the goals of the Paris Agreement, and the interests of your stakeholders;
- concrete goals and reporting on progress toward achieving those goals, including setbacks;
- work of governing bodies on this issue;
- introduction of guidelines and policies;
- due diligence processes implemented in relation to sustainability issues, as well as any actions taken to prevent, mitigate, or remediate adverse impacts; and
- descriptions of your main risks and relevant indicators.

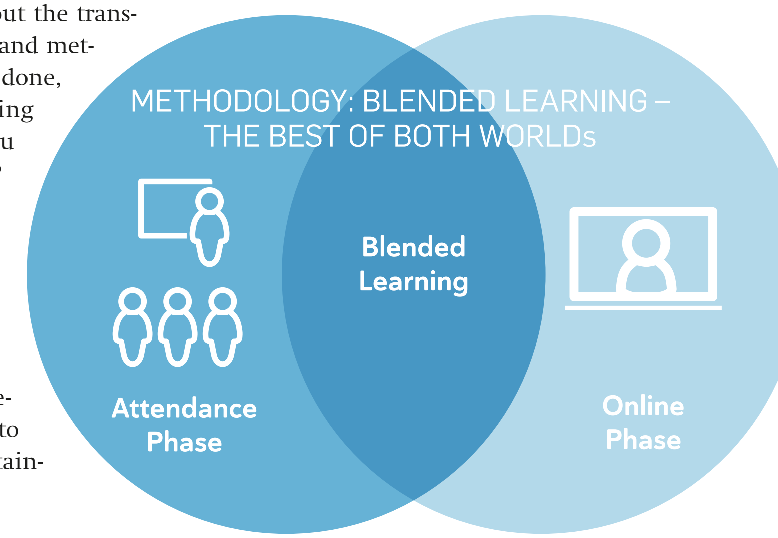
All such disclosures must include forward-looking and historical information, as well as qualitative and quantitative information. It is about the transparency of processes and metrics: What have you done, what are you planning to do, and how do you intend to achieve it? It is crucial that your company sets priorities; in other words: materiality. Expanding on the concept of materiality, the CSRD introduced a requirement for companies to report both how sustainability issues affect their performance, position, and development (the “outside-in” perspective) as well as their impact on people and the environment (the “inside-out” perspective). This is known as “double materiality.” These reporting obligations are also in line with the Regulation on the Disclosure of Information on Sustainable Financial Instruments (“EU Taxonomy”).

And this is how competent training can help you!

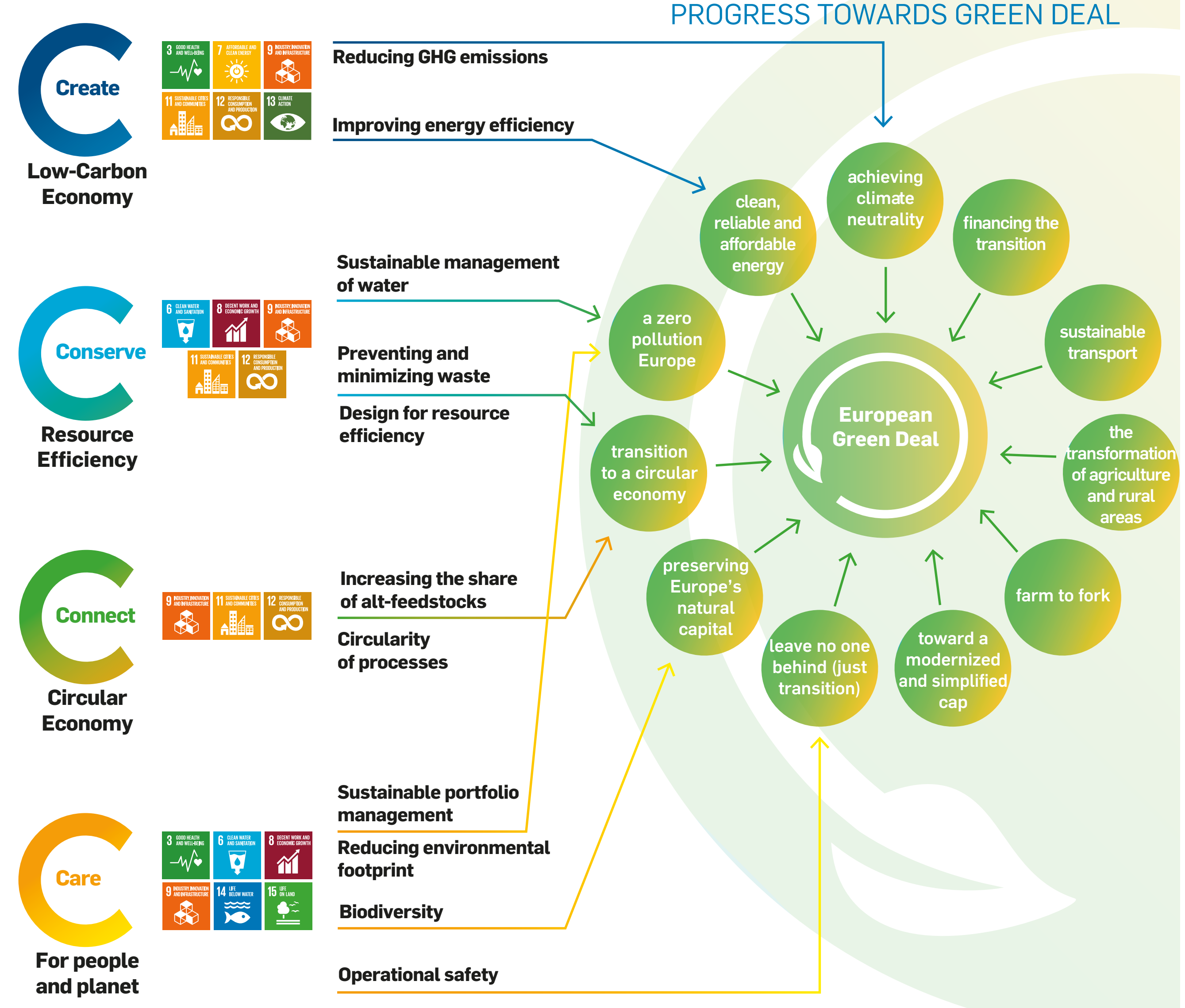
The European Sustainability Reporting Academy (ESRA) supports companies with courses, coaching, and advice in fulfilling the legal requirements in the area of sustainability. For this purpose, the ESRA offers professional courses for further training in the form of a modular, uniform qualification series. The measures are made for managers and specialists in companies, financial institutions, and auditing firms.

These proven instruments and tools are used for this purpose:

1. **Blended learning – the best of two worlds.** Blended learning enables company management personnel to deal with central aspects of sustainability reporting in a time and cost-saving manner. In addition, it >>



SUSTAINABILITY INDICATORS DRIVING PROGRESS TOWARDS GREEN DEAL



offers the advantage of providing both practical relevance and motivation through appropriate technical and creative preparation – for example, through appealing media design or direct feedback. The learning tools used include preparatory online dossiers, webinars, films, checklists, guest speakers from the field, and knowledge tests in all relevant fields.

2. **Digitalization: What you measure, you can manage.** Whether it is mandatory CSR Reporting, Supply Chain Due Diligence, Carbon Disclosure, or the increasing obligation to provide information in the context of tenders and supplier evaluations – the requirements for ecological, social, and economic information are increasing in more and more companies. With the help of the award-winning software "CSR-manager," project partners can independently, easily, and efficiently process and evaluate sustainability data, audits, risk management, and reports according to international standards. For suppliers, a redux version is offered for the calculation of the Corporate Carbon Footprint (in accordance to the GHG Protocol). ESRA courses teach the most important basics on sustainability management, climate management, and human rights due diligence. For example, the course "Corporate Sustainability Reporting Manager (ESRA) – Focus: Climate Management" includes:

I. Introduction to sustainability issues
1. challenges
2. drivers
3. explanatory models

II. Introduction to CSRD and EU Taxonomy

1. growing requirements
2. growing legalization
3. EU Taxonomy
4. CSRD Regulations: What? For whom? As of when?
5. CSRD Architecture

III. Reporting standards
1. overview of the reporting landscape
2. insights into GRI and DNK frameworks
3. comparison CSRD - GRI - DNK

IV. Materiality analysis
1. introduction to materiality analysis
2. (further) development of the concept of materiality
3. methods of data collection
4. data evaluation

V. Climate management
1. international framework
2. EU climate targets
3. GHG Protocol
4. climate strategy

VI. Carbon footprint
1. data consolidation
2. measures
a) Scope 1
b) Scope 2
c) Scope 3

VII. Six steps on the way to a sustainability report
1. Define your vision and strategy in terms of sustainability.
2. Clarify the framework for your report.
3. Identify your stakeholders and the key issues.
4. Collect data and information, taking into account the key CSRD aspects.
5. Derive concrete goals and measures for your company.
6. Design, write, disseminate!

OVERVIEW OF THE MOST IMPORTANT LEGAL CHANGES

Legal basis

Corporate Sustainability Reporting Directive – CSRD (EU Doc 52021PC0189)

EU Taxonomy (EU Regulation 2020/852)

Supply Chain Due Diligence Act - LkSG (Bundestag 19/28649)

Which companies are affected?

Companies according to CSR-RUG as well as additional companies that meet two of the following three criteria:

> 250 employees

> €40 million in turnover

> €20 million balance sheet total

For non-European companies, the reporting obligation applies from a net turnover of more than €150 million within the EU and at least one subsidiary or branch.

How many companies are affected?

Approximately 49,000 throughout Europe and all their strategic suppliers.

When do the rules apply?

You are a large company or supply to large EU groups? January 1, 2024

You are or supply to medium-sized companies (250-1,000 employees): January 1, 2025

Are you or do you supply to SMEs? January 1, 2026

ESRA European Sustainability Reporting Academy

MORE INFORMATION ON

ESRA - European Sustainability Reporting Academy at
esra-academy.org

CHAMELEON *Cate*

Actress or activist? Cate Blanchett finds herself dynamically in demand in two very different worlds.

By James Evans

There's something appealing, yet at the same time intriguingly dangerous, about Cate Blanchett. She is someone who has gradually, yet positively, stepped forward from the Tinseltown shadows to become a global ambassador for environmentalism, sustainability, equality, and activism; an actress who still vehemently supports feminism; and someone whose very real pledges to change the mechanics of her own life are done without any hint of virtue-signaling or as an attempt to reinforce her own polished brand.

Yet, despite taking a position that is buoyant with integrity, if you dare praise the 52-year-old Australian, or stand her up as an exemplar for an industry that many feel still fails to do enough to effect real, positive change, your efforts may backfire.

"I'm so sick of hearing, 'You're a strong woman, you are an inspiration in this, or that…'" she begins, with almost alarming voracity.

"What exactly is the definition of that? What makes a woman strong, other than being able to lift a couple kilos? It's a very glib, overused expression, and I don't really like it."

Thankfully, the Oscar-winning star of *The Aviator* and *Blue Jasmine* quickly softens. "What I will say is we are in an era of female empowerment. On top of that we have broken down so many societal and environmental boundaries, and as a global entity of citizens we have probably never felt less repressed or stuck in a system. Yet, none of those are reasons to sit back and congratulate ourselves — to do that is to miss the point."

In Blanchett's defense, this was never someone who set out to be a campaigner, a voice. "One of those people," she chimes in. "I just think that sometimes you have to stand up — you have to pick up the slack when you see others failing to."

>>

In reality, the actress shouldn't be surprised at the position she finds herself in, however accidentally. Since first edging onto the scene in a riveting breakthrough as Elizabeth I over 20 years ago, earning her first Academy Award nomination, Blanchett has enjoyed a reputation for subverting expectations and ricocheting through the genres.

From stylish noir *The Talented Mr. Ripley* through to a powerful turn as tragic journalist Veronica Guerin in the eponymous 2003 biopic, across *Hanna* and *The Lord of the Rings* trilogy to subsequent big-ticket nominations for *Notes on a Scandal, I'm Not There, The Golden Age, Thor: Ragnarok*, and *Ocean's 8*, Blanchett has always pushed the envelope.

"When I came out of drama school, I didn't think I'd ever make a film at all. I'd always hoped for a long career in theater, and so anytime I make a film, it's like a pleasant surprise, even now.

"So you can see why, when I get behind other initiatives, I take the same view. I never expected any of this to work, and in the same way now I feel I have nothing to lose from pushing on."

Having the courage of her convictions has certainly stood Blanchett in good stead. An actress first and foremost, the plaudits that have emanated from her efforts have escalated her into a whole new realm. She is a fashion icon, a spokeswoman for women, an icon of modern environmentalism, and undeniably a tour de force when it comes to speaking out on the ills of society.

"There's an inevitability that you end up accelerating yourself into becoming this beacon that people want to reach out to and be guided by," she says. "My opinion on most things isn't any more qualified than anyone else's — but if it means others can come out of the darkness and have the confidence to speak forward, then I guess I will say, 'Why not?'"

In real terms, the star is one of the movie industry's best exemplars of what she calls "personal change." While others may stop at reeling off the profound mission statements of the big global social and environmental organizations, Blanchett's focus is very much more centered on what she can affect every day, even in small ways, with sustainability at the heart of it.

Many years ago, she began to make subtle changes to home habits in order to reduce greenhouse gas pollution. Initially that meant switching her household power supply to an accredited company, GreenPower. She began washing her clothes in cold water, invested in roof insulation, pledged to walk more and drive less, and even avoided unnecessary domestic air flights, insisting as well to purchase carbon offsets.

"Many of these changes seemed to come about when it dawned on me that my children were growing up in a world which just didn't seem to care for their long-term welfare, and for me that was absolutely heart-breaking," admits Blanchett, referencing Dashiell, 19, Roman, 17, Ignatius, 13, and little Edith, who the couple adopted in 2015.

"I try to teach my children about things they need to reflect on as they make their way in life. They do not have the same carefree attitude to the world or the environment that we were afforded as kids — it's not a privilege they'll have.

"And sure, sometimes the advice goes in, other times it gets rejected out of hand, but it's there and it's real."

Blanchett also found herself a leading advocate for LGBT rights when she made the film *Carol* in 2015. "I look at the progress we made with that movie, the conversations that were started, and I'm very proud about how much good feeling came about.

"At the same time I am astounded how much further society has come in those few years; and yet the rules over sexuality, gender, and acceptance seem infinitely more complicated now than ever they were before.

"That can be frustrating — to see how far you've come, yet to realize the whole landscape is so much more complex these days. And yet, here we are talking about it, so it's no bad thing."

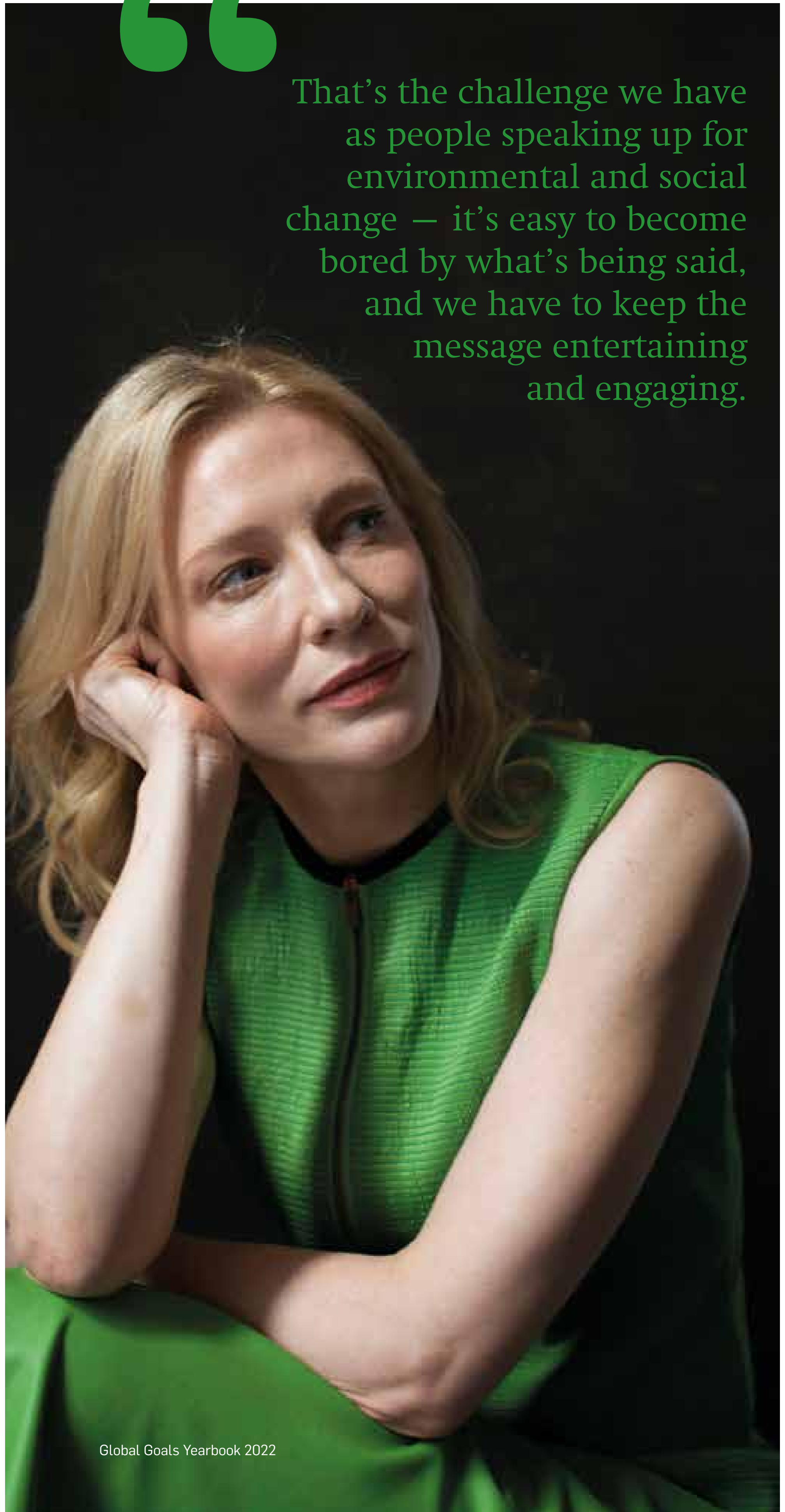
As for how our social and environmental interactions may evolve over the coming decade, Blanchett fears we have a distance to go if we are to scale the sort of cultural peaks that inhabit a totally fair society.

"It's still the case in many industries, job, cities, towns, and villages that your gender, your sexual persuasion, your color, your race is the first thing that walks through the door," she says. "The reality of what you're seeing is a door closing, not opening, and that's very sad.

"I would love to get to a point where that isn't what people see and feel, but I feel it's some way off.

"I also feel we also need to try to steer ourselves away from the idea that if one person wins then, by default, another must lose. Take the sexism debate — I don't believe equality for women means to denigrate from men in any way — I feel men benefit from it enormously. I mean, it's very lazy thinking to not

“That's the challenge we have as people speaking up for environmental and social change — it's easy to become bored by what's being said, and we have to keep the message entertaining and engaging.



bring females to the table in a creative conversation, but I know there is still a huge amount of fear.

"In all these things I do see us making progress — I just feel that all of the steps forward we've made, a lot of those have been rescinded," she says. "Conservatism is affecting the way women perceive who they are in the world. It's going to continue being a challenge going forward, but progress has been made … some progress."

And while Blanchett is not a huge fan of the digital age, she admits the tools we have at our disposal are far greater than any we had in the past. "We've definitely got a better chance now to do something important than we did before," she notes. "Social networks can be very useful on some occasions — they drive campaigns, build impact, scoop up awareness, and connect amazing people.

"I just wish there was a way of cleansing what's on there. It's the reason I stay away from Twitter and Facebook — I compare it to graffiti … you might read one or two things that are interesting but most of the stuff that's out there isn't very useful.

"That's the challenge we have as people speaking up for environmental and social change — it's easy to become bored by what's being said, and we have to keep the message entertaining and engaging."

If Blanchett's output for global issues follows the same diversity as do her film choices, she is surely someone who will retain all the respect and relevance that's made her such a focal figure in the entertainment world. She concludes: "We've just got to keep turning the pages of the script." ■

LEAVE NO ONE BEHIND

"We must urgently transition to a green, gender-sensitive, and inclusive economy, and raise global ambition in the fight against climate change. We must eradicate poverty and build a fair globalization that delivers for all. The Sustainable Development Goals offer a path. Let us take it together and uphold our promise to leave no one behind."

António Guterres, UN Secretary-General

Ambassadors for Respect and Tolerance

Intercultural skills and respect for otherness are learned and lived at the BMW Group. BMW Group associates are active around the globe as ambassadors for respect and tolerance.

By Milena Pighi and Angela Konert, BMW Group

Our working environment is more multifaceted and more diverse today than ever before, and that is something we are extremely proud of at the BMW Group. We currently have talented individuals from 113 countries working side by side. They come from various cultures, share different worldviews and religious beliefs, and they contribute to our success as a company through their know-how and diverse perspectives. We see time and again in our everyday work how much interculturality and diverse perspectives enrich us and help us find solutions together. In keeping with the United Nations' Agenda 2030, we want to share this positive spirit and our know-how – to help make the world a little bit better every day.

But diversity requires respect and appreciation. People may have prejudices, and there will certainly be misunderstandings, but we can learn to pay attention, to listen, and to reach out. The BMW Group offers a wide range of personal development, training, and continuing education options designed to teach and promote intercultural skills and respect for otherness.

We expanded our existing diversity concept two years ago to include physical and mental ability, sexual orientation and identity, in addition to the previous dimensions of gender, cultural background, age, and experience. We organize themed weeks such as "Social Week" to inspire and encourage our associates to become socially engaged, and we are always amazed by how many are already actively involved in volunteering. "Social Week" is also about showing appreciation for this commitment.

In addition to this, we are committed to helping individual employees find and shape their own path at the company – for instance, by hosting an "Equal Pay Day" or a "Youth Skill Day."

Respect and tolerance are an integral part of our corporate culture

Respect and tolerance are an integral part of our corporate culture. This also includes taking responsibility, being vigilant, and recognizing when human values and rights are not being observed – not just within our own company, but also in society. As a company, we encourage our colleagues to serve as ambassadors for tolerance, respect, curiosity, and the joy of working together without prejudice at both the national and international levels.

For the BMW Group, this means we...

1. ...respect and consider different perspectives and political expectations in each country.

Many countries associate different historic, cultural, and socio-political expectations with the topic of diversity. The aim of our sustainable, social, and intercultural commitment is to help bring people and cultures around the world closer and to create a better understanding of social issues.

2. ...leverage our network.

To maximize success in a globalized world, the BMW Group has established a network of partners and organizations combining expertise in education, science, and business. One of these partners is the United Nations Alliance of Civilizations (UNAOC). The BMW Group and UNAOC have presented the Intercultural Innovation Award (IIA) together for the past 10 years, recognizing projects that advocate for intercultural understanding and diverse, inclusive societies around the world. Since it was established, the IIA has supported 71 organizations in 116 countries and reached almost six million people in this way. >>

3. …invest in educating young talents.

With the support of its employees, the BMW Group is actively engaged in independent nonschool forums promoting education in science, technology, engineering, and mathematics (STEM), in particular, and helping children and teenagers discover the sciences for themselves and embark on promising careers, regardless of their background, gender, or religion. The BMW Group has set itself the goal of supporting one million children and young people worldwide through targeted educational projects and programs by 2025.

4. …encourage responsible managers to become multipliers.

The BMW Group helps its associates shape their own futures, with a particular focus on developing young talents. The company supports employees with personal development, provides training, and helps them build personal networks. The aim is to empower these young people to become committed, visionary managers and to make an active contribution to a vibrant and diverse society. In addition to the Global Leader Development program, which is specially geared toward international participants, the BMW Group has also sent a delegation of young managers to the One Young World Summit (OYWS) every year since 2016. The event brings together dedicated young people aged between 18 and 35 from around the world to discuss global challenges and issues and develop potential solutions. In 2021, more than 1,500 young talents from more than 190 countries congregated at the OYWS in Munich.

5. …support targeted initiatives and organizations that highlight the creativity and capacity for the innovation of social diversity.

To promote the idea of a diverse and inclusive society, the BMW Group supports targeted initiatives that help resolve community-related challenges and problems. To this end, the independent BMW Foundation Herbert Quandt assists selected startups that use their business ideas to create a just and sustainable world, as envisioned by the United Nations. To scale the startups' business models on an international level, the BMW Foundation works with high-profile mentors and investors from its global Responsible Leaders Network.

Over the past two years, the coronavirus pandemic has shown just how interconnected we all are and how dependent we are on one another. It is vital that we reach out to others even more in the future and work together to find solutions. The BMW Group has always set a good example in this respect and, in recent years, has shared its practical experience with other companies, colleges, startups, and consortia. We also work closely with NGOs and representatives from the political sector, business, culture, and academia to advocate for a society in which fair, open, and peaceful coexistence is a given, and nature and its resources are treated with respect. ■

ABOUT THE INTERCULTURAL INNOVATION AWARD

The Intercultural Innovation Award is a partnership between the United Nations Alliance of Civilizations (UNAOC) and the BMW Group, with the support of Accenture, that selects and supports innovative grassroots projects that encourage intercultural dialogue and work toward a more peaceful and socially inclusive world by building mutual respect among peoples of different cultural and religious identities, rejecting violent extremism, and embracing diversity.

Who can apply?

Eligible to apply for the Intercultural Innovation Award are not-for-profit organizations implementing projects focused on promoting intercultural dialogue and fostering diverse and inclusive societies, and who are willing to expand their range of action. Examples include projects in the fields of promoting gender equality and women's empowerment, preventing xenophobia, violent extremism, and hate speech, promoting the use of sport, art and culture as tools to drive social change and foster social inclusion. The Intercultural Innovation Award does not support one-time events (e.g. festivals, events, conferences. etc.).

Benefits

The Intercultural Innovation Award is bestowed upon 10 organizations. Awardees will benefit from a comprehensive one-year capacity-building program aimed at strengthening their work. The support program will consist of funding, training and capacity-building, customized support, and mentoring. Support will also be provided to successful projects so that they can be replicated in other contexts or settings where they might be relevant. The specific support received will depend on the individual needs of the projects.

A detailed needs assessment will be conducted in conjunction with each of the awardees. UNAOC and the BMW Group, with the support of Accenture, will then mobilize resources to help those projects achieve their goals. After one year, a comprehensive evaluation will be performed in order to assess the impact of the Award on successful projects.

The organizations of awardees will also become members of Intercultural Leaders, an exclusive skills and knowledge-sharing platform for civil society organizations and young leaders that work on addressing cross-cultural tensions. Through an innovative online system, Intercultural Leaders will harness the solidarity of its members to maximize the impact of their work and help them foster cross-cultural understanding and cooperation.

For more information see
interculturalinnovation.org

Engaging Our Teams in Our Commitment to Sustainability

Working environments shape the way people interact with one another. At Inditex, we truly believe that fostering a culture of sustainability in all areas of our company is key to making steady progress and ultimately reaching more sustainable outcomes. Only when this happens can we guarantee collaborative, long-term success in sustainable development in a complex world.

By Javier Losada, Inditex

INDITEX

At Inditex, we are convinced that sustainability goes beyond a mere concept. For us, it is a way of working, a way of thinking, an approach to everything we do. Ultimately, it is a value that is woven into the company's culture and involves not only our own teams, but our entire ecosystem: customers, employees, partners, and stakeholders, among others.

Advancements with our Sustainability Roadmap are the result of the combined work and efforts of all the people who make up Inditex. Our aim of transforming our industry requires establishing an inclusive community around a common vision as well as shared values and principles that focus on people and the planet.

Circularity, protection of the planet and its scarce resources, and respect for and the promotion of human and labor rights are a few of the objectives shared by those pursuing the needed transformation so that, in the future, sustainability gets fully embedded into every aspect of society. In this sense, for us it is vital to create a team-working environment in order to make advancements with our Sustainability Roadmap.

These efforts play a role in addressing all the Sustainable Development Goals, especially Goal 12 (Responsible consumption and production), Goal 13 (Climate action), and Goal 17 (Partnerships for the goals).

We want to engage all of our employees for the challenging goal of transforming our industry. To boost this transformation and involve all of Inditex's employees, we have developed a project under the name #BoostYourPower, which is aimed at informing and training employees about sustainability as well as raising awareness, thereby supporting the ongoing integration of sustainability into all areas of the company. This project is based on three pillars: BELIEVE, LEARN, and CHANGE.

Believe

At Inditex, we have more than 160,000 employees working together who represent more than 170 nationalities. This translates into numerous workspaces — more than 6,000 stores, headquarters, factories, and logistics facilities, each with its own knowledge focus and professional capacity. How can we ensure a culture of sustainability in such varied environments?

We found the answer: Start from the bottom of the organization. To truly advance our sustainability goals, it is not enough to have a classical leadership approach with direction purely from the top. There is a need to nourish this sort of commitment influence at all levels of the organization.

Our aim is to involve everyone at the company, wherever they are, to contribute to and shape the sustainability vision together. In order to implement this, we mapped the functions of our organization to better understand the impacts of each role in the context of their possible contributions to this initiative. This led us to start working in 2021 in two key areas: our product and stores teams, as

12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
17 PARTNERSHIPS FOR THE GOALS

they are the core areas of our business model and a key interaction point with our customers. Within these teams, we worked to find individuals who are passionate about supporting the company's sustainability efforts. We call them the Changemakers.

Learn

By understanding the needs of these two employee groups, we put in place two special programs, one focused on commercial and design teams, and the other for store teams:

- **Sustainable fashion school:** We joined forces with the University of Leeds — a leading university in the field of addressing the textile industry's challenges — to create this specialist program on the fundamentals of textile processing. The result is a hub for knowledge and inspiration where our buying and design teams have access to a solid knowledge base and to the latest innovations in sustainability. About 1,000 people are currently being trained through this initiative and receive relevant new content on a weekly basis.
- **Changemaker training:** This is a crash course on our sustainability strategy that allows our Changemakers to understand more about our sustainability projects in the context of our wider value chain. This initiative then connects our store team to broader areas within the business, ensuring a strong information flow about the company's sustainability initiatives. The Changemakers are able to convey their knowledge and learnings to their colleagues, while at the same time collecting observations, suggestions, and concerns from our teams and our customers. By the end of 2021, the project was in operation at 650 stores in 53 markets, with more than 33,000 people already learning about our sustainability initiatives thanks to our more than 700 Changemakers.

Learning helps different groups of people to share knowledge, develop mutual values, and develop a sense of understanding and comprehension, broadening the way they see their environments. By developing different learning opportunities and formats such as masterclasses or expert workshops, we are able to deliver training to employees wherever they are. The aim is to create inter-departmental relationships between designers, store teams, sustainability experts, buyers, and others. Working together in this way can strengthen a variety of projects by drawing from the professional experiences and expertise of a wide range of specialists.

The hope is that our CHANGEMAKERS will grow into a global community of curious and proactive people who are equipped and motivated to observe and help deliver key elements of our sustainability objectives.

Change

The change achieved occurs in two ways: as a result of the requirements of the different projects we are developing and as a consequence of the conscious observations and reflections fostered by the programs.

With #BoostYourPower, we want our Changemakers to reach a level of understanding of sustainability that evokes the question "How can this learning be used in my daily work?," thus incorporating sustainability considerations into the basis of routine work streams and the different initiatives they may be involved in.

Education and awareness-raising around sustainable development challenges is even more relevant in the context of business, since it results in a workspace in which every employee will be empowered to make better decisions, equipped with an understanding of the sustainability considerations. Inditex continues to work toward a steady transformation, a commitment to creating social, environmental, and economic value for all its stakeholders in a framework of sustainable development that ensures the greatest positive impact. ■

Merck Is Becoming a Digital Ethics Pioneer

At Merck, a science and technology company, research and development has long been closely aligned with the adherence to ethical principles. Especially when it comes to groundbreaking innovations with the potential to change society, Merck is facing up to the associated responsibility. The multinational company is integrating ethical principles into all its business activities and, over the past 10 years, has developed into a thought leader in the area of applied bioethics. Merck is also proving its value-based corporate governance in the ethical handling of data and algorithms – that is, digital ethics. With the establishment of the Digital Ethics Advisory Panel and the development of the Code of Digital Ethics, Merck is setting digital ethics standards and strengthening trust in new digital technologies and business models.

By Dr. Jean Enno Charton, Merck

The digital transformation is changing all aspects of our society. People, machines, data, and processes are becoming ever more closely interconnected, and important key technologies such as data analytics are rapidly driving forward the digital transformation. For this reason, Merck views data as the way to strategically ensure its future success and is therefore expanding its data and analytics capabilities with a sophisticated data strategy. The data and analytics teams facilitate quicker and better-informed decision-making, which in turn makes it possible to offer customers and patients impactful, innovative solutions.

This presents companies such as Merck with new ethical questions. The new field of digital ethics demonstrates how the digital transformation can be shaped in accordance with ethical principles.

From the company's perspective, it is a matter of making these ethical principles an integral part of a value-based corporate governance, which fosters trust in the business models and thus lays the foundation for broad societal acceptance. Merck intends to achieve this with the guiding principles of the Code of Digital Ethics.

Merck sets benchmark with the new Code of Digital Ethics

The Code of Digital Ethics (CoDE) defines ethical principles that provide orientation when it comes to handling data and algorithms as well as introducing new technologies at Merck. This is the result of a scientific analysis of existing digital-ethical structures and frameworks in a collaboration with experts from the University of Witten/Herdecke. The CoDE is based on five core principles: autonomy, justice, beneficence, non-maleficence, and transparency. Each core principle is defined according to three sub-principles, for example autonomy through explainability, privacy, and digital skills. The principles of the CoDE provide practical orientation for how the company can act as a responsible data user in a hyperconnected world.

By applying the principles of the CoDE, Merck ensures that its various business sectors and individual employees working in new fields and innovations act in a values-based manner.

The CoDE thus serves as a tool for ethical risk assessment in existing business fields and when implementing "ethics checkpoints" for newly established digital solutions. Merck is currently working to further operationalize the CoDE within the company. It is also running a first pilot project to develop evaluation frameworks embedded in its data platforms, which software developers can use as a basis to assess whether a project raises ethical issues.

Although other companies have already researched the strong societal impacts of the digital transformation and the handling of science and health data, a well-founded approach for enabling ethical conduct related to this in business operations is still lacking. Merck is aiming to close this gap by introducing the CoDE, which has been published in the international journal AI & Society, thus setting a standard for the industry. In addition, Merck was recognized by the rating agency EthicsGrade for the development of the CoDE and its commitment to the field of digital ethics, taking first place in the healthcare industry and ranking among the top 10 of all companies rated.

Digital Ethics Advisory Panel brings in external expertise

The CoDE was created in collaboration with the Digital Ethics Advisory Panel, which Merck established in 2021. The panel includes renowned scientific and industrial experts from Europe and the United States who advise Merck on the topics of digital ethics, legal regulations and regulatory requirements, Big Data technologies, and digital health as well as medical ethics and data governance. The CoDE serves as a guideline for the panel to evaluate digital-ethical questions. The panel is tasked with applying its expertise on ethical questions concerning the use of data, algorithms, and new digital technologies for the benefit of the company. In this way, Merck ensures that the company is developing digital innovations in a responsible manner and taking potential ethical questions into account >>

DISTINCTION IN THE AREA OF CORPORATE DIGITAL RESPONSIBILITY (CDR)

CDR is about approaching the topic of digitalization responsibly to foster the positive development of companies, society, and the environment. As such, it goes beyond setting regulatory requirements and should be seen as a proactive commitment. At the end of 2021, the German Association for the Digital Economy (BVDW) and Bayern Innovativ presented Merck with the 2021 Corporate Digital Responsibility Award in the "CDR & New Business Models" category. It recognizes the company for the development of the CoDE.

in all its business sectors. The work of the Digital Ethics Advisory Panel also extends to Syntropy, the company's digital partnership with Palantir Technologies. Syntropy provides a trust-based environment that simplifies and accelerates collaboration-driven insights in the fight to solve cancer. Syntropy aims to usher in a new era of scientific discovery by enabling researchers, their institutions, and the scientific community.

With its commitment to digital ethics and the development of innovative digital solutions for customers and patients, Merck is addressing Goal 9 (Industry, innovation and infrastructure), Goal 16 (Peace, justice and strong institutions), and Goal 3 (Good health and well-being). ■

our code of digital ethics
core principles that guide our work

1 Justice: We recognize that justice is a fundamental part of human-centered digital offerings. We are committed to a fair distribution of digital resources and want to prevent discrimination. We therefore act in accordance with the principles impartiality, equality and proportionality.

2 Autonomy: We recognize that people should make autonomous decisions as long as this does not harm the interests of others. This also applies to the transmission or storage of data as well as to the subsequent analysis by an algorithm. We do not objectify human beings. The principles of explainability, privacy and literacy guide the development of our digital offerings.

3 Beneficence: We recognize that our digital offerings have the potential to promote the well-being of individuals and society. We strive to ensure that users have clear benefits from our data and algorithmic systems. We keep an eye on the impact of our digital offerings, protect our algorithmic systems and the data entrusted to us based on the principles of security, sustainability and responsibility.

4 Non-Maleficence: We recognize that in many decisions, a compromise must be found between potential benefits and risk. For important decisions, we thoroughly assess the advantages and disadvantages of the individual options. Humans are always at the center of this assessment. The guidelines of reliability, controllability and accountability help us to anticipate and prevent damage.

5 Transparency: We recognize that adequate information about the results and possible consequences of using digital solutions is necessary to enable autonomous user decisions as well as to promote trust and well-being in the long term. Thus, we inform others about our intentions and our behavior to the appropriate extent. The principles comprehensibility, interactivity and traceability help us to achieve transparency in our work.

“We believe that coffee can be a force for good”

How do you balance planet, purpose, and profit in the coffee business? Coffee-producing countries are already under pressure because of climate change, and this rings true especially for regions that produce high-quality coffee. To protect premium coffee for the future, Nespresso supports farming communities to sustainably produce some of the best coffees in the world. Mark Ruijgrok, General Manager of Nespresso Germany, delivers answers that get into detail about where the coffee pioneer is heading and why sustainable coffee quality is so important for a long-term approach.

By Nespresso

NESPRESSO

Mr. Ruijgrok, what does sustainable coffee quality mean?

The term merges everything we strive for: It takes expertise and healthy ecosystems to produce high-quality coffee like we do. For us, this is why sustainability is part of the strategy that we have consistently pursued for over 30 years and the reason why two decades ago we founded the Nespresso AAA Sustainable Quality™ Program, together with the Rainforest Alliance. This program consists of three main pillars: best quality, best productivity, and best social and ecological sustainability.

Via the AAA program, we now work directly with over 120,000 coffee farmers in 15 countries. More than 400 agronomists support them by providing trainings in sustainable farming practices as well as technical support. By working closely and directly with coffee farmers on this scale, we can really make a difference.

How does climate change affect your business, and how do you support farmers in adapting to change?

Sadly enough, coffee farmers are already exposed to a range of risks such as economic volatility and the challenges of climate change. This includes climate change increases such as excessive rainfalls and floods or periods of drought. Both may lead to crop losses and make the production of coffee more and more challenging.

To combat this, we train our farmers in regenerative agriculture, for example how to achieve healthier soils or reduce resources and emissions by reducing fertilizers or saving water. The results are good for everyone: Better coffee means the farmers can sell their coffee at higher prices, leading to an improved living income. We are paying premium coffee prices and a bonus for being part of our AAA program. We invest in social programs, too. For example, we have set up a pension fund and crop insurance in Colombia.

Agroforestry also plays an important role in coffee’s transition to regenerative agriculture. Trees bring so many benefits to a coffee farm: They provide important habitats and protect ecosystem biodiversity, serve as carbon sinks, and coffee farmers receive additional sources of income by selling the tree’s fruit or wood. Together with our partner Pur Projet, we plant trees on and around coffee farms in Brazil, Colombia, Costa Rica, Ethiopia, Guatemala, and other countries — more than 5 million trees so far.

Last but not least: We are committed to rebuilding disrupted coffee regions to preserve rare, quality coffees that would otherwise be lost to the world through our Reviving Origins program.

How is it possible to balance planet, purpose, and profit?

This is a difficult task. But I really do think coffee has the potential to be transformative: Our vision today is that coffee can be a force for good for humans and nature. For our sustainability program, we continue building strong alliances with partners such as Rainforest Alliance, Fairtrade International, TechnoServe, IUCN, USAID, and many more.

I strongly believe businesses must be part of the solution. Our consistent commitment to sustainability was also confirmed by our B Corp certification in April 2022. This is a milestone for us that underscores our nearly 30-year commitment to balance planet, purpose, and profit. We want to challenge, innovate, and improve.

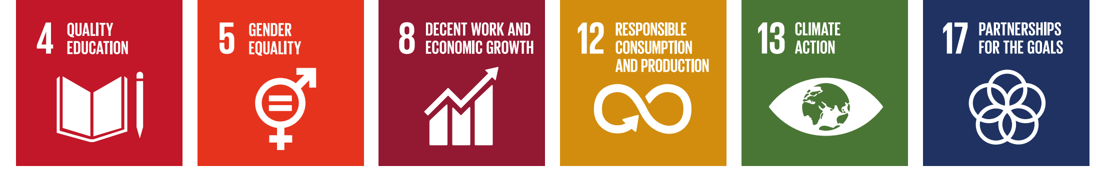
How does Nespresso support the UN Sustainable Development Goals?

We are fully committed to the Sustainable Development Goals of the UN, and the examples mentioned earlier can all be linked back to them. Take for instance Goal 12, “Responsible consumption and production.” For almost 20 years, we have been taking transformative actions so that farmers, employees, and stakeholders in our value chain are treated fairly. Our portioning system, when considered as a whole, conserves valuable resources through precise consumption, wasting neither water, nor coffee, nor electricity. We are mindful of all resources, and we believe in moving from the linear to the circular economy.

You can see our commitment to circularity through our recycling efforts and our use of recycled content in our products: Nespresso capsules are made from aluminum, which can be recycled over and over again. Our Original and Vertuo capsules will be made using at least 80 percent recycled aluminum by the end of 2022. We have achieved a lot in the past decades, but we know that there is still a long way to go. Another great example is how we support female farmers in various programs in Congo and other countries.

What are your personal goals?

My goal is to make an active, personal contribution locally here in Germany. To reach this goal, we invest in many projects that make a difference. Not only because we need to, but because it’s the right thing to do. I am proud to announce that in the German market, we have recently launched the first fully refurbished coffee machines under the label Re:Love, giving used machines in Germany a second life. Also, all our German office and retail locations use renewable energy, already one out of two German customers properly recycles their used capsules through the yellow bin, and we inspire our German business partners to work with us on reducing and removing CO_2 from the local value chain on our road to net zero. ■



Mark Ruijgrok, General Manager of Nespresso Germany

WHICH SDGs DOES NESPRESSO CONTRIBUTE TO?

For Nespresso, a sustainable path means tackling not one, but many sustainability issues along their entire value chain. Its comprehensive sustainability program, “The Positive Cup,” seeks to contribute to 11 out of 17 SDGs. Aligned with Goal 13, Nespresso wants to reduce greenhouse gas emissions and remove carbon from the atmosphere in alignment with science-based targets. Between 2009 and 2020, it already reduced the footprint of every cup of Nespresso coffee by 24 percent. By the end of 2022, every cup of Nespresso coffee will be completely CO_2-neutral, as certified by Carbon Trust. To achieve this, the company is initially relying on offsetting, that means the purchase of carbon credits from forest protection and clean energy projects in coffee-growing countries. This is one more step on its path to net-zero emissions by 2050.

100 Years of Creating a Sustainable Society Through Finance

Since our founding in 1925, we have always strived to contribute to "the development of society" – our founding spirit. Implementing our corporate philosophy inherited from our founder, Tokushichi Nomura, is our social mission and the very essence of our sustainability efforts. Based on our management vision, formulated in May 2020, we will provide financial services that create a sustainable society.

By Nomura Group

NOMURA

Huge investment is needed to solve issues such as global warming and inequality. Financial institutions are required to provide services that contribute to resolving these problems. The Nomura Group's approach to sustainability is to "help customers remedy environmental and social issues through our core business." In September 2021, we set a target of investing $125 billion in sustainable finance projects by March 2026 to support our clients decarbonize their businesses.

Expanding sustainable finance

As efforts related to sustainable finance are expanding on a global scale, Japan is also seeing increased investment and interest in this areas. For example, in October 2021, NTT Finance issued Green Bonds worth 300 billion yen in Japan and €1.5 billion (approximately 200 billion yen) in offshore markets. NTT's Japan green bonds were the biggest issuance by any operating company in the world at the time. Nomura Group served as the lead manager and green bond structuring agent in Japan and overseas. Both issuances offered a great opportunity to publicize the efforts of Japanese companies to the world and to increase awareness among investors.

Solving environmental issues to reach net-zero carbon emissions requires huge investment, and sustainable finance is expected to play an increasing role. Issuers engaged in ESG management will continue to tap the market as investors understand its significance in their own portfolios. The Nomura Group will play a key role as an intermediary between issuers and investors. In Japan, we will promote investment products related to the United Nations Sustainable Development Goals to individual investors in order to help resolve ESG issues.

Transition bond initiatives

For companies that emit large amounts of greenhouse gases, transition bonds are a new tool in the sustainable finance armoury that provides funds geared towards decarbonization activities. The Japanese manufacturing industry can utilize these new financing methods to decarbonize their businesses. The Nomura Group is involved in a wide range of bond issuances in Japan and overseas. For this reason, we have assigned specialized teams to our domestic and overseas bases to respond to market changes in a timely manner and to provide customers with higher-quality services.

In the case of Asahi INTEC Co., Ltd., which has a global market share and a high level of technical expertise in medical device catheters, we provided financing through the issuance of environmentally and socially conscious stock acquisition rights called "Sustainable FITs." We enhanced transparency by obtaining a third-party evaluation that the use of funds is eligible to raise funds that contribute to ESG and the SDGs.

Contributing to sustainable M&A

In April 2020, Nomura completed the acquisition of Greentech Capital in the United States. Nomura Greentech provides M&A and funding advisory services in the fields of sustainable technology and infrastructure, industrial and environmental services, power and energy, transportation, food, waste, and water. The global sustainability M&A market has grown 2.8 times in five years, from $70.4 billion in 2016 to $197.7 billion in 2021, and it is likely to grow further in the coming years.

By leveraging the Nomura Group's wide range of products and services, and its global business platform, Nomura Greentech is expanding its scope of activities. Since the acquisition, Nomura Greentech is steadily increasing its business. In the future, we expect to have more involvement in sustainability-related venture companies, fundraisings, and new public offerings.

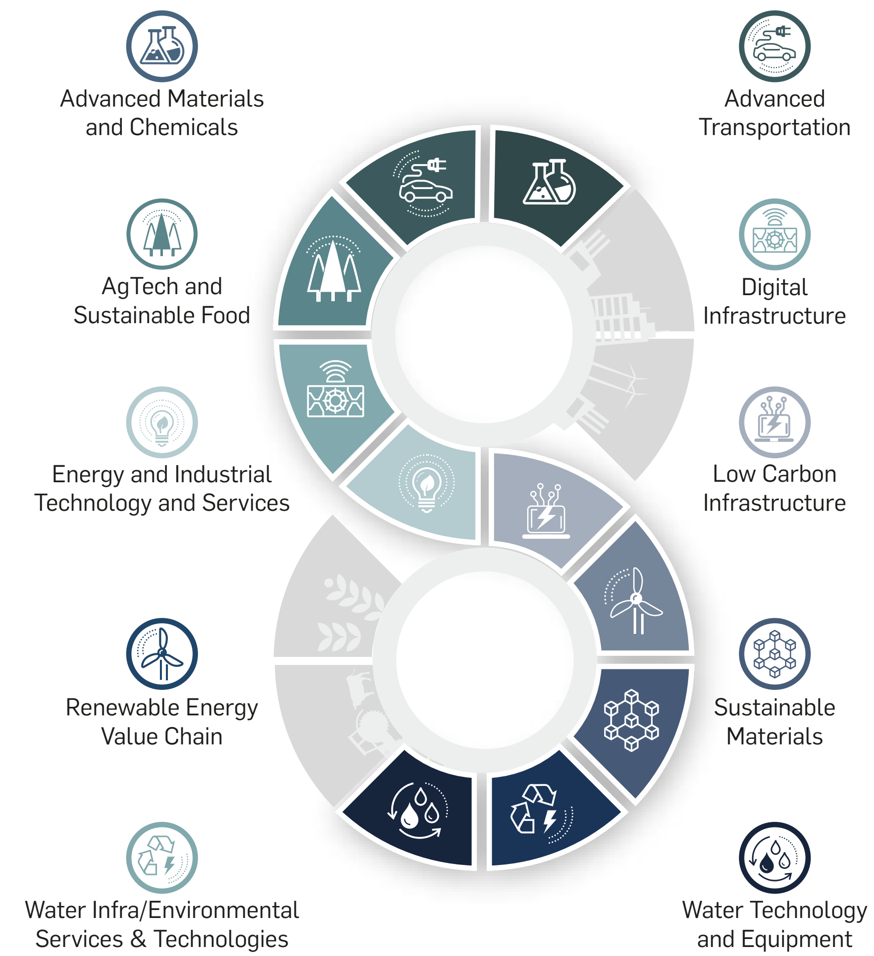
Nomura is a sustainable company

Another aspect of the Nomura Group's sustainability efforts is for Nomura itself to become a sustainable member of society. To this end, we are promoting initiatives to reduce environmental impacts, resolve social issues, and enhance governance.

In 2021, the Nomura Group became a member of the Net Zero Banking Alliance, established by the United Nations Environment Programme Finance Initiative. In addition, we set a goal of achieving net-zero greenhouse gas emissions for our company operations by 2030 and for our company investment and loan portfolio by 2050, with the aim of quickly realizing a decarbonized society. We are also working to reduce environmental impacts, by lowering waste emissions, conserving energy, and more effectively using resources.

Nomura Holdings, Inc. has declared its support for the recommendations of the Task Force on Climate-related Financial Disclosures, and it is proactively disclosing information on the opportunities and risks associated with climate change.

To address social issues, since the 1990s, we have provided financial and economic education to more than 910,000 people in Japan. Building on this work, Nomura aims to reach 1 million citizens taking financial literacy classes by 2026. This will increase participation in capital markets, and further promote the circulation of funds in society.



Our vision

It is said that making peace with nature calls for a world where human ambitions for a good life are no longer centered around high levels of material consumption, but rather around rich relationships involving people and nature.

It is a vision that Japanese society — including its business community — has been practicing for centuries. The ethos of Sanpo Yoshi or "three-way satisfaction" comes from the merchants of Japan's Omi region, and it captures the essence of Japanese business. For the Omi traders, success resided in satisfying all stakeholders: buyer, seller, and society. Success itself was defined by community well-being that went beyond the bottom line, yet nurtured the long-term growth Japan's corporations enjoy today.

It is an ethos with deep roots in Japanese society as a whole — nourishing the entire social organism — and may inspire broader global corporate and social responsibilities. As part of its raison d'être, Nomura is committed to supporting structural change in society for the benefit of all. ■

Combining Micro Insurance with Consulting and Credit for Small Farmers

There are more than 500 million smallholder farmers across the world producing nearly 35 percent of the global food supply. Many of them are stuck in cycles of low productivity with low incomes because they are considered too risky and therefore cannot access credit. They are also increasingly under pressure due to climate change, which they bear the cost of but have little ability to mitigate.

Agriculture insurance can reverse this by de-risking the farmer. However, the poor, who need insurance the most, are the least likely to pay for it. That is something Thomas Njeru, CEO and co-founder of InsureTech startup Pula, learned the hard way.

Thomas grew up on a smallholder farm on the slopes of Mount Kenya. Natural disasters such as drought are something he experienced in his childhood. “I saw people begging for food, and the dust that constantly hung in the air,” he recalls. “Small farmers are always one drought away from total destruction. They all rely on farming but they don’t have any farming insurance,” he says. “Trying to sell them insurance is not easy, because they don’t see the value of it.”

Rose Goslinga, Pula’s co-founder and president, comes from a family of missionaries that built hospitals in Africa and Indonesia. “Instead of following the paths of my parents, I studied economics and worked at the Syngenta Foundation for Sustainable Agriculture (SFSA),” she says. There she started a micro-insurance program for farmers and in 2008 met Njeru, who was, as an actuarial, a partner in this program.

“I decided to study actuarial science to fly from the farm, much to the chagrin of my mother. She wanted me to study medicine and didn’t see how being an actuary could benefit the community,” says Njeru. “I didn’t have the answer at that time. But, as it turned out, stumbling into agriculture insurance answered this question,” he says.

Seven years later, in 2015, Goslinga and Njeru decided to create Pula, a company that develops and distributes insurance and consulting solutions to small farmers.

Satellites and cell phones

“Small farmers need insurance but they don’t want to buy it. So, we decided to package insurance with products farmers actually want, like seeds, fertilizers, or credit,” Nehru says. When farmers buy a bag of seeds, there is an insurance voucher attached, and the shop assistant helps the farmer register using their mobile phone. “And then you have the farmer’s landmark allocated to a satellite grid that monitors the amount of rain where the farm is located,” he explains.

“We rely on satellites and data. They can measure the risk of droughts and rains. We developed an algorithm that tells us how much rainfall a crop needs and when,” Goslinga points out. “If farmers have a loss early in the season due to no rains, we give them new seeds so they can replant and have a harvest instead of waiting until the end of the season to reimburse them,” she adds.

Furthermore, “thanks to the satellite data, the company can give small farmers personalized advice in each step of the crop. This provides value to them, every single season,” Nehru affirms.

Pula has an innovative business model: It partnered with seed, fertilizer, and cell phone companies, as well as microfinance institutions to include the insurance in their products and services. “After having tried to sell insurance directly to the farmers, we realized that there were many organizations working with farmers, providing them products and loans, and assuming the risk by themselves. Then, these organizations became our customers and partners,” Goslinga explains.

The Pula Founders: Rose Goslinga and Thomas Njeru

The future

“When Thomas and I launched Pula in 2015, we had one goal in mind: to build and deliver scalable insurance solutions for Africa’s 700 million smallholder farmers,” Goslinga says. Since 2015, the insurtech startup has provided insurance to more than 6 million small and medium farmers across 17 countries.

The company headquarters are in Kenya, Africa. It also operates in Latin America (México and Brazil) and Asia (Pakistan and Turkey). “We are looking to expand our networks by replacing a traditional Multi Peril Crop Insurance with a more transparent, objective, and digitialized payout mechanism,” Goslinga says.

Early this year, Pula was selected as one of the Technology Pioneers by the World Economic Forum. By joining this community, the company will begin a two-year journey as part of the Centres for the Fourth Industrial Revolution Network, where members contribute to shaping new policies and strategies in areas such as food supply, health services, education, clean energies, and sustainable mobility.

“It’s ironic that I spent my younger years running away from the farm when all the while I was circling it,” Njeru admits.”I’m back now and with the solid belief that you can’t change an economy if you don’t fix agriculture. My childhood experience working on the farm is coming now in my day-to-day dealings with farmers … I’m reconnected to the soil. I’m back home,” he concludes. ■

BIODIVERSITY

Biodiversity, or the variety of all living things on our planet, has been declining at an alarming rate in recent years, mainly due to human activities, such as land use changes, pollution and climate change. In a UN report published in 2019, scientists warned that one million species – out of an estimated total of eight million – are threatened with extinction, many within decades. Some researchers even consider we are in the middle of the sixth mass extinction event in Earth's history. Earlier known mass extinctions wiped out between 60 percent and 95 percent of all species. It takes millions of years for ecosystems to recover from such an event.

Source: European Parlament

Mejhoul Variety: The Jewel of Dates

A new book by Khalifa International Award for Date Palm and the Agricultural Innovation General Secretariat

Dr. Abdelouahhab Zaid: The Mejhoul Journey: Origin and Geographical Distribution from Boudenib, the Tafilalet Oasis, the Kingdom of Morocco to the rest of the world. With contributions by: Eight Ministers of Agriculture: the United Arab Emirates, the Kingdom of Morocco, the Arab Republic of Egypt (2), the State of Israel, the Republic of Sudan, the Hashemite Kingdom of Jordan, and the Islamic Republic of Mauritania.

جائزة خليفة الدولية لنخيل التمر والابتكار الزراعي
KHALIFA INTERNATIONAL AWARD FOR DATE PALM AND AGRICULTURAL INNOVATION

By Khalifa International Award for Date Palm and Agricultural Innovation

Four international organizations: The Arab Organization for Agricultural Development (AOAD), the International Center for Agricultural Research in the Dry Areas (ICARDA), the Association of Agricultural Research Institutions in the Near East & North Africa (AARINENA), and the Arab Centre for the Studies of Arid Zones and Dry Land (ACSAD).

Forty-four international experts: In the field of date palm cultivation and production, where they represent 18 Mejhoul-producing countries: United Arab Emirates, Kingdom of Morocco, Kingdom of Spain, United States of America, Arab Republic of Egypt, State of Israel, Hashemite Kingdom of Jordan, Syrian Arab Republic, Republic of Sudan, Islamic Republic of Mauritania, Republic of Italy, Republic of Iraq, State of Palestine, Republic of Namibia, Republic of South Africa, Commonwealth of Australia, United Mexican States, and Republic of India.

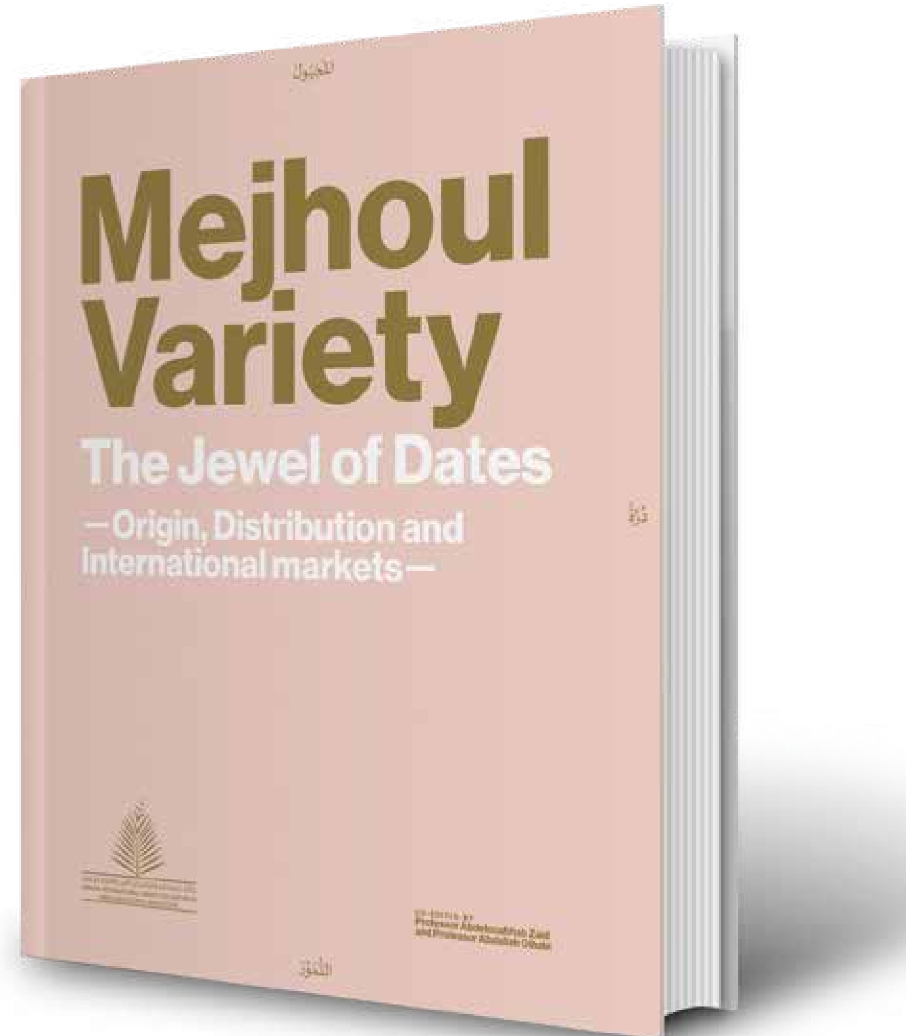
Dr. Abdelouahhab Zaid Award's Secretary General, presenting to H.H. Sheikh Mohamed bin Zayed Al Nahyan, President of the UAE, a brief on the Award's latest publications, during the Award's Board of Trustees and Seventh International Date Palm Conference's delegation's visit to His Highness.

A new book entitled Mejhoul Variety: The Jewel of Dates has been published by Khalifa International Award for Date Palm and the Agricultural Innovation General Secretariat. It was authored by Dr. Abdelouahhab Zaid, the award's Secretary General, and in collaboration with the international expert Dr. Abdallah Oihabi and the contributions of 8 Ministers of Agriculture, 4 international organizations, and 44 international experts, representing 18 Mejhoul-producing countries from across the world. The book was inaugurated by H.E. Sheikh Nahayan Mabarak Al Nahayan (Minister of Tolerance and Coexistence, Chairman of the award's Board of Trustees) during the award's Winners Honoring Ceremony in its 14th session on Monday, March 14, 2022, at Emirates Palace Hotel, Abu Dhabi, UAE.

This large number of contributors is a positive indication of the book's quality and importance, as it tackles a crucial problem and the obstacles facing Mejhoul-producing countries across the world. This led the award's General Secretariat to take the initiative of preparing this book, with the aim of shedding light on this variety's origin and correct spelling and pronunciation.

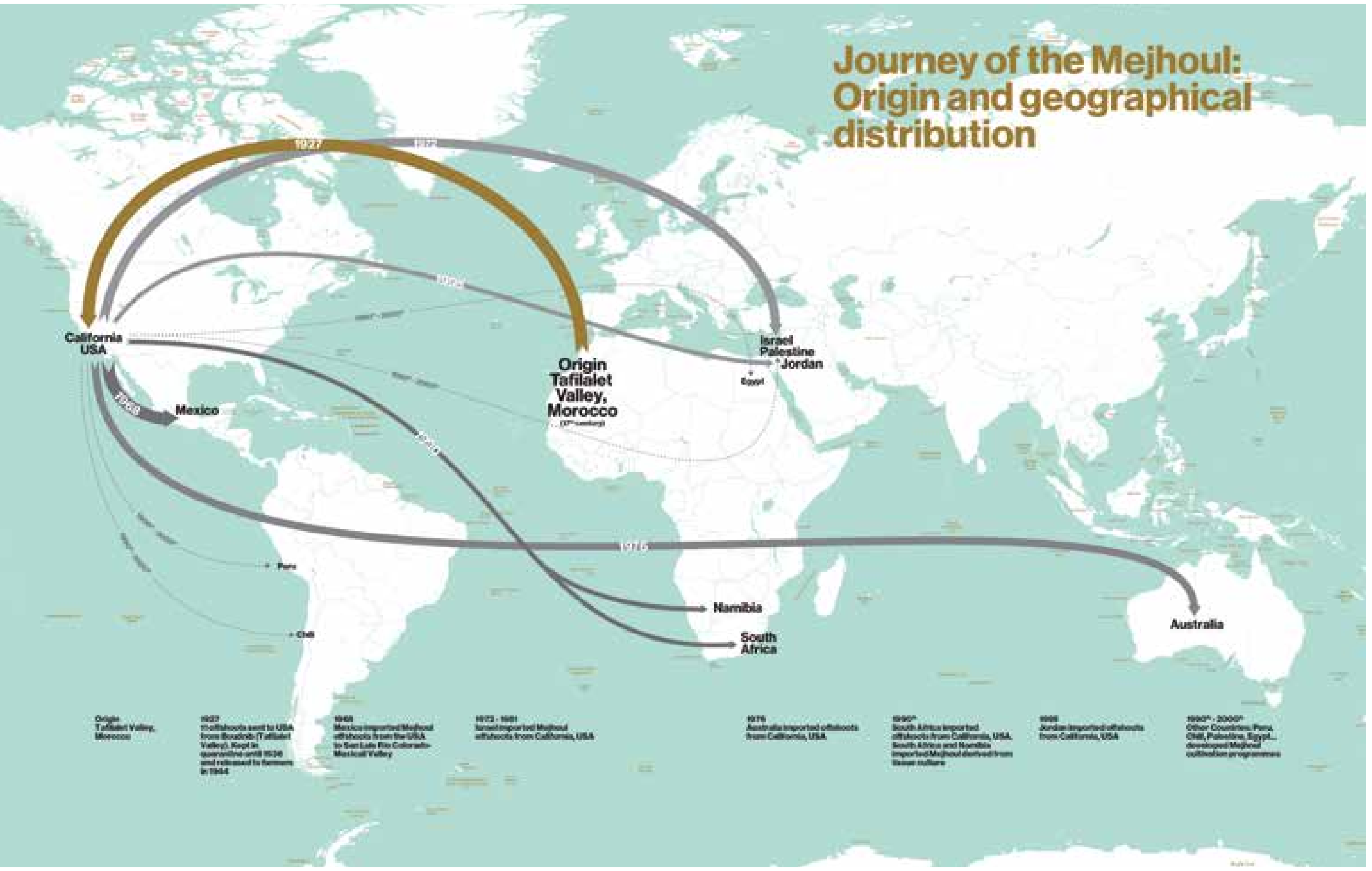
Dr. Abdelouahhab Zaid talks about the idea behind publishing this book:

Simply, I had this idea in mind for several years after seeing the great international interest in the "Mejhoul variety," as it became among the world's best, finest, and most expensive of all date varieties. This resulted in the attention of people and their interest in its name and origin, which were unclear, and misleading information was being shared. This made us keen to tie this variety to its origin and clarify its original name and pronunciation. On this note, I started planning and preparing to produce this important scientific book, entitled Mejhoul Variety: The Jewel of Dates. The main aim of this book was to document the right of the Kingdom of Morocco to the origin of the Mejhoul variety, as well as identify the correct name, which is "Mejhoul" in both the Arabic and English languages. I would like to also take this opportunity to thank Dr. Abdallah Oihabi, who co-authored this precious book, with the valuable contributions of 8 Ministers of Agriculture, 4 international organizations, and 44 international experts, representing 18 Mejhoul-producing countries from across the world.



Does the book refute rumors about the origin of the "Mejhoul" variety?

Yes, this book refutes rumors about the origin of the "Mejhoul" variety, which is widely spread in all areas of the Tafilalet Oasis, in the Errachidia province, such as Erfoud, Ma'ad, Tzimi, and A-Nuwahi, not only in the Boudenib >>



region, whether they are urban centers such as Erfoud, Boudenib, Archdury, Kalma, Bouanan, Resani, Tengdad, or villages such as Zariqat, Resani, Bani Mohammad Daqmasa, Svalat, Seifa, Taos, Upper Farkla, Lower Farkla, Sidi Ali, Tegust, etc. The Boudenib region, in the southeastern region of the Tafilalet Oasis, has a special importance and history, as the 11 offshoots Dr. Walter Swingle took in 1927 and sent to America were from Boudenib. This book is supported with studies and scientific references from 44 international specialized experts and researchers from 18 Mejhoul-producing countries, such as the United States, the State of Israel, the Commonwealth of Australia, the Republic of South Africa, the United Mexican States, the Hashemite Kingdom of Jordan, the Republic of Egypt, and the Republic of Namibia, among others.

Have the differences in the pronunciations and spellings of the name of the Mejhoul variety in foreign and Arab languages created concerns about the reputation and popularity of this variety?

The different pronunciations and spellings of the name "Mejhoul," whether in Arabic, English, or French, are a concern for the reputation and popularity of this variety. The uniformity of the name in spelling and pronunciation naturally contributes to its rise on the reputation index and increases the demand for it. But when the pronunciations and spellings differ, it creates confusion with consumers and they think that each name is for a different variety. They therefore will refrain from buying, hence the importance of unifying the pronunciation and spelling in all languages. We have collected some of the names circulating in English, Arabic, and French that are wrong, such as: Majdoul, Mejhol, Majhool, Majhul, Mashghul, Mechghoul, Medjeheul, Medjoul, Mejhool, Mejool. Where the right correct name and spelling is "Mejhoul."

The Mejhoul journey was from Boudenib, the Tafilalet Oasis, the Kingdom of Morocco to the rest of the world?

Mejhoul originated from the Tafilalet Oasis in the Kingdom of Morocco, Errachidia province. The origin were confirmed through the DNA analysis of several Mejhoul tree samples collected from diverse regions, including Morocco, Egypt, and the United States. This research was carried out by the Moroccan researcher Dr. Mohammed Houmaizi and proved that the Mejhoul variety is one of the (landrace) varieties from the Kingdom of Morocco.

During the 17th century, the Mejhoul variety was known for providing high-quality dates, and their fruits were sold at a higher price than other varieties in the markets of England and Spain at the time. Most dates were imported into Europe from the Tafilalet Oasis. The Mejhoul dates were among the most sensitive varieties to be affected by the Bayoud date palm disease, which caused Mejhoul dates to disappear from the European markets. Thereafter, their production declined significantly.

There is a consensus that the Mejhoul variety originated from the Tafilalet Oasis, located in the southeast of the Atlas Mountains, southeast of the Kingdom of Morocco. The Ziz River supplies water to the oasis, which is located at an altitude of 764 meters above sea level. It is located at the present time within the province of Errachidia in the Draa-Tafilalet region. The Tafilalet Oasis is the largest oasis in the Kingdom of Morocco and a place for the cultivation of ancient dates. According to the latest Moroccan date palm map, the Tafilalet Oasis is home to one-third of the registered date palm cultivars: 151 out of the 453 national date varieties.

The journey to identify the Mejhoul variety began when Dr. Walter Swingle joined the French Committee in Morocco to constrain the great threat of the Bayoud disease on date palm cultivation. On a field trip in 1927 to the Tafilalet Oasis, Swingle identified a healthy Mejhoul farm in the small village of Boudenib. He chose a healthy tree and took six large offshoots and five small ones. He processed them for shipment, packaged them in a box, and shipped them to Washington, DC. They arrived about five weeks later. All 11 offshoots were taken from the same tree, which means all DNA results matched.

US agricultural quarantine officials decided that, in order to prevent the possible entry of the Bayoud disease to the United States, the offshoots had to be placed in agricultural isolation, steamed, and then cultivated under supervision in a remote location for several years. The chosen location was the southern area of Nevada along the Colorado River. The offshoots survived travel to the site and were transplanted successfully on July 4, 1927. A local Native American farmer agreed to provide it with the needed care and water. Periodic supervisory visits were made by an agronomist from the USDA date station in Indio, California. Two offshoots died and the other nine survived. Three years later, the nine were producing their own offshoots. After eight years of quarantine, all plants were declared healthy without any evidence of the Bayoud disease. By that time, the original nine offshoots had produced an additional 64 offshoots. In the summer of 1936, all 73 offshoots were planted at the Indio date station without any losses.

The Indio station made the offshoots available to farmers in California and Arizona in the 1940s. Mejhoul farms have expanded ever since. As we have seen, the successful growth of the Mejhoul variety has generated interest in many other countries, and the United States has gained a reputation as a source of Mejhoul offshoots with Moroccan origin. ■

H.E. Sheikh Nahayan Mabarak Al Nahayan, launches the "Mejhoul Variety – The Jewel of Dates" book, in the presence of Dr. Abdelouahhab Zaid, during the opening ceremony of the Seventh International Date Palm Conference, 2022.

Biodiversity Protection is a Priority

As the electricity and gas transmission system operator in Portugal, REN plays a central role in facilitating and enabling the energy transition, and it is committed to the decarbonization of both systems. This commitment includes reducing its emissions by 50 percent until 2030 (in comparison with 2019 – Scope 1 and 2) and achieving carbon neutrality by 2040.

By Pedro Ávila, REN

Aligned with Goal 15 (Life on land), REN has contributed to the protection and recovery of native forest in Portugal. Of the 35,000 ha of right-of-way corridors, more than 60 percent can be found in forest areas. The need to adapt energy grids to the new demands — imposed by climate change in the management of right-of-way corridors — has led REN to develop a series of instruments and practices for managing forest firebreaks, which provide greater resilience.

In collaboration with official authorities and with the involvement of local communities, REN increased the planting of native species (in 2021, 57 percent of the planted area was strawberry tree). This species, which is compatible with the presence of electricity transmission lines, is of great economic interest, in particular through the use of its fruit, both in the production of brandy (most well-known use) and in the foodstuffs industry. REN is also encouraging support for native animal species that adopt extensive grazing as a tool to reduce the risk of fire (vegetation management) in rural areas, thus contributing to the preservation of these species and to the enhancement of the territory. Under Goal 17 (Partnerships for the goals), REN established a protocol with ACERG (Association of Garrano Equine Breeders), APOSC (Association of Planning of Serra da Cabreira) and the Municipality of Vieira do Minho for the shared management of an area of 100 ha.

REN earned international recognition for its work in protecting forests and fighting fires, which was reinforced by PREVAIL (PREVention Action Increases Large fire response preparedness). As a result, the company now forms an integral part of the platform "Lessons on Fire — Landscape Solutions to Wildfire."

Bearing in mind the impact that fires can have on our infrastructure and the resilience that our maintenance actions provide to the surrounding territory, we are one of the founding members of ForestWISE — Collaborative Laboratory for Integrated Forest and Fire Management — a platform for innovative, multidisciplinary research and the sharing of knowledge in this area.

REN leads a workstream of a consortium with the University of Coimbra that is focused on the implementation of collaborative strategies for the integrated management of forests and fire. It involves the installation of video surveillance and monitoring systems in the National Transmission Network's infrastructure, which includes thermal, optical, and monitoring cameras and weather stations. These systems send information online to a fire simulator that, through its own heuristics, makes a prediction of the evolution of the fire and alerts REN's dispatch and operation rooms and other entities.

As part of its R&D activities, REN has developed and patented an innovative solution for the charging of electric vehicles, complementary to traditional offers that use the distribution network. REN's solution uses a special connection to an existing very high voltage (VHV) line and a new concept based on transformers that convert VHV to low voltage. REN is studying how to adapt this solution to the forest context, which will contribute significantly to the decarbonization of REN's forestry operations. This will be complemented by another project that consists of the development of autonomous, modular, and fully electric, robotic forest machines to perform vegetation management in right-of-way corridors.

Biodiversity protection is a priority to REN, and it is demonstrated in our commitment to Act4nature Portugal and Transport4Nature, among other initiatives. In 2015 REN created the Chair in Biodiversity in partnership with FCT (Science and Technology Foundation) and the Research Center on Biodiversity and Genetic Resources of the University of Porto (CIBIO-InBIO). One of its pillars is research focused on the evaluation, monitoring, minimization, and compensation of impacts of energy transmission networks on biodiversity, with particular attention to the electric power lines. Among others, the following results and studies are highlighted: (I) the co-financing of the Chair by the BIOPOLIS project "Enhancing the transference of scientific and technological knowledge through a new Centre of Excellence in Environmental Biology, Ecosystems and AgroBiodiversity," which will allow duplication of the research resources allocated to REN's activities; (II) a manual for monitoring the impacts of VHV lines on avifauna and the evaluation of the effectiveness of mitigation measures, developed together with the Institute for Nature Conservation and Forests; the manual has served as a reference in this area for environmental authorities; (III) the ongoing study with the University of Évora to characterize the biodiversity potential of right-of-way corridors; (IV) the analysis of incidents with REN lines caused by white storks: generic characterization of time and spatial patterns; and (V) the publication by the Chair team of several scientific articles in international reference journals on the results of the research carried out (five in 2021).

As a result of research developed by REN's Chair on Biodiversity and collaboration with various stakeholders, other R&D projects have started, for instance "DFOS — Distributed Fibre Optic Sensing," in partnership with INESCT-TEC, which seeks to develop an automatic testing system for collisions involving birds with electricity lines; and "Stork disturbance online mitigation system for overhead lines," a study to evaluate the effectiveness of automatic devices in deterring white stork nesting on REN platforms and monitoring. ■

Sustainable Beekeeping in Africa: An Inclusive and Eco-friendly Business

Rural communities in Zambia mostly live off the native forests. But they are also destroying them due to unsustainable beekeeping. “You have to cut down four Miombo trees to build one beehive in conventional beekeeping. With more than 25,000 beekeepers with an average of 100 bark hives each, that’s a huge strain on local forests,” says Harry Malichi (31), CEO and founder of Wuchi Wami, a social enterprise established in 2018 that trains farmers in sustainable beekeeping and provides them with bark hives made from pine plants, which are easier to plant and grow quickly.

For decades, traditional beekeeping in Zambia has been a way of life. “But if we continue like this, our forests will die. We have to change unsustainable practices by giving the farmers the tools and knowledge to do it better,” Malichi says.

Pine forestation plants are state-owned, and beekeepers formed a cooperative, which already has 320 members, to produce honey and wax with organic certification.

Wuchi Wami packages, brands, markets, and distributes the honey produced by the cooperative, called Kwasha Indimi, in an outgrower scheme model.

“We buy their honey and then sell it to the market,” Malichi explains. “We train farmers to produce their beehives sustainably and give them some microfinance tools in order to help them understand the value of their work and its impact so that they can make better decisions: taking their children to school, instead of making them work in the forests,” he says, adding that Wuchi Wami is also a gender-inclusive company. “While traditional bee farming is labor-intensive and can only be done by strong men, sustainable beekeeping can be done by women, the elderly, or anyone.”

From the outskirts to the global market

Malichi was born on the outskirts of Mwinilunga (900 km northwest of Lusaka, the capital of Zambia), where his father was a school teacher. He managed to finish elementary and high school before attending university, where he studied mechanical engineering. But most of his classmates could not finish their studies.

“They were as intelligent as me but dropped out of school because of poverty,” Malichi says. “They came to classes barefoot because their parents couldn’t afford a pair of shoes for them. And then they resorted to early marriage with many children. After I finished my degree, I decided to return to my village and see on the ground how I could provide my old schoolmates an opportunity to have a better life, by teaching them and building capacities to improve their work.”

He continues: “We have good soil and forests in Zambia, but people cut the Miombo trees to make the bark hives, generating a slow deforestation. Each farmer has an average of 150 beehives. And they need one big Miombo tree and three smaller ones to build each bark beehive. That means they cut 600 trees each season. And it takes more than 40 years for a Miombo tree to grow high and big! On the other hand, if you have to tell the people not to do what they have been doing for many years to survive, you have to give them a better alternative,” Malichi explains. “So, we made an agreement with the Ministry of Forestry, and now we use wood from state-owned pine plantations for paper, construction, and furniture. So, if farmers cut the tree, its wood has a commercial use.”

His startup was one of the winners of the SEED Awards, supported by the German Federal Ministry for the Environment (BMU) and the Government of Flanders. Founded by the UN and the International Union for Conservation of Nature, the awards recognize sustainable initiatives across several countries, with winners receiving grants ranging from $11,000 to $17,000 as well as training and support to take them beyond the start-up stage and scale their businesses globally.

Now, Wuchi Wami is ready to go international. “Winning this award means that our eco-inclusive enterprise will scale up,” Malichi says. “We are now exporting to our nearest countries, but we want to go broader, to promote equality, social inclusiveness, and environment preservation everywhere. We have to face big challenges regarding poverty and gender discrimination, all over the world, and we have to do it together.” ■

CLIMATE CHANGE

Climate change is affecting every country on every continent. It is disrupting national economies and affecting lives. Weather patterns are changing, sea levels are rising, and weather events are becoming more extreme. The Paris Agreement, adopted in 2015, aims to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels. The agreement also aims to strengthen the ability of countries to deal with the impacts of climate change, through appropriate financial flows, a new technology framework, and an enhanced capacity-building framework.

Source: United Nations

Taking Action to Decarbonize Energy

The latest IPCC report on Mitigation of Climate Change has called for a decade of crucial, immediate, and deep emission reductions. Decarbonization of energy is an action area that needs to be accelerated on a global scale.

By Dr. Roland Merger, BASF

BASF supports the goals of the Paris Agreement. As a leading chemical company, we want to reduce total greenhouse gas emissions from our production sites and our energy purchases by 25 percent by 2030 compared with 2018 — despite targeted growth and the construction of a large Verbund site in southern China. By 2050, we aim to achieve net-zero emissions from our production sites and energy purchases. Switching to green energy will have the largest impact on reducing our emissions in the coming years. But replacing the current energy demand with green energy will not be sufficient. The transformation requires significantly more energy from renewable sources.

Despite Russia's war in Ukraine, BASF is keeping its focus on energy transformation and climate protection. One of the opportunities to become less dependent in the future on gas deliveries from Russia is actually to accelerate the capacity build-up of renewable energy. It is part of the solution to also become less dependent on fossil-based energy. In that respect, BASF has developed a leading role in recent years, and we absolutely want to keep that going forward.

To reach the net-zero goal, we need to gradually move away from fossil generation in our own production and purchase agreements toward electricity, and we need to scale innovative, climate-friendly technologies to an industrial scale. Our global power demand is expected to at least double, or even triple, by 2040 through the electrification of our processes.

To meet these needs, we will initiate new projects to generate renewable energy from our own production together with partners ("make") and conclude long-term supply agreements ("buy") with energy producers, known as power purchase agreements (PPAs). We have bundled our activities in renewable energies under the umbrella of BASF Renewable Energy GmbH. In the "make" part of our strategy, we are investing in our own renewable power assets, particularly offshore wind farms. In 2021, we entered into pioneering cooperative agreements. For instance, we currently hold a share in Vattenfall's Hollandse Kust Zuid (HKZ) offshore wind farm. Once it is fully operational in 2023, it will be the largest offshore wind farm in the world, with 140 wind turbines and a total installed capacity of 1.5 gigawatts. It is BASF's first major investment in facilities for renewable energy, and it is the first offshore wind farm in Europe ever to be built without subsidies for the power produced. Together with RWE, we are developing a project concept for an offshore wind farm in the North Sea with a capacity of 2 gigawatts. Provided that the regulatory framework is adapted by the authorities, this wind farm could supply the Verbund site in Ludwigshafen, Germany, with green electricity before 2030. Together with enviaM, we are also planning to build and operate a solar park with a total installed capacity of 24 megawatts peak (MWp) to supply the Schwarzheide site in Germany.

Under the "buy" approach, BASF will purchase green power on the market through long-term supply agreements with plant operators, green power agreements, or renewable energy certificates, depending on the region and market regulations. A key purchasing criterion is the "additionality" of the energy purchased. This means that power is primarily generated by new wind and solar farms. For example, we have signed long-term purchase agreements for renewable energy. One of them is the 25-year PPA for renewable energy in Europe with ENGIE, which went into effect January 1, 2022. ENGIE will provide multiple European BASF sites with up to 20.7 terawatt hours of fossil-free electricity in total throughout the term of the agreement. We have concluded another 25-year agreement with Ørsted. We will offtake the output of 186 megawatts from Ørsted's planned Borkum Riffgrund 3 Offshore Wind Farm in the German North Sea. The offshore wind farm will have a total installed capacity of 900 megawatts and will go into full commercial operation in 2025.

By the start-up date at the end of 2025, we are targeting for our new Verbund site in Zhanjiang, China, to procure 100 percent of the electricity demand as renewable energy. The renewable electricity will come from wind and solar parks. In June 2021, we signed a PPA for our renewable electricity demand of Initial Phase with China Resources Power, Hong Kong, China, under the new Guangdong renewable energy trading rules. This enables us to run the first plants at BASF's new Verbund site in Zhanjiang entirely on renewable energy. The first plant is scheduled for startup in mid-2022. In May 2022, we signed further term sheets for PPAs (term of each 25 years) with State Power Investment Corporation Guangdong Electrical Power Co., Ltd. ("SPIC") and Brookfield Green Energy Investment (Tianjin) Limited ("Brookfield") for the supply of renewable electricity from 2025 onwards. These are significant steps toward our target of 100 percent renewable energy supply for our new Verbund site in Zhanjiang, China.

Ultimately, the supply of green energy will to some extent depend on market and regulatory developments. German and EU politics can make positive contributions to staying on track to net zero 2050, for example by accelerating renewable energy sources (RES) projects in the EU and adjusting tender criteria to increase the economics of non-funded industrial RES projects. Publicly funded investment and innovation projects as well as permitting processes could benefit from accelerated decision-making processes. A European infrastructure is needed, that is, expanding electricity grids and interconnectors between countries and building a cross-border CO_2 infrastructure as well as an EU regulatory framework in northwestern Europe. Expanding funds and improving funding policies can accelerate the deployment of new technologies and incentivize frontrunners. Cost competitiveness for existing chemical manufacturing can be maintained, for example via free allocation and indirect cost compensation at the benchmark level in the EU Emissions Trading Scheme, and distortions for exports can be avoided under a potential EU carbon border adjustment mechanism.

We would welcome these developments, as they help accelerating the decarbonization of energy. We are fully committed to delivering additional green energy projects in the coming years. ■

Dr. Roland Merger is Vice President, Renewable Energy Projects, BASF

Fibres Push the Hygiene Market Forward on the Path to Resource Efficiency

Single-use personal hygiene products such as diapers and feminine care products have a significant impact on the environment. Today's manufacturers of hygiene products therefore need to select their raw materials very carefully. Beaulieu Fibres International now offers a new man-made fibre that will help nonwoven manufacturers to increase the effective use of all resources.

By Maria Teresa Tomaselli and Valérie Bouckaert, Beaulieu International Group

Personal hygiene products offer people a high degree of freedom in various stages of life. Baby diapers can take the load off busy parents, incontinence products help the elderly to regain their freedom, and feminine care products have a great impact on women's health, development, and self-confidence.

But the convenience of using these products comes with consequences. Everyday products that have become so ubiquitous and obvious all contain some form of synthetic components, which have a significant impact on the environment. Those components can be found in our clothes, packaging materials, lipsticks, and beauty products, and yes, also in disposable, single-use hygiene products. Manufacturers today are continuously looking for innovative solutions to reduce the impact of these components.

Meralux fibres for ultimate comfort

With all the health and freedom that these hygiene products have brought to parents, women, and elderly people all over the world, it is unlikely that the industry will completely be able to eradicate the usage of synthetic materials any time soon. However, this does not mean that manufacturers of these products have not made significant progress in terms of sustainability. For all the bad rap that hygiene products may have received in the past decades, it is only fair to say that there is no comparison between today's synthetic materials and those of say 20 years ago.

Today, manufacturers of synthetic fibres that make up these hygiene products take sustainability very seriously, and they continue to increase their efforts to reduce their carbon footprints and improve the recyclability of their materials, making sure the global impact of their end products is mitigated. It is exactly in that light that Meralux — a recent fibre innovation from Beaulieu, a global fibre manufacturer for the hygiene market — needs to be seen.

Meralux is trilobal-shaped fibre for the hygiene market, consisting of polypropylene (PP) and polyethylene (PE) components. The new fibre is ideally suited for disposable consumer products such as feminine care products, baby diapers, and adult hygiene products, at least for very specific parts of these structurally diverse products. In diapers, for example, Meralux can be used as a raw material for the topsheet, the backsheet, and the acquisition distribution layer.

Reduced weight, reduced carbon footprint

Just like a car, a diaper or an adult hygiene product consists of many different components. But as an important raw material for parts of these products, Meralux offers some of the most exciting advancements in carbon footprint reduction to date. As such, the fibre is contributing toward reducing the environmental impact of these products, both through the reduction of raw materials and improved recyclability.

Meralux has managed to reduce the use of raw materials and the equivalent carbon emissions by more than 55 percent. Thanks to their unique trilobal shape, Meralux fibres can cluster together more easily. This way, they offer a better coverage and strength of the end product. And the good thing is that they need fewer materials to achieve the same performance.

In comparison to similar hygiene products, Meralux not only reduces its carbon footprint, but it also manages to offer high performance and improved liquid management, which is critical for these hygiene products. Customers expect their hygiene products to exceed their expectations in terms of softness, absorption, and opacity (the state of being cotton-like). And this is where Beaulieu's Meralux fibre has made no compromises.

Another strong point of Beaulieu's new hygiene fibre is its high recyclability. Through a smart combination of PP and PE, Meralux consists of two components that belong to the same group of polyolefins. This has made the fibre much more recyclable, in contrast to most man-made fibres, which offer some combination of polyethylene and polyester components, both of different polyolefin groups. PP also has a much lower carbon footprint compared to other polyolefins.

All in all, nonwoven manufacturers using Meralux in their products can now reduce their weight and consumption of raw materials, but also increase the end-of-life circularity of their final product, thereby significantly reducing the carbon footprint across the entire supply chain.

> **Meralux fibres have reduced the use of raw materials by more than 55 percent, which results in a major carbon footprint reduction across the supply chain.**
>
> *Maria Teresa Tomaselli, General Manager*

The environmental impact of Meralux has been calculated through a life cycle analysis, in line with EN 15804:2012+A2 (environmental product declarations of construction works) and ISO 14040/14044:2006 (requirements and guidelines for life cycle assessment).

Taking responsibility

Sustainability is a continuing effort with Beaulieu International. One of the company's most recent achievements is ISCC+ certification, obtained in June 2022. Beaulieu is now certified for its mass-balance approach with PP and PE polymers. Beaulieu's certified products will also include the mono-PP fibre and the bi-component PP/PE and PET/PE fibres.

Meanwhile, pioneering with sustainable solutions remains at the top of the company's agenda. Beaulieu Fibres International has fully committed to integrate the UN Sustainable Development Goals into its business activities by taking responsibility and bringing sustainable solutions into its core operations.

Beaulieu has mapped out its impact on the SDGs and defined action plans to make further progress in implementing these goals within the organization. The company continues along the path of corporate sustainability, defines new challenging goals with specific actions, seeks business opportunities with impact, and encourages its network to continue and contribute to a better world. ■

ABOUT BEAULIEU FIBRES INTERNATIONAL

Beaulieu Fibres International is the largest European manufacturer of polyolefin and bicomponent fibres. The company is active in a wide range of industries, including geotextiles, hygiene and wipes, flooring, automotive, upholstery, filtration, resin transfer moulding, and construction.

Beaulieu Fibres International is part of Beaulieu International Group, with headquarters in Belgium. Three production sites in Europe – two in Belgium and one in Italy – supply MONO/BICO staple and shortcut fibres, in round and trilobal cross sections with linear densities of 1.3 to 500 dtex.

MERALUX: THE SUSTAINABLE HYGIENE FIBRE

Meralux® is a PP/PE-BICO fibre with trilobal cross section. This concept combines the key benefits of MONO-Trilobal and BICO-Round fibres. Meralux's cross-section shape is unique in the market.

Meralux offers:

- Softer, bulkier, and more absorbent fibres
- > 55% fewer raw materials
- Better recyclability
- Reduced carbon emissions

3 GOOD HEALTH AND WELL-BEING
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION

Footprint: Plant-based Solutions to Tackle the Plastic Waste Problem

Founded by two former Intel engineers, Footprint is a biotech company that produces compostable and biodegradable packaging, replacing single-use plastics.

Every year, eight million tons of plastic end up in the ocean, which is equivalent to emptying a garbage truck every minute. So far, five plastic islands have already been discovered: two in the Pacific, two in the Atlantic, and one in the Indian Ocean. Meanwhile, many others are in the making, according to a report by the United Nations Environment Programme.

Plastic waste is a main factor of fish and aquatic mammal mortality. And – according to a study from the University of Newcastle, Australia – an average person eats five grams of plastic per week, the weight of a credit or debit card. Chemical additives in plastic and the threat they pose to human health and the environment are issues of global concern. According to the study "Plastics, EDCs and Health," many plastic additives interfere with hormone functioning and are, by definition, endocrine disrupting chemicals (EDCs).

The study was conducted by the Endocrine Society and IPEN, an international network of organizations that promotes the elimination of single-use plastics and chemical pollutants. It reveals that cancer, diabetes, kidney, liver, and thyroid damage; metabolic and neurological disorders; infertility, and reproductive cell alterations are consequences of continuous EDC exposures.

Alarmed by the impact of plastic waste on people and the planet's health, Troy Swope and Yoke Chung, two former Intel engineers, decided to take matters into their own hands. In 2014, they created "Footprint," a biostartup that designs, develops, and manufactures plant-based fiber solutions to replace single-use plastics.

"Yoke and I met while at Intel, where we noticed that plastic residue in packaging was damaging computer wafers during shipping. We wondered if that was likely happening with food wrapped in plastic, so we started testing it. Our suspicions were confirmed and further research showed that chemicals from plastic packaging were seeping into food... We both have kids and we were concerned. And we decided to take this as an opportunity to create new sustainable materials to replace single-use plastic. So we founded Footprint," Swope says.

From material science to the retail shelves

With 2,200 employees in its headquarters in Arizona, and facilities in México, the United States, the Netherlands, China, and Southeast Asia, the company produces a variety of sustainable packaging solutions. Its plant-based fiber bowls, clamshell containers, trays, cups, and other consumer packaging (freezer-, oven-, and microwave-safe) have already eliminated more than 27 million tons of plastic worldwide in the last seven years. The products are made from 100 percent bio-based, biodegradable, compostable, and recyclable fibers. This not only reduces unnecessary waste, but also the exposure to toxic chemicals.

"Our goal is creating a healthier planet by eliminating single- and short-term use plastic in retail, consumer packaged goods, restaurants, and grocery stores. By improving the overall CO_2 impact on the planet during production when comparing fiber to plastic, all the way through our products help eliminate waste in the landfill and drive the circular economy," Swope affirms.

The company made a deal with key supermarket chains and is collaborating with major brands such as McDonald's, Kraft Heinz, and Tyson Foods. In July 2021, it also partnered with the Phoenix Suns, re-naming the NBA team's home complex to Footprint Center, while also working with the sports team to eliminate single-use plastic and test new technologies at their facility. Footprint and the Suns are aiming to get fans involved, from videos talking about sustainability and how to manage their trash during games, to encouraging people to sign up for a climate pledge initiative to cut plastics from their lives.

The myth of plastic recycling

According to the study "Beyond Plastics and Last Beach Cleanup," less than 9 percent of plastic is being recycled worldwide. Single-use plastic items are made of low-value material that makes them widely available but economically impractical to recycle. If we include the plastic waste collected under the pretense of "recycling" that is burned instead, the real plastic recycling rate could be even lower. And that is without even factoring in that plastic production is on track to unleash more emissions than coal-fired power plants by the end of the decade, research has found, with the industry emitting at least 232 million tons of greenhouse gasses each year.

"We have to stop the myth of plastic recycling. Many customers sleep at night thinking that their plastic items are actually being recycled, often encouraged by misleading messaging on the packaging. Unfortunately, it's less likely than ever that their discarded single-use plastic ends up anywhere but a landfill," Footprint's co-founder warns.

"We have been working on innovations to replace single-use plastics for seven years, and we see exploding market demand as the risks of climate disaster, plastic pollution, and health impacts of plastic become more prevalent, along with regulatory pressures to meet plastic reduction and climate pledge goals by corporations and governments," Swope concludes.

The solution for plastic waste overload is available and derives from science and technology. Now, the main challenge for Footprint is achieving large-scale production of its sustainable products in a time of major supply chain disruptions and environmental crisis. ■

Footprint Co-Founders: Yoke Chung and Troy Swope

ista Makes Good Progress on the Road to “Net Zero”

Sustainability plays a prominent role in ista’s day-to-day operations. The leading real estate and energy service provider wants to cut its emissions to net zero by 2030 and is already operating climate-neutral.

By Maike Böcker, ista

The ista Group is active in 22 countries and has approximately 6,000 employees. Worldwide, more than 13 million households use ista technology such as heat cost allocators as well as water and heat meters. The recognized partner for the management of data and processes for climate-friendly, safe, and comfortable buildings believes it has a special responsibility for the global challenge of climate protection. This is underlined by its purpose statement “Switch to Smart – Data for a Sustainable Planet. With ista.” This claim is also reflected in the company’s sustainability strategy. In line with the guiding principle “All for zero,” it defines clear, measurable goals in five areas of action – environment, markets, employees, partners, and society.

ista is well on the way to achieving its sustainability goals. The new CEO, Hagen Lessing, announced a global goal when he took office in June 2021: ista will operate CO_2-neutral from June 2021. Unavoidable emissions will be completely offset by investment in certified climate protection projects.

The second major goal is to cut CO_2 emissions in Scope 1 and 2 areas and in selected categories of Scope 3 to net zero by 2030. Good progress is also being made here: Compared with the previous year, an additional 214 metric tons of CO_2 equivalent were avoided.

Good to know: What terms such as “climate neutrality” and “net zero” mean

What exactly is meant when ista says it wants to become climate-neutral? The video “Our climate goals” gives the answer. Both concepts are explained in just under two minutes in an easy-to-understand and graphically animated way.

www.youtube.com/watch?v=kRiSzTgCZCk

Concrete action at all levels

Numerous individual initiatives guarantee that the road taken will also be continued in the years to come. For example, since June 2021, the roughly 2,000 employees in Germany no longer take domestic flights for business trips but have switched to lower-emission means of transport, such as trains. Car journeys are to be reduced and limited to short distances – if no suitable public transport connection exists for the route in question. Exceptions apply to customer appointments and installation work. The entire vehicle fleet is to be switched to electric cars over the next 10 years. The diesel-powered pool vehicles are also to be successively replaced by electric vehicles. In addition, fewer face-to-face meetings are to be held, and they are to be replaced by video conferences as far as possible.

ista also includes its customers and users in its considerations. Here, the goal is to help them reduce their CO_2 emissions by 10 percent by 2030 compared with the base year 2015. ista’s digital metering products and billing services are important tools to achieve this goal. They make energy and water consumption transparent and indicate where there is potential for savings. The greater transparency leads, on average, to savings of a further 10 percent, as the dena pilot project “Saving money through clever heating” showed. CEO Hagen Lessing has also announced a digital climate protection program for the building sector. A total of €600 million is to be invested over five years and the number of wireless devices increased to 50 million.

Aside from technical solutions, climate protection depends above all on the commitment of society. Here, ista sees its employees as valuable resources. For example, fundraising campaigns have recently been launched to provide aid for those affected by the flood disaster in Germany and the Ukrainian victims of the Russia-Ukraine war. ista also gave its employees up to three days paid special leave so they could volunteer to lend a hand with aid projects focusing on these events. In addition, ista is creating opportunities for its employees to invest up to a total of 5,000 hours in promoting climate protection. More than 2,000 hours of engagement on behalf of the climate have already been recorded in the past years.

Interest on loans linked to sustainability successes

As ista is committed to sustainability, it is only logical that the financing of its long-term growth strategy should also be linked to progress in the ESG field. Therefore, for the first time, a so-called ESG-linked Schuldschein with a total volume of €450 million was issued in September 2021. The company is therefore diversifying its loan portfolio on the one hand and can reduce its long-term financing costs on the other.

Part of the proceeds from the issue is, for example, being used to refinance the ESG-linked loan in the amount of up to €1.85 billion taken out in 2020. Its interest rates are linked to the fulfillment of sustainability targets such as CO_2 emissions per employee and the further expansion of the digital service infrastructure in a resource-efficient manner. If the specified targets are met, the credit margin is reduced.

With its efforts in the field of sustainability, ista is also demonstrating its commitment to the SDGs of the United Nations. The measures focus in particular on Goal 7 (Affordable and clean energy), Goal 11 (Sustainable cities and communities), Goal 12 (Responsible consumption and production), Goal 13 (Climate action), and Goal 17 (Partnerships for the goals).

As one of 25 German companies, ista is participating in the UN Global Compact SDG Accelerator program. With the aid of this six-month program, the participating companies want to increase the speed with which they implement their sustainability targets. Part and parcel of this are the introduction of new management methods and continual measurement of target achievement.

CO_2 calculator makes concrete offsetting proposals

ista recently introduced an online calculator so people can work out their personal CO_2 emissions in the following areas: home, car, flights, and nutrition. The tool even makes suggestions as to how these emissions can be offset. Specifically, it proposes supporting a project of Naturefund and the Fundación de Universidad de Golfito in Costa Rica to preserve the world’s last lowland rainforests: 100,000 trees are to be planted in order to create a green climate bridge linking two national parks that are roughly 80 km apart. ■

www.ista.com/de/unternehmen/nachhaltigkeit/co2-rechner/

Knorr-Bremse Locations Around the World Are Now Carbon-Neutral

For more than 115 years, Knorr-Bremse has been shaping the future of mobility as a major innovator of sustainable system solutions. For us, the global market leader in braking and other systems for rail and commercial vehicles, sustainability means giving equal and simultaneous priority to economic, social, and environmental targets, based on a solid foundation of good corporate governance. Climate protection lies at the heart of our ecological efforts, because playing a leading role in protecting the environment and ongoing decarbonization is crucial to Knorr-Bremse's long-term strategy.

By Frank Markus Weber, Knorr-Bremse

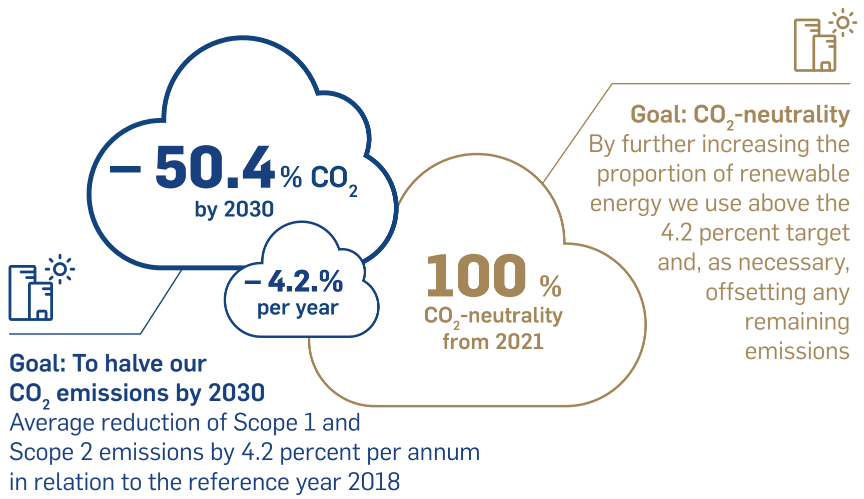
KNORR-BREMSE

Our success in meeting our sustainability and ESG (environmental, social, and governance) goals is a key element in our overall performance. At Knorr-Bremse, we always listen to what society is telling us. And the question we are hearing from society is: How is Knorr-Bremse contributing to the sustainable world of tomorrow? Knorr-Bremse has prioritized five Sustainable Development Goals in particular, setting up global initiatives in each case. The SDGs are: Gender equality (Goal 5); Decent work and economic growth (Goal 8); Industry, innovation, and infrastructure (Goal 9); Responsible consumption and production (Goal 12); and Climate action (Goal 13). The related initiatives aim to increase Knorr-Bremse's contribution to these SDGs by implementing concrete improvements and meeting specific targets. Our ongoing efforts to enhance our ESG-related contributions are reflected by the high ESG ratings we are regularly awarded by third parties. Most recently, for example, we were awarded Gold status in the 2022 EcoVadis sustainability ratings.

Knorr-Bremse further extends climate action measures

We continue to drive forward our Climate action (Goal 13) measures as part of our new Climate Strategy 2030. In 2021, we achieved a key milestone – all Knorr-Bremse operations are now carbon-neutral, taking into account the offsetting of residual emissions. Knorr-Bremse is also on track to achieve another ambitious goal: to halve our carbon emissions by 2030 without applying carbon credits or offsets. By 2021, we succeeded in cutting our carbon emissions by more than 73 percent compared with 2018. To meet our goal of halving Scope 1 and Scope 2 carbon emissions from all Knorr-Bremse sites by 2030, we are leveraging three parameters: energy efficiency, in-house energy generation, and procurement of energy from renewable sources. Any unavoidable emissions that may remain once the company has reached its reduction target will be further reduced by using additional renewable energy, or otherwise offset by subscribing to Gold Standard climate protection projects. Last year, 98 percent of the electricity supplied to Knorr-Bremse globally came from renewable energy sources and was obtained via green electricity contracts or green electricity certificates.

KNORR-BREMSE CLIMATE STRATEGY 2030



Rollout of Group-wide human rights policy

Also in 2021, we rolled out our global human rights policy, making a clear commitment to due diligence with respect to human rights. One focal point was the procedural preparation for the German Supply Chain Due Diligence Act, which takes effect in 2023. We derived measures from a fit-gap-analysis carried out in 2021 that we will implement step-by-step – in terms of our existing processes and tools. We plan to finalize the Knorr-Bremse Group's governance structure for human rights in the course of 2022. Knorr-Bremse is a signatory of the United Nations Global Compact, and we are currently reinforcing our due diligence in relation to human rights at all stages in the value chain. We also aim to recruit more skilled female employees and take further steps to develop women's careers (Goal 5). Knorr-Bremse has been an active member of the UN Global Compact's Target Gender Equality initiative since 2021, with a program that is focused in particular on achieving SDG Target 5.5 by 2030 – ensuring women's full and effective participation and equal opportunities for leadership at all levels of decision-making in economic life. In addition to our Diversity Charter, as well as the quota system we adopted in 2020, we make use of and support training programs that specifically target and encourage young women. Our newly established women's network has devised further measures and projects for supporting and advancing women's careers.

Social concerns are deeply embedded in our approach to corporate governance

Our social commitment is firmly based on our corporate values, a strict code of conduct, and clear compliance requirements along our entire supply chain. We are gradually introducing our suppliers' code of conduct (Goal 8) to suppliers around the world, and we made significant progress in 2021. As part of our Goal 8-related initiative, Knorr-Bremse succeeded with the global rollout of the LinkedIn Learning self-directed learning tool. In 2021, 6,013 employees used the LinkedIn tool for a total of 16,600 hours. Further communication measures and combined activities with leadership, IT, and business will foster a modern learning culture towards a learning ecosystem. We have also rolled out a new global remuneration system for the Executive Board and senior management. Starting in 2022, 20 percent of executives' short-term variable remuneration will be tied to the achievement of sustainability targets relating to climate protection, occupational health and safety, and sustainability ratings.

Major contribution to safe, efficient transportation

Knorr-Bremse is a keen proponent of environmentally friendly technologies, investing significant amounts in R&D every year to enhance our products in line with EcoDesign principles (Goal 9). As one of our new approaches to innovation, we run a startup accelerator program that aims to identify sustainable technologies and other value-adding innovations. Because investments in infrastructure


Frank Markus Weber, Chief Financial Officer and Executive Board Spokesman of Knorr-Bremse

and (digital) innovation are vital for ensuring that the mobility sector makes a meaningful contribution to achieving climate targets, our Rail division is heavily involved in developing the rail-based transportation of the future – one of the key pillars of an environmentally friendly mobility ecosystem. Among other step-change innovations, Knorr-Bremse is making significant progress in developing a Digital Freight Train package, including Digital Automatic Couplers, a new universal Automation System, and Data-driven Services for rail freight. Together, these technologies should help bring about a much-needed upgrade to Europe's rail freight capability by using sophisticated automation to make the entire sector more efficient and competitive. At the same time, our Truck division is also making a major contribution to reducing global carbon emissions. Electric mobility is one of the key levers for achieving internationally agreed emissions targets, and at Knorr-Bremse, we are currently bundling our e-mobility expertise in a new development unit, the eCUBATOR. This involves adapting our existing product portfolio and defining new areas of product development – the eCUBATOR has already registered more than 50 patents. Other technologies that will play a key role in electromobility include our electric power steering (EPS), which uses the power-on-demand principle to significantly reduce both fuel consumption and carbon emissions. ■

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

13 CLIMATE ACTION

"We've achieved a lot more than was conceivable at the beginning"

In this article, Jana Krägenbring-Noor, Head of Corporate Environmental Protection and Energy Management, reveals what is needed for the sustainable transformation of an internationally operating company – and why there's no alternative to a sustainable business strategy.

By Jana Krägenbring-Noor, Mercedes-Benz Group

Mercedes-Benz

When I start my laptop in the morning, I have one goal in mind: to maintain the balance between nature and man – and I am happy to be able to help steer sustainable action in a company such as Mercedes-Benz. Because one thing is clear: Sustainability belongs at the very heart of business – and it is not enough simply to put locally emissions-free cars on the road.

Sustainability must be a guiding principle for everyone

Rather, a sustainable business strategy means integrating sustainability into all processes along the value chain – a major undertaking that can only be successful if everyone plays a part. My team and I are continuously called upon to provide impetus and drive the strategy and implementation process.

Investors who make sustainable action a condition are also increasingly influencing the strong dynamics of change. One response to this was the first green bond, which the Mercedes-Benz Group issued in September 2020, with a volume of €1 billion. The second green bond, which covered the same amount, followed in March 2021. The net proceeds from the bond issues are used exclusively to finance green projects.

Our goal is to become CO_2-neutral by 2039 – this core objective of our Ambition 2039 has gained enormous momentum: Mercedes-Benz aims to become fully electric by the end of this decade, where market conditions allow, and to reduce its CO_2 footprint per passenger car by more than half by 2030 compared to 2020 – over the entire life cycle. In my eyes, we have made much more progress than seemed conceivable at the beginning.

For example, we have succeeded in reducing the amount of cobalt in the cathodes of the battery cell of the EQS to less than 10 percent, and thus by a significant amount compared with previous battery generations. And our purchasing has also made great progress. For example, Mercedes-Benz has agreed to purchase CO_2-neutral battery cells as part of its strategic partnerships with battery cell partners CATL, ACC, and Farasis.

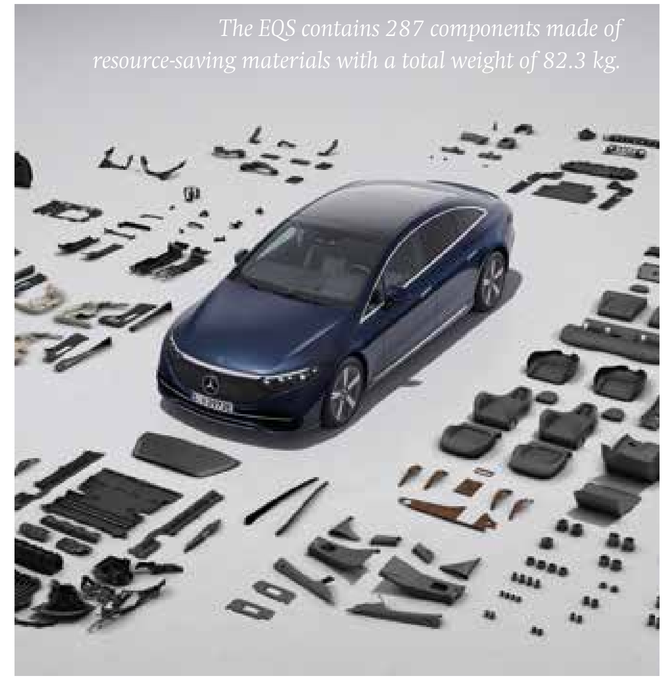
Step one: Taking (eco) stock

So that we know exactly where the need for action is particularly urgent, we rely on detailed analyses of our consumption. Because anyone who wants to achieve a sustainable improvement in their environmental performance needs a 360° view – across the entire life cycle. We can now automatically evaluate the footprint of individual raw materials and the influence of the various drive trains on the carbon footprint during the use phase.

The life cycle assessment of the EQS, for example, shows that we are on the right track with "electric only" from today's perspective: In a direct comparison with the combustion-engine model, its carbon footprint is 80 percent better over the entire life cycle.

Keeping materials in the closed loop

We also look closely at the materials and take responsibility for our supply chain, even if we do not hold all the strings here. At Mercedes-Benz, we want to increase the use of recycled materials to a share of 40 percent by 2030.


The EQS contains 287 components made of resource-saving materials with a total weight of 82.3 kg.


Production in Factory 56 in Sindelfingen has been completely CO_2-neutral since 2020.

On the way to the circular economy, we want to get even closer to the closed loop in car manufacturing. As far as our high-voltage batteries are concerned, we therefore attach great importance to reuse and remanufacturing, even before any talk of recycling: If a battery is defective, it is remanufactured for reuse in the vehicle. If it is no longer suitable for use on the road, it can be further used in a stationary energy storage system.

Reduce commodity risks through technological progress

Even if the processes around recycling are already very mature, the battery contains valuable – and in part critical – raw materials. Our goal is therefore to continually reduce the amount of critical raw materials used per vehicle, in line with our "Design for Circularity" approach. That is why we examine individual components even before the first vehicle sketch. The essence method, together with our Human Rights Respect System, gives us an indication of how high the social and environmental risks are. With the help of the results, we gain a clear picture of the ecological, economic, and social risk potential. The Mercedes-Benz Group has now identified a total of 24 such risk commodities – including cobalt and lithium, which we will source exclusively from certified mines in the future.

Moving toward CO_2-neutral production with green electricity

In vehicle production, too, all purchased electricity has come entirely from renewable sources since 2022, while production in the Mercedes-Benz passenger car and van plants worldwide is CO_2-neutral. In addition to the expansion of photovoltaic systems, dialogue with the plants was a key factor in making CO_2-neutrality in production possible.

All this makes me very confident about the transformation of our company. At Mercedes, we are driven by the goal of bringing people and mobility into harmony with the environment. Knowing that we are working hard to achieve our goals and have made environmental protection a priority, I look forward to the next working day. ■

Jana Krägenbring-Noor heads up the department Group Environmental Protection, Central Energy Management and Sustainability and coordinates the Group Sustainability Board as a member of the Sustainability Competence Office. Her department is responsible for the topics of environmental sustainability, environmental protection, and central energy management at Mercedes-Benz Group, as well as for compliance with environmental and energy policy.

On Track for Emissions-free Flight

Emissions-free flight is the overall goal of aviation and the vision of MTU Aero Engines. With its Clean Air Engine – or Claire – technology agenda, MTU is working to vastly reduce the climate impact and fuel consumption of aircraft engines. This vision is guided by the Paris Agreement's target of limiting global warming to, ideally, an increase of 1.5 °C compared to preindustrial levels.

By Ute Schwing, MTU Aero Engines

Exploring faraway countries, transporting goods — flying brings people together. At the same time, it is moving up the agenda in the climate debate. Specifically, the industry is working hard to reduce the climate impact of aircraft. With its Claire technology agenda, MTU is a technology pacesetter for sustainable commercial aviation. In the past, aviation industry targets focused exclusively on CO_2 emissions. In the future, the climate impact of nitrogen oxide (NOx) emissions and contrails will be taken into account as well.

To reduce aviation's impact on the climate, the areas of research, science, and industry must further improve current aircraft and engines; at the same time, they must also develop revolutionary concepts that will drastically reduce said impact.

SAF: Alternative fuels with potential

In the short term, the use of sustainable fuels could substantially reduce the climate impact of aviation. Known as sustainable aviation fuels (SAFs), these result in a largely closed carbon cycle. Though not a fuel manufacturer itself, MTU is pressing hard for the use of SAFs. It supports projects to set up PtL production facilities, and MTU Maintenance is the world's first maintenance company to perform acceptance runs with SAFs on the test stand.

New engine technologies from MTU

With its Claire technology agenda, MTU is working hard to reduce the fuel consumption and climate impact of aircraft engines over a total of three stages. Claire was launched in response to global climate goals and the need to reduce aviation's climate impact.

A key element of this program is the evolutionary enhancement of the gas turbine engine based on the geared turbofan (GTF) in combination with revolutionary propulsion concepts. Here, MTU favors the water-enhanced turbofan (WET) engine, which reduces both CO_2 and NOx emissions and significantly curtails the formation of contrails. The revolutionary concepts to emerge from MTU also include an electric propulsion system: the flying fuel cell. In the long term, this hydrogen-powered fuel cell has the potential to deliver virtually emissions-free flight.

In light of the Paris Agreement, any developments designed to deliver climate-neutral flight will need to be market-ready well before 2050. MTU has therefore stepped up its collaboration with partners to work on revolutionary propulsion concepts. In parallel, the company is working to enhance existing propulsion systems and to couple these with sustainable fuels so as to achieve a significant reduction in the climate impact of aviation as quickly as possible.

Three stages to emissions-free flight

The first stage of the Claire program was completed with the highly efficient engines from the Pratt & Whitney GTFTM engine family. Developed in partnership with the US company, these engines are used in modern narrowbody aircraft. Compared to the previous generation, the GTF reduces fuel consumption and CO_2 emissions by 16 percent each.

In January 2024, the launch of the Pratt & Whitney GTF Advantage™ will deliver a technologically enhanced version of this engine. The GTF Advantage will cut fuel consumption and CO_2 emissions by a further percentage point each, thereby leading to an overall reduction in both of 17 percent compared to previous engine generations.

The geared turbofan engine went into production in early 2016. Since then, it has helped aircraft operators save more than two billion liters of fuel. The GTF is now licensed to operate with a 50 percent admixture of SAF, and the GTF Advantage can be operated with up to 100 percent SAF.

MTU is already working on the second generation of the geared turbofan. This includes a program to further reduce the fan pressure ratio and thereby further increase the bypass ratio. When powered by SAFs or liquid hydrogen, this engine could reduce aviation's climate impact by as much as 65 percent.

WET engine impresses with heat recovery and wet combustion features

In the second stage of Claire, MTU is working with its partners on solutions that will achieve an 80 percent reduction in climate impact by 2035. MTU's favored technology is the WET engine, fueled with SAFs or hydrogen. Utilizing thermal energy from the exhaust gas stream, the WET engine uses a heat exchanger to vaporize water, which is then injected into the combustor. The water for this purpose is extracted from the exhaust gas by means of a condenser. This kind of "wet" combustion slashes NOx emissions while also substantially decreasing fuel consumption, CO_2 emissions, and the formation of contrails. In reducing the climate impact of aviation by around 80 percent, this concept will already be approaching climate neutrality in 2035. It is suitable for short-, medium-, and long-haul aircraft.

Flying fuel cell: Virtually emissions-free

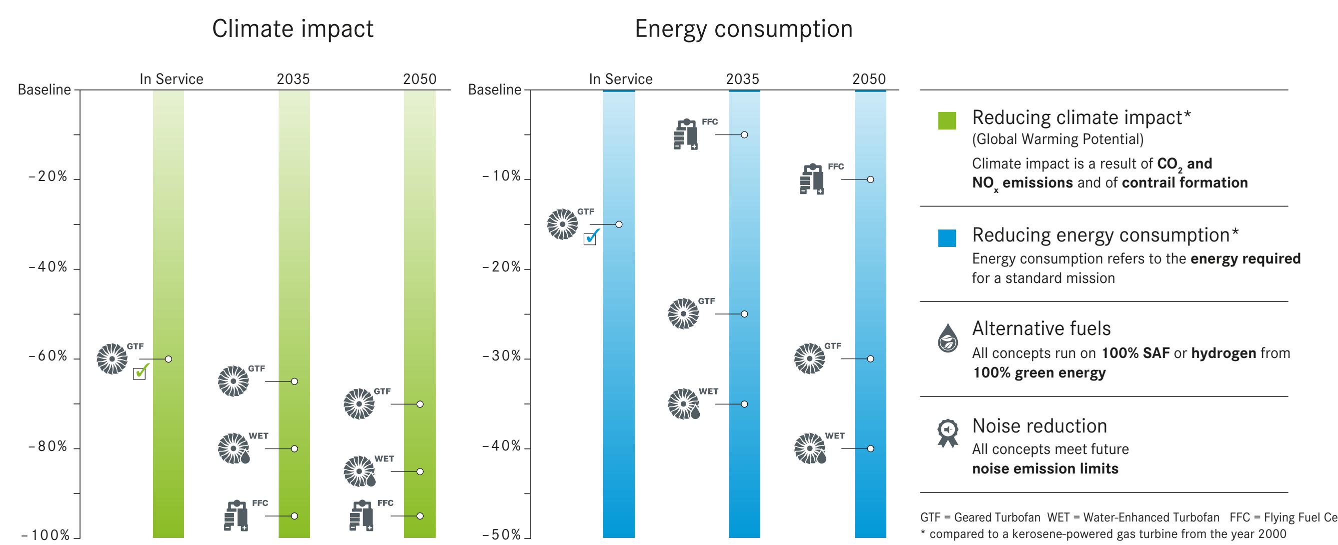
Another revolutionary propulsion concept MTU is aiming to achieve by 2035 is the full electrification of the powertrain. The option that offers the greatest potential here is converting hydrogen into electricity with the help of a fuel cell. The flying fuel cell (FFC) is set to be deployed soon on short-haul routes in regional air traffic. This propulsion system does not produce any emissions of CO_2, NOx, or particulates; its only emission is water. The FFC reduces the climate impact of aviation by as much as 95 percent — that is, to virtually zero.

In the long term, hydrogen will serve as the basis for climate-neutral propulsion of the future. MTU has identified three potential applications: It can be burned directly in a gas turbine engine, converted into an SAF, or converted into electrical energy by means of a fuel cell.

2050: Emissions-free flight within reach

The third stage of Claire is scheduled for completion by 2050. By then, MTU hopes to further improve the overall efficiency of the geared turbofan and the WET engine. The use of modified near drop-in fuels (SAFs) would achieve the maximum reduction in climate impact. If the WET engine is powered by hydrogen, this will bring further advantages with regard to CO_2 emissions. Weight and the drag of the engine could be reduced by using more compact designs. As efficiency improves, the flying fuel cell should be in operation on short- and medium-haul routes as of 2050. ■

Technology agenda Claire



Committed and Successful Approach to Sustainability at Symrise

Companies can achieve long-term economic success only in connection with sustainability and social acceptance. Consequently, Symrise structures its company processes with the help of its comprehensive sustainability management. The Sustainable Development Goals (SDGs) of the United Nations serve as a guideline for these processes. In principle, the company supports all the SDGs. At the same time, capacity constraints require the company to concentrate on those that can help it make the most effective contribution. Symrise has set concrete, ambitious targets with defined deadlines for each focus area. Ambitious climate goals as well as diversity and equal opportunity play an important role here.

By Christina Witter and Friedrich-Wilhelm Micus, Symrise

Thinking long-term in the fight against climate change

Symrise has set itself one of the most ambitious goals in the fight against climate change: The Group is planning to operate “climate-positive” starting in 2030. It is aiming for its business activities to achieve a positive climate footprint. To put it simply, this means that all the business activities of Symrise will sequester more greenhouse gas emissions from the atmosphere than they produce. Symrise wants to achieve this goal by increasing the energy and process efficiency of its global production sites as well as by doubling down on its support of high-quality, certified climate protection projects to compensate for its remaining emissions.

Symrise regularly adapts its emission-reduction targets on the path to climate positivity. For example, the Group achieved its aim for 2020 of reducing the production of greenhouse gases by one-third compared to 2010 relative to the value chain earlier than planned. This was an excellent incentive to set the bar even higher: Symrise set a further reduction target for 2028, which, by scientific standards, will likely make a decisive contribution to limiting global warming to +1.5°C. The Science Based Targets initiative (SBTi) has validated this target externally and confirmed that it represents the current possible highest level.

It is perfectly clear why Symrise puts such a high value on climate protection in its sustainability efforts: The consequences of climate change exert a direct impact on the core business of the manufacturer of flavor, fragrances, and ingredients for cosmetics and nutrition. Symrise needs natural raw materials as source materials for the manufacture of its products.

These include blossoms, fruits, and other plant materials. Global warming is increasingly leading to extreme weather conditions such as storms, floods, and droughts, which increases the risk of fluctuating harvests. This can lead to supply bottlenecks, increased costs, and even endanger entire business areas. At the same time, Symrise can make an especially effective contribution to climate protection with its expertise and resources.

Symrise wants to reduce its environmental footprint in other areas as well. These include the responsible use of raw materials and the careful use of water. A couple of the goals Symrise has set in these areas are to exclusively use sustainable packaging materials and to reduce water consumption at all its production sites located in dry regions starting in 2025. For its commitment to protecting the climate, water, and forests, the nonprofit organization CDP recently awarded Symrise the top “Triple A” rating for the second time — the only company in Germany to achieve this.

Diversity makes a difference

Such ambitious goals make it important to use an effective key to success: the more than 11,000 employees working at more than 100 sites around the world who serve customers in 150 countries. A particular strength of the Symrise workforce comes from its incredible diversity. Multinational teams ensure broad product knowledge and can create innovations based on current trends. Companies that commit to diversity and inclusion as part of a clear ESG strategy can operate successfully and blaze paths to a better future.

This advantage provided by the diversity of the company will also deliver success for the ambitious sustainability targets. For this reason, the company made sustainability a matter for all employees. It starts on a small scale. All employees are asked to critically question the efficiency, security, and use of resources in the work

processes of their own fields of activity and responsibility and, in response, to develop ideas for improvements. Over 150 Sustainability Ambassadors around the world work to help support this topic.

Flavor Academy: The global future of good taste

The Flavor Academy, located at the company headquarters in Holzminden, forms a particularly diverse institution within the Symrise Group. Colleagues from far-flung corners of the globe and with a broad spectrum of different life experiences come together to collect knowledge and share their own experiences. They grow together to form a team that draws its strength from the diversity of their colleagues.

At the Flavor Academy, Dr. Katharina Reichelt, Director R&T Food & Beverage, and her team train talented young professionals from Symrise locations around the world in small groups to become flavorists — creators and developers of taste for innumerable foods and beverages. For many, this represents a dream job. “We want young people to find their own paths here with us,” Dr. Reichelt says, explaining the motivation behind the international training project. “With the Flavor Academy, we can create an equal level of knowledge for all global locations and thus promote a constructive exchange — both here at our headquarters in Holzminden and amongst the team.”

The commitment Symrise shows to diversity relates in particular to SDGs 17 (global partnerships), 8 (sustainable economic growth and humane work for all), and 12 (sustainable consumption and production methods).

Summary

Long-term, sustainable thinking forms one of the main pillars of the corporate strategy of Symrise, because it makes a decisive contribution to the successful development of the company. Climate protection, the conservation of natural resources, diversity, and living and working responsibly are becoming more influential in determining the social agenda. Symrise strives to seize with determination the opportunities created by these topics and to allow its customers, employees, shareholders, and other stakeholders of the company to use them. ■

Methane Matters: More Transparency, Fewer Emissions

For many years, the environmental impact of methane was not the focus of industry. Methane emissions were only considered for safety reasons. The importance of methane emission reductions for key drivers of climate change was not fully addressed with appropriate action. That has changed. There is now an increasing focus by policymakers and scientists on this greenhouse gas and its potential to rapidly drive global warming. Responsible businesses are also rising to the challenge. Wintershall Dea, Europe's leading independent gas and oil company, sees that it has a responsibility to drive change and actively work on the implementation of emission-reduction projects.

By Julia Schmitt, Wintershall Dea

wintershall dea

Why is the reduction of methane emissions so important? Other than CO_2 the greenhouse gas degrades quickly in the atmosphere, but in the first 20 years after its release, methane has more than 80 times the warming potential of CO_2. Given the urgent need to tackle climate change and slow global warming, reducing methane emissions is crucial.

As US President Joe Biden succinctly put it at last year's COP 26 climate conference: "One of the most important things we can do in this decisive decade — to keep 1.5°C in reach — is reduce our methane emissions as quickly as possible."

A question of responsibility

After agriculture, gas and oil are the second-largest contributors to anthropogenic methane emissions. Hence, the gas and oil sector bears a significant responsibility for driving action toward reducing emissions. The reduction of methane emissions has been high on Wintershall Dea's agenda since long before COP 26 for precisely these reasons.

Wintershall Dea is a founding member of the Methane Guiding Principles and has set itself ambitious climate targets. One of them is a target for near-zero methane emissions, specifically to reduce methane emissions intensity below 0.1 percent by 2025.

Tackling methane in practice

Unlike CO_2, methane is relatively easy to detect, but hard to quantify. Wintershall Dea uses the latest technology for measurement and quantification, allowing for accurate data on methane emissions for all relevant sources of emissions. And while measurement campaigns are nothing new for the company, it is now consolidating its efforts in a worldwide methane emission-reduction initiative: LDAR, or the Leak Detection and Repair program.

13 CLIMATE ACTION

17 PARTNERSHIPS FOR THE GOALS

This global campaign will cover all of Wintershall Dea's operated assets, joint ventures, and partner-operated projects. LDAR programs set out to systematically detect all potential leaks and repair them. Wintershall Dea's new LDAR campaign has already started in Germany.

In a first step, all potential sources of methane are being checked — around 500,000 potential sources. Wintershall Dea uses specialist measuring technologies, such as Optical Gas Imaging with infrared cameras, or an ultrasonic internal valve leak device to check vent and safety valves.

Working in partnerships

The LDAR campaign will help to ensure that Wintershall Dea meets the expectations of the Oil and Gas Methane Partnership (OGMP) 2.0 framework. Wintershall Dea joined OGMP 2.0 — led by the UN Environment Programme — in 2020 to work with others to promote transparency and action on methane emissions. As a member, Wintershall Dea participates in the OGMP 2.0 reporting framework, which requires reporting on methane emissions along the entire gas value chain and sharing the data with the UN Environment Programme. Wintershall Dea was pleased to have obtained the Gold Standard under the program in 2021. The commitment to report, according to the OGMP 2.0 rules, demands strong engagement with partners and local stakeholders. For Wintershall Dea, adherence to the framework is a way to promote dialogue with stakeholders about the need for action.

Wintershall Dea is also a founding member of the Methane Guiding Principles, and it is committed to the World Bank initiative for zero routine flaring by 2030. That is one of the partnerships Wintershall Dea is involved in, and it reflects its commitment to work jointly with others to tackle methane.

A role for governments

Working with others is essential to tackle methane, and that extends to governments. Governmental bodies have a pivotal role in developing and implementing policies and regulations that achieve ambitious emission-reduction outcomes.

Together with bp, Eni, Equinor, the Environmental Defense Fund, the Florence School of Regulation, Repsol, the Rocky Mountain Institute, Shell, and TotalEnergies, Wintershall Dea has developed policy recommendations for the European Union to reduce methane emissions within the context of Europe's Green Deal to reach climate neutrality by 2050.

Working globally

Methane is a global issue. As an internationally active company, Wintershall Dea works to share knowledge and spread best practice. In the last two years, Wintershall Dea has implemented Methane Emission Executive Classes in Europe and Latin America. The goal is not just to raise awareness about the topic of methane reduction among internal leaders. The classes also aim to address region-specific aspects of methane emissions and enable stakeholder engagement. This engagement can lead to high-impact projects such as measurement campaigns or finding technical solutions to reduce methane emissions. An upcoming internal outreach program will focus on Wintershall Dea's activities in the North Africa region.

Methane at the heart of a wider sustainability strategy

No energy company can expect to operate without significant scrutiny of its sustainability performance. For Wintershall Dea, its focus on methane is part of a wider approach to its environmental, social, and governance (ESG) aspirations. At the heart of its business approach are responsible governance, with a strong focus on sustainability management; promoting responsible social collaboration; and contributing to climate protection. Environmental sustainability is of high importance. In 2020, Wintershall Dea set out clear climate targets and ambitions to guide its approach:

- **Net-zero activities by 2030**
  Reducing it's Scope 1 and Scope 2 greenhouse gas emissions of upstream activities (operated and non-operated at equity share basis) to net zero by 2030.
- **Below 0.1% methane intensity by 2025**
  Reducing it's methane intensity to below 0.1% by 2025.
- **Zero routine flaring**
  Maintaining zero routine flaring of associated gas during operations.
- **Reduce net carbon intensity**
  Managing and reducing net carbon intensity, including Scope 1, 2, and 3 greenhouse gas emissions.

In the future, Wintershall Dea intends to reduce its overall carbon intensity via low-carbon hydrogen production and the use of carbon capture and storage. In 2022, it set an ambition to strive to support emission reduction targets by potentially building up a carbon management and hydrogen business abating 20-30 million tonnes per annum CO_2 by 2040. ■

SUPPLY CHAIN

Supply chain sustainability and responsible procurement are critical to making global goals local business by ensuring that the extension of a company's operations, products, and services can support the realities of our planet and better serve markets both today and in the future. When supply chains are done wrong — by not taking into consideration the environmental, social, and governance (ESG) performance of suppliers — companies leave themselves open to significant operational and reputational risks. Impacts on people and the environment can be substantial and severe.

Source: UN Global Compact

Audi: ESG Criteria As the Basis for Value-based Corporate Governance

At Audi, future viability means thinking about business and sustainability in tandem. In doing so, environmental protection, social responsibility, and sound corporate governance are central indicators for modern investments. Not only capital markets but also customers expect a clear stance from Audi, and they base their purchase decisions increasingly on the performance of the plants and products with regard to sustainability. Audi thus anchors ESG criteria in all company and product decisions and establishes a holistic ESG management system.

By Dr. Roxana Codita and Juliane Seipt, Audi

The future of Audi is electric. This is the core element of the "Vorsprung 2030" corporate strategy, which the automotive group developed last year. As early as 2021, AUDI AG increased deliveries of its electric models by almost 60 percent and also more than doubled its all-electric product portfolio compared with 2020. If Audi wants to improve on this success, it must systematically continue along the path it has chosen – technological innovation with internal transformation as well as the intelligent combination of economy and ecology. After all, sustainability secures the company's "license to thrive," ensuring the future viability of the business.

"Mobility is essential for society. But today it can only work if it meets all sustainability requirements at the same time. These requirements are joined by social responsibility and sound corporate governance," explains Josef Schön, senior manager ESG & sustainability strategy at Audi. Anton Poll, driver of the implementation of the EU Taxonomy at Audi, adds: "ESG stands for environmental, social and governance criteria. They illustrate how sustainably a company does business, how it integrates social and ecological aspects and how it aligns its strategy and goals with this. It's about developing the value of a company with regard to financial value and ethical value in equal measure."

Environment: Transparency in every respect

From 2026, the company will only launch all-electric models for the global market. It has also set itself the goal of net carbon-neutral production* from 2025 at all of Audi's plants. This is already the case at the facilities in Brussels, Győr, and the production facility for the Audi e-tron GT at Böllinger Höfe in Heilbronn. Additionally, by 2030 all vehicle-specific CO_2 emissions are to be gradually reduced by 40 percent (reference year 2018) along the entire product life cycle. This development is also important in light of the new EU Taxonomy Regulation as part of the European Green Deal. This classifies companies into a simple comparative framework according to the sustainability performance of their products, thus providing capital markets with information about where they can make sustainable investments and where not. "We make our ESG performance transparent and comparable for the capital market and other stakeholders. To this end, we publish the Audi Report, our combined sustainability and financial report, every year. In addition, we have decided to report our sales, operating, and capital expenditures according to the EU Taxonomy," says Jürgen Rittersberger, who is the Chief Financial Officer at Audi and responsible for the company's ESG strategy. "In future Audi will also submit to the ESG rating of an independent rating agency."

Social: Broad commitment with regard to human rights and good working conditions

Audi also has its eye firmly on the sustainability performance of the supply chain. In this regard, the objective is to continue improving the carbon footprint on the one hand and to guarantee compliance with human rights on the other. The company works with partners – for example as part of the Aluminium Stewardship Initiative – to ensure that mutually agreed standards are adhered to. "It is in the suppliers' interest to operate sustainably," explains Schön. "These days there is a much broader consensus about this than a few years ago."

Audi is an attractive employer that assumes responsibility for its employees and society. As part of its People & Culture initiative, the company ensures that employees are at the center of its actions. "Working conditions at Audi are very good. We have made a clear commitment to guaranteeing employment up to 2029, and we invest in training and development, in particular with regard to our transformation toward electric mobility," says Rittersberger. The company's employees are a crucial success factor in shaping both the transformation process and future-proof mobility.

For instance, the company is investing half a billion euros up to 2025 in order to train its employees, and it has created a transformation budget of €100 million. "We are also headed in the right direction with respect to diversity, because we see it as an important prerequisite for competitiveness and the sustainable success of our company," adds Rittersberger.

Corporate governance: Long-term success through compliance and integrity

Audi aims to reinforce compliance and integrity every day in the company. The Audi Code of Conduct, the Volkswagen Group Essentials, and the Code of Conduct for Business Partners serve as the foundation to this end; a Compliance Management System (CMS) ensures compliance with statutory and internal provisions. The Audi Compliance Cockpit – an integrated IT platform – manages all activities in this area and ensures that all aspects of CMS are observed in equal measure throughout the Audi Group. With the aid of various modules, for example, compliance officers are able to adapt training courses to specific brands within the Group, help employees identify conflicts of interest, or implement policies locally.

But only when the management system is paired with a genuine compliance and integrity culture can added value be created for the company. Audi has drawn consequences from the diesel crisis and created the conditions for a sound corporate culture. For transformation to turn into opportunity, corporate culture, leadership understanding, and structures must be optimally interlinked.

And these efforts have paid off: On March 17, 2022, Audi once again became a participant in the UN Global Compact. Its dedication to value-based corporate governance that is aligned with ESG criteria is largely guided by Goals 8 (Decent work and economic growth), 9 (Industry, innovation and infrastructure), 12 (Responsible consumption and production), and 13 (Climate action). ■

**Audi regards net carbon neutrality as a state in which – following the exhaustion of other possible measures aimed at reducing the still remaining CO_2 emissions caused by the products and activities of Audi and/or currently unavoidable CO_2 emissions within the scope of the supply chain as well as manufacturing and recycling of Audi vehicles – at least quantitative compensation is provided through voluntary and globally conducted compensation projects. Throughout the utilization phase of a vehicle – meaning from when a vehicle is delivered to a customer – the CO_2 emissions produced are not taken into account.*

8 DECENT WORK AND ECONOMIC GROWTH

13 CLIMATE ACTION

Harnessing RegTech to Drive ESG Compliance

The term RegTech was first coined by the UK's Financial Conduct Authority in 2015, and it broadly refers to any technology that ensures organizations comply with regulatory requirements. While it was once considered a buzzword, RegTech is now making a real and noticeable difference by providing technologically advanced solutions to companies dealing with an ever more complex compliance and regulatory landscape. Its primary objective is to improve transparency as well as the consistency of regulatory processes. While its potential is already being realized through compliance technology such as digital whistleblowing systems, it is also being harnessed and adapted for a new compliance frontier: ESG.

By Achim Weick, EQS Group

Why is ESG important?

ESG – or environmental, social, and governance – has become a critical aspect of corporate operations in recent years, playing a key role in decisions around investment, mergers, acquisitions, and divestures. It typically takes the form of a social credit score, in which its three pillars are leveraged to illustrate a level of risk for socially conscious investors. Companies embracing ESG and taking steps toward building a culture of sustainability have a higher chance of boosting customer engagement and accessing capital. On the other hand, businesses failing to implement proper ESG standards are exposed to much higher financial risks and ensuing reputational damage.

Unsurprisingly, RegTech companies have been observing the growing ESG movement with great interest. Given that corporate ESG activities are intrinsically linked to an organization's values, they are closely tied to existing compliance operations. Some have described the close relationship as "a match made in heaven," but others have voiced concern that the extra responsibility brought on by the ESG spectrum is already overburdening compliance teams that are understaffed as a result of Covid-19 cuts.

A perfect match: Why ESG and compliance fit together

Despite those concerns, the environmental challenges facing the planet are not going away, and neither is ESG. As a result, it remains a critical priority for companies. The good news for hard-pressed compliance teams with legitimate complaints about "mission creep" and new responsibilities is that they are already well-equipped to deal with many aspects of ESG. A Reuters overview advised that governance is the perfect starting point for building an ESG framework within an organization due to the fact that it entails elements that compliance teams are already familiar with, such as internal audits and close cooperation with the human resources department.

However, there is another important aspect to the discussion, and that is the growing potential of RegTech in meeting the ESG challenge head on. Compliance teams have already put technologies to good effect with solutions such as machine learning, digital rulebooks, compliance automation, and web-based whistleblowing systems revolutionizing workflows over the past decade. As well as streamlining processes, compliance technology has allowed companies to lower budgets, free up resources, and boost efficiency without having to hire extra staff members.

This is the core reason that existing RegTech providers are viewing the growing ESG movement with such enthusiasm. Businesses have an important role to play in combating climate change, and efforts to achieve net zero emissions are accelerating. In some instances, this has been driven by changes in national legislation that has seen ESG reporting become mandatory.

New European legal framework is coming

For example, the European Union is establishing a new legal framework for a sustainable economy with the goal of achieving climate neutrality by 2050 – something which will have repercussions for companies. In the near future, the Corporate Sustainability Reporting Directive will see companies report a range of environmental data for the first time, such as their carbon footprint, levels of diversity, and sustainable business practices.

Technology developed along the same lines as "smart home" systems is already leading to substantial energy savings for offices, while RegTech is delivering effective outcomes on the regulatory side of sustainability, enabling companies to stay ahead of an ever-growing list of environmental regulations. For example, interactive policy portals are helping organizations roll out new ESG frameworks and adapt old guidelines, keeping businesses agile.

Climate Risk Analytics tools and dashboards have also been developed to help companies determine the level of financial risk associated with climate change, thereby allowing them to minimize any financial risk while understanding potential exposure levels. Similarly, carbon footprint tracking software has also emerged in recent years, allowing businesses and customers alike to calculate the environmental impact of their activities. This can be especially useful in building a sustainable image, an environmentally friendly working culture, and quashing any false allegations of greenwashing with a solid ESG metric.

Achim Weick, Founder & CEO EQS Group AG

How can software help companies to perform better?

As mentioned earlier, ESG often takes the form of a social credit score, whereby a better performance is more appealing to investors. Unsurprisingly, data assessment and monitoring software to optimize that score are becoming increasingly popular, especially given the emergence of both the socially conscientious investor and tighter environmental regulations. When it comes to the latter, digital products are also facilitating the ominous ESG reporting obligations that are going to be expected from companies.

Why should companies act now and change their ESG strategy? It goes for compliance in general, but it also applies to ESG compliance: It is vital for companies to act in anticipation of future developments to minimize their exposure to potential breaches. In Europe, companies are already preparing for something of a regulation deluge, which will lead to their ESG compliance coming under scrutiny like never before.

Early action to make technology a core aspect of a company's sustainability mission will also lead to reduced costs and more efficient processes, not to mention a better company culture. Serious environmental setbacks can keep a company on the front pages of newspapers for days and dent employee morale. Introducing the best ESG framework possible sends the message to staff members that they are part of something that matters, thereby boosting engagement and, ultimately, performance. Harnessing RegTech to drive ESG compliance pays off.

Company profile

EQS Group is a leading international cloud provider in the fields of corporate compliance, investor relations and sustainability reporting (ESG tech). Working with EQS Group, thousands of companies worldwide inspire trust by fulfilling complex regulatory requirements in a reliable and secure manner, minimizing risks and communicating their business success and its impact on society and the climate transparently to stakeholders.

EQS Group's products are pooled in the cloud-based software EQS COCKPIT. This platform ensures the professional handling of compliance workflows in the fields of whistleblower protection and case management, policy management, business approvals, third party management, insider list management and disclosure obligations. Specific applications for sustainability reporting are available, including automated ESG data collection, management and filing in compliance with regulations.

In addition, listed companies benefit from a global newswire, investor targeting and contact management, IR websites, digital reports and webcasts for efficient and secure investor communications. EQS Group was founded in 2000 in Munich, Germany. Today the group employs around 600 professionals and has offices in the world's key financial markets. ■

Digital Product Passports: Pioneers for the Sustainable Economy

Whether climate protection, circular economy, or resource efficiency: Without transparent value and supply chains, many political targets and goals threaten to fall into the void – if only because progress cannot be verified in a comprehensible way. Digital product passports can bring more clarity. The compliance and sustainability specialist iPoint-systems, based in Reutlingen, Germany, is driving their development.

By Daniel Maier, iPoint-systems

"Digital product passports are promising tools for collecting, among other things, the increasingly important sustainability data in a standardized, transparent, and comparable format," says Angelika Steinbrecher, Senior Expert Compliance, Sustainability & Innovation at iPoint. The digital passports, which are currently being developed to market maturity in Reutlingen and elsewhere, are intended to reveal the provenance — the "history" of a product — as transparently as possible: Show where it comes from, how and under what conditions it was produced, and what raw materials it contains.

Broadly applicable, politically desired

This is important, for example, for climate protection or in the fight against exploitative working conditions. Transparent and standardized value and supply chains are also a prerequisite for the circular economy, which the European Commission and the German government are committed to implementing. The idea behind this — to reuse the materials built into all kinds of products again and again after their service time — is a key requirement for limiting the consumption of natural resources and avoiding waste and greenhouse gases.

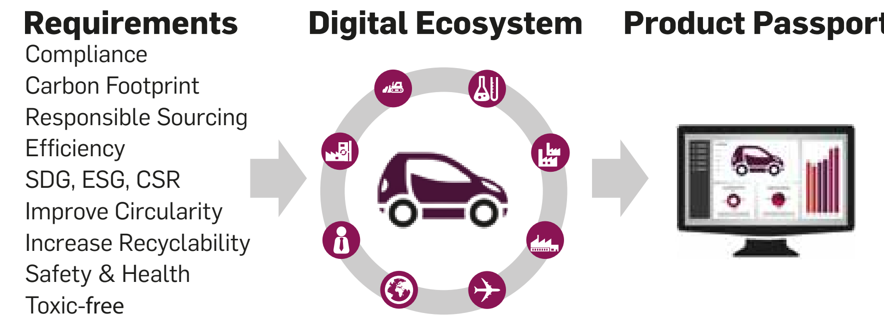
Political support for the introduction of digital product passports is therefore correspondingly strong: They are mentioned in the European Commission's Green Deal as well as in the European Sustainable Products Initiative and the forthcoming EU Battery Regulation. The German government also wants them. The German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection would even like to see them issued for all products in the long term.

Benefits clearly proven

Numerous companies have also long since recognized the benefits of digital product passports, not least promoted by the further increase in requirements for the ecological or social sustainability of their products. These requirements are reflected in more and more regulations and new reporting obligations, which in turn means the collection and processing of even more information and data, ultimately resulting in higher costs. Digital product passports promise to mitigate this effort and the associated costs.

Consumers would also benefit from digital product passports. They could make their purchasing decisions on the basis of transparent product information and, for example, use the passports to see at a glance where and how a smartphone was produced or how well its components can be returned to the material flows at the end of its life cycle. With digital product passports — for example as an app — consumers could then consciously choose the most sustainable cell phone.

Digital product passports can show their strengths particularly in the case of resource-intensive products such as batteries and rechargeable batteries. The upcoming European Battery Regulation picks up on their basic idea by focusing on a circular and preferably low-carbon cycle for industrial and electric vehicle batteries. It also takes a holistic look at issues that were previously considered separately: from the responsible procurement of the necessary raw materials and minimum proportions of recycled materials to the disclosure of their carbon footprint and specifications for recycling the batteries.



Digital product passports build business ecosystems

Digital product passports would also be a great benefit for packaging and plastics: Private recycling companies and municipal waste management companies could use the information from the passports to feed their sorting systems and use this data to recycle individual plastics in a more targeted way than before. In other words, based on the information stored in the passport, they could decide whether packaging is better recycled, thermally recycled, or composted.

Complete resume

In fact, digital product passports are suitable for almost any product: from rechargeable batteries and cell phones to televisions and steel pipes to washing machines and roof tiles. With passports, each of these products would be issued with a complete resume until at least the end of the first life cycle, and their impact on the environment and society would be standardized and comprehensibly disclosed. This facilitates sustainable design, manufacturing, and purchasing decisions and paves the way to the circular economy.

"Digital product passports are essential for this," says Joerg Walden, iPoint founder and expert on digital product passports. "They are an excellent tool for implementing and scaling the circular economy, which can help overcome previous challenges in implementing the circular economy — for example the lack of transparency, of standardization, and of data exchange," Walden continues. "The real changes will be achieved when product passports serve as an opportunity to restructure common just-in-time innovation models and, in turn, business partners' business models."

To move them from the concept phase to market maturity, the midmarket company has initiated a whole series of collaborative projects and project participations. Work is being carried out across sectors and industries in the automotive and battery sectors, in electronics and aerospace, and always with the aim of bringing together the respective value chains from the raw material level to recycling.

CE-PASS: Basic research with and for the automotive industry

One industry to which iPoint experts pay particular attention is the automotive industry — since the pressure to act in terms of sustainability is particularly great here. In order to accelerate the transition to a circular economy, iPoint has been involved in the CE-PASS project since the beginning of 2022, together with two renowned Austrian research institutions and the automotive supplier AVL, which is also based in the Alpine Republic.

In the course of the project, a digital product passport is to be developed for two application scenarios — assemblies of an internal combustion engine and a traction battery for electric vehicles — among other things. These scenarios combine Industry 4.0 standards with the requirements of ecologically sustainable industrial production. Results are expected in 2024.

SDGs: Product passports pay off in several ways

Whether digital product passports will be introduced is no longer a question, even if it has not yet been finally clarified what detailed requirements they will place on companies. They have what it takes to become the gold standard for the transparent, comparable, and traceable disclosure of value and supply chains. They also have what it takes to bring the United Nations' 17 Sustainable Development Goals closer to the attention of the global audience.

Once they are ready for the market, digital product passports will contribute to them in several ways: for example, to Goal 8 on decent work and economic growth, as well as to the goals on climate protection (Goal 13) and on industry, innovation, and infrastructure (Goal 9). Digital product passports also offer huge potential for Goal 12, which focuses on responsible consumption and production methods and attributes a significant role to waste management and the circular economy. ■

How Does PMI Measure its ESG Performance? The ESG KPI Protocol

There is a need for greater transparency, more robust methodologies, and better clarity on definitions and assumptions. To respond to this need, we have developed a clear process for establishing concrete definitions, documentation, and controls for sustainability with the aim of standardizing how we measure ESG performance.

By Jennifer Motles and Nicole Austin, Philip Morris International (PMI)

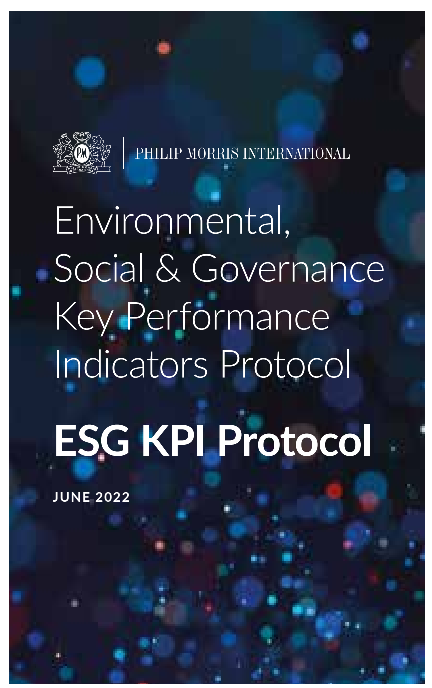
Non-financial information is increasingly being used by external stakeholders to assess and compare a company's performance, including by the financial community, to inform their analyses and investment decisions. It is key to the integrity of PMI's reporting that the information and data we publicly disclose accurately reflect our company's performance and follow clear calculation methods.

However, unlike financial accounting standards, and despite evolving practices, currently there are few industry norms or globally recognized practices for measuring and evaluating non-financial performance. Consequently, standard-setters and regulators are working toward the creation of clearer guidelines and requirements for the disclosure and assurance of non-financial information.

In that regard, during 2021 we developed the PMI ESG KPI Protocol in order to establish a framework that is specific to our company and clearly defines KPIs that can provide our organization with a method for making the connection between our company's purpose, strategic direction, financial performance, and environmental and social considerations. Through the publication of this Protocol, we aim to provide further transparency on the key metrics we use to measure how our company is progressing toward achieving its purpose and creating value for our shareholders as well as other stakeholders.

PMI financial information complies with financial accounting standards and follows rigorous data management processes. This provides internal and external stakeholders with consistent, comparable, and reliable data to enable their analyses and decisions. We are pursuing the same degree of rigor in internal risk, control, and measurement systems for non-financial metrics as we are for financial information. By striving for a similar level of robustness between financial and non-financial data management, a protocol guiding PMI's non-financial reporting presents multiple opportunities.

Externally, this Protocol helps us ensure that the non-financial data we disclose is reliable, comparable, and meaningful, allowing shareholders and other stakeholders to assess and track progress in a consistent manner over time. Consequently, this Protocol offers the necessary basis to expand the scope of our external assurance, helping us to anticipate future regulatory requirements and increase shareholders' and other stakeholders' confidence in our reporting.



PMI SUSTAINABILITY INDEX

		Key performance indicators	2021 performance	2025 aspirations	KPI weight	Contribution to total index score
Purposefully phase out cigarettes	1	Smoke-free product shipment ratio (smoke-free/total)	12.8%	>30%	85%	
	2	Smoke-free product adjusted net revenue ratio (smoke-free/total)	29.1%	>50%		
Maximize the benefits of smoke-free products	3	Number of markets where PMI smoke-free products are available for sale	71	100		
	4	Proportion of markets where PMI smoke-free products are available for sale that are low- and middle-income markets	43%	>50%		
	5	Total number of users of PMI's smoke-free products (in millions)[1]	21.7			
	6	Proportion of shipment volume covered by markets with youth access prevention programs in place in indirect retail channels	91%	>90%		
Seek net positive impact in wellness and healthcare	7	Annual net revenue from wellness and healthcare products (in billions USD)	0.1	≥1		
Reduce post-consumer waste	8	Proportion of shipment volume covered by markets with anti-littering programs in place for combustible cigarettes*	n/a	≥80%	15%	
	9	Proportion of shipment volume covered by markets with end-of-life take-back programs in place for smoke-free consumables	9 pilots	≥80%		
	10	Proportion of PMI smoke-free devices with eco-design certification	n/a	100%		
	11	Cumulative number of smoke-free electronic devices refreshed or repaired since 2021 (in thousands)	62	1,000		
Product Sustainability					100%	67%
Foster an empowered and inclusive workplace	12	Proportion of women in senior roles	31.1%	35%	50%	
	13	Proportion of PMI employees who have access to structured lifelong learning offers*	n/a	70%		
Improve the quality of life of people in our supply chain	14	Cumulative number of human rights impact assessments conducted since 2018, with findings addressed	5	10		
	15	Prevalence of child labor among contracted farmers supplying tobacco to PMI	1.8%	0%		
	16	Proportion of contracted farmers supplying tobacco to PMI who make a living income	67%	100%		
Tackle climate change	17	Net carbon emissions in scope 1+2 (in thousands of metric tons)	357	0	50%	
	18	Absolute carbon emissions reduction in scope 3 versus 2019 baseline (in line with science-based target)	17%	25%		
Preserve nature	19	Proportion of tobacco purchased at no risk of deforestation of managed natural forest and no conversion of natural ecosystems	37%	100%		
Operational Sustainability					100%	33%
SUSTAINABILITY INDEX						100%

1 For further details on our aspirations related to total number of users of PMI's smoke-free products please see our 2021 Integrated Report

* Indicator was introduced in 2021, we will begin reporting progress on this new indicator in 2022

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Internally, this Protocol provides clear guidelines on non-financial data management, which sets the basis to support integrated decision-making within our company, accounting for both financial and non-financial information.

Finally, the Protocol has also permitted the introduction of a bespoke Sustainability Index, creating an explicit link between ESG performance and our company's long-term executive compensation scheme.

*To read more about PMI's ESG KPI Protocol, please visit **www.pmi.com/ESG-KPI-protocol***

PMI Sustainability Index

Everything we do stems from our company's purpose: accelerating the end of smoking and to seek to create a net positive impact that would benefit our company, shareholders, consumers, and society over the long term. We can only achieve this by embedding sustainability in everything we do, thereby addressing the impacts of our products and business activities on society and the environment, and maximizing the opportunities to create value for our stakeholders.

To ensure we remain focused on those areas where we can have the greatest impact, our strategy and related goals are informed by a rigorous sustainability materiality assessment. Having established our 11 priority goals, which collectively form our 2025 Roadmap, we recognized that a critical lever to drive progress was to identify a set of clear KPIs. We have structured these KPIs (19 in total) into a bespoke Index that will allow us to measure progress toward our goals in a rigorous and quantitative manner on an annual basis.

In alignment with our strategy, the Index distinguishes the impacts of our products and the impacts of our business operations. Accordingly, the 19 KPIs are aggregated within the Index into two performance measures:

PRODUCT SUSTAINABILITY: Consolidates the 11 indicators linked to our four product-related strategies and six 2025 Roadmap goals.

OPERATIONAL SUSTAINABILITY: Consolidates the eight indicators linked to our four product-related strategies and six 2025 Roadmap goals.

Index considerations

KPI SELECTION

When defining the KPIs that would be included in the Index, we used the following criteria:

RELEVANCE: The KPI is relevant, allowing a meaningful measurement of progress toward achieving our 2025 goals, which pertain to our most material sustainability topics.

MEASURABILITY: The KPI is quantifiable, with clear data sources and sufficient scope to measure accurately our performance.

COMPARABILITY: The KPI allows for a comparable measuring of performance over time, relying on consistent year-on-year methodology.

VERIFIABILITY: The KPI is verifiable and supported by a detailed internal standard documenting the scope, calculation methods, and assumptions we make (aligned to our financial standards).

Where possible, we have aligned our metrics with external reporting standards and guidelines (e.g., greenhouse gas protocol). However, in several cases where external standards were not sufficiently detailed, we have crafted our own metrics and developed the respective internal standards, ensuring they are relevant to PMI and reflect our company's unique value proposition. To ensure transparency, a description of each KPI included in the Index — including key definitions, scope, calculation methodology, and data management — can be found in the section "Basis for preparation and reporting of PMI's Sustainability Index" of the Protocol.

INDEX WEIGHTING

Consistent with our sustainability materiality analysis results, addressing the impacts generated by our products stands at the core of our strategy. The Sustainability Index reflects this by attributing two-thirds of the total Index weight to Product Sustainability and one-third to Operational Sustainability.

Given the bespoke nature of the Index, external guidelines on how to weight each of the strategies within our two performance measures are not available. Therefore, to ensure credibility and consistency, we relied on a quantitative and qualitative interpretation of our 2021 sustainability materiality assessment results.

ANNUAL TARGETS AND PERFORMANCE RANGES

Our 2025 Roadmap is supported by the annual targets and performance ranges for each KPI. Specifically, starting in 2022, for each KPI in the Index we have defined annual targets and four performance ranges quantifying the performance versus the annual target as either "missed," "partially met," "met," or "exceeded" for the respective year.

Given the significant variation in the nature of the KPIs included in the Index, and in the maturity of the underlying strategy and programs, a strategic approach was taken to determine a wide or narrow performance range per KPI based on PMI's ability to control, maturity on the topic, and forecasting accuracy.

At the close of each reporting year, for each KPI we will assess our company's actual performance against the respective performance ranges. This assessment forms the basis of our calculation of the Index score, which is described in further detail, (Figure 1).

1 NO POVERTY | 3 GOOD HEALTH AND WELL-BEING | 8 DECENT WORK AND ECONOMIC GROWTH | 10 REDUCED INEQUALITIES | 12 RESPONSIBLE CONSUMPTION AND PRODUCTION | 15 LIFE ON LAND

Figure 1

Calculation of the Index score

On an annual basis we will publish the scores for the total Index as well as the Product Sustainability and Operational Sustainability performance measures in our company's integrated report, indicating the individual performance of the 19 KPIs. The scores for two performance measures will be used in the calculation of the 2022-2024 performance share units (PSU) performance cycle.

Target missed (<50%)

Target partially met (50–89%)

Target met (90–110%)

Target exceeded (>110%)

Step 1 To compute the total Index score, at the close of each year, the 19 KPIs are assessed against predetermined annual targets and performance ranges. In our Integrated report, we disclose our 2025 aspirations.

Step 2 Once all KPIs are scored, they are aggregated into two scores: one for Product Sustainability, and one for Operational Sustainability. These two scores, ranging from 0 to 3, are calculated as the weighted average of their respective constituent KPI scores. Finally, the numeric scores are normalized to range between 0 and 150 percent.

Step 3 The total Index score is calculated considering a two-thirds weight for Product Sustainability and one-third weight for Operational Sustainability.

GOVERNANCE

On an annual basis, we calculate the total Index score. The annual targets and performance ranges have been provided by the relevant business functions and validated by PMI's Chief Financial Officer, VP & Controller, Chief Sustainability Officer, and VP of Strategic Planning & Business Intelligence.

In addition to bringing further transparency to our stakeholders about the progress we are making toward achieving our goals, the Index helps us cascade sustainability priorities throughout all levels of the company, serving as inputs into both business function and individual objectives. This enables us to integrate ESG considerations into strategy, creating deep organizational alignment.

The Index has been incorporated into our executive compensation, which enables us to create an explicit link between ESG performance and our company's long-term executive compensation scheme.

Measuring what matters

Following the introduction of our company's bespoke Sustainability Index, we made our ESG KPI Protocol publicly available. This document describes how the Sustainability Index will measure PMI's progress toward reaching the goals outlined in our 2025 Roadmap and provides details about the 19 metrics that comprise PMI's Sustainability Index. Our ESG KPI Protocol describes the mechanics underlying PMI's Sustainability Index and establishes a framework defining its constituent key performance indicators (KPIs). It includes the definition, methodology, and scope of each of the Sustainability Index's KPIs to provide measurable, verifiable, consistent, and accurate reporting on performance as we aim to provide further transparency on the key metrics used to measure how our company is progressing toward achieving its purpose and creating value for shareholders and other stakeholders.

Like many, as sustainability matures and gains importance inside and outside our company, the question of how to measure ESG performance is something we continue to grapple with. There is a need for greater transparency, more robust methodologies, and better clarity on definitions and assumptions. We have long expressed our support for more rigor in sustainability-related reporting and certainly welcome recent developments leading to more consistency in standards under strong governance frameworks.

To respond to this need, we have developed a clear process for establishing concrete definitions, documentation, and controls for sustainability with the aim of standardizing how we measure ESG performance. We have made this document available to the public with the hope it will help lead the way to better measurement and reporting of non-financial performance, thereby allowing others to learn and improve the way they incorporate sustainability as well as measure and report performance in their own organizations. ■

*For more information and to read PMI's full Integrated Report 2021, please visit **pmi.com/sustainability**.*

SUSTAINABLE CITIES

The world is becoming increasingly urbanized. By 2030, 5 billion people, 60 percent of the world's population, will live in cities. Rapid urbanization requires new transport, power, water, and waste systems. While cities generate the major share of gross domestic product in many countries, they are also responsible for 70 percent of global CO_2 emissions. In this section we name promising aspects how cities could develop to become more sustainable and resilient.

Source: macondo foundation

Carbon Neutrality, Well-being, and Economic Development

CEMEX is a global building materials company that lives its purpose of building a better future by creating sustainable value and providing high-quality solutions and products to satisfy the construction needs of its customers around the world, while also contributing toward reaching the challenges presented by Agenda 2030.

By CEMEX

As society is expected to continue growing and concentrating in urban areas, our purpose calls for developing sustainable cities and resilient communities.

Collaboration toward achieving the SDGs

Collaboration is crucial to scale our contributions and address the complex challenges we face today. At CEMEX, we seek to join forces with our stakeholders to work collectively toward the achievement of the SDGs. We are active members and hold leadership positions in industry associations such as the Global Cement and Concrete Association (GCCA) that promote the transition to a green economy.

CEMEX collaboration in UN initiatives

- Signatory and active participant in the UN Global Compact since 2004.
- Signatory to the Women's Empowerment Principles and Target Gender Equality.
- Member of the UN Global Compact CFO Coalition for the SDGs to promote sustainability goals.
- Joined the Race to Zero campaign and the Business Ambition for 1.5°C Coalition.
- Participant in the UN Global Compact Young SDG Innovators Programme.
- CEMEX employees take part in the UN Global Compact SDG roundtables in Mexico through the Social Impact Stewards Program.
- Member of the Private Sector Alliance for Disaster Resilient Societies (ARISE), led by the UN Office for Disaster Risk Reduction.
- Participant at the COP 26 UN Climate Change Conference in Glasgow.

Contribution to the UN Sustainable Development Goals and our 2030 Sustainability Targets

Our priority SDGs are connected to our strategy and are reflected in our 2030 Sustainability Targets, which include our climate action goals, validated by the Science-Based Targets initiative (SBTi), according to the "Well Below 2°C Scenario."

> **At CEMEX, we share the beliefs embodied in the CFO Principles and are honored to join the UN Global Compact CFO Coalition for the SDGs, through which we will actively contribute to the innovation of corporate finance that will enable the building of a more resilient future for all.**
>
> *Maher Al-Haffar, CFO of CEMEX*

Future in Action: Committed to net-zero CO_2

In 2021 we launched Future in Action, a program focused on becoming a net-zero CO_2 company. Our goal is to deliver net-zero CO_2 concrete globally by 2050. To ensure we are on the right track, we have set the most ambitious 2030 targets available to the industry.

Future in Action program

1. Sustainable Products and Solutions

We introduced our low-carbon and industry-first net-zero CO_2 concrete as well as low-carbon cement under the Vertua® brand in 2020. By March of 2021, we successfully completed the global rollout. These products complement our existing and growing portfolio, which is designed to meet the needs of a green and circular economy.

2. Decarbonizing Our Operations

We have been working to take full advantage of proven technologies and maximize the following levers to reduce the carbon footprint of our global operations.

3. Innovation and Partnership

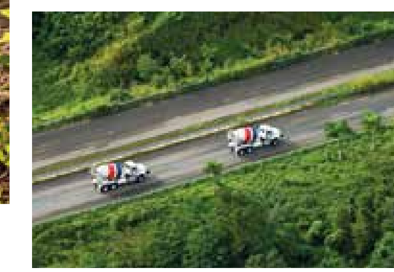
We leverage the capabilities of our Global R&D, CEMEX Ventures, and Smart Innovation process to discover and scale breakthrough CO_2 reduction and mitigation technologies throughout our entire value chain.

4. Promoting a Green Economy

We promote and advocate for a circular economy, primarily focusing on waste directives for energy recovery, the adoption of low-carbon cements, the availability of clean electricity, government and multilateral R&D funding, and carbon pricing.

Diversity, equality, and inclusion at CEMEX

CEMEX embeds a D&I approach in its workplace, its supply chain, and the communities where it operates. Today we continue to foster understanding and respect among our employees and provide them with a diverse and inclusive working environment as well as equal opportunities to pursue and advance their professional and personal goals. Likewise, we continue to implement initiatives to promote education, encourage social entrepreneurship, and provide tools to empower vulnerable groups. Our commitment is to enable a work environment and a society where people from diverse backgrounds can grow and succeed.



WOMEN ADVANCING COMMUNITY DEVELOPMENT

Advancing women's economic empowerment sets a direct path toward gender equality and inclusive economic growth. In 2021 in Mexico, we worked with women through our Second Chance program, a UN Women collaboration in which we seek to develop capabilities for employability. Participants in the program decided to start a business or look for a job after learning about life skills, commercial knowledge, product development, and financial and digital inclusion.

Reinforcing leadership in sustainable financing

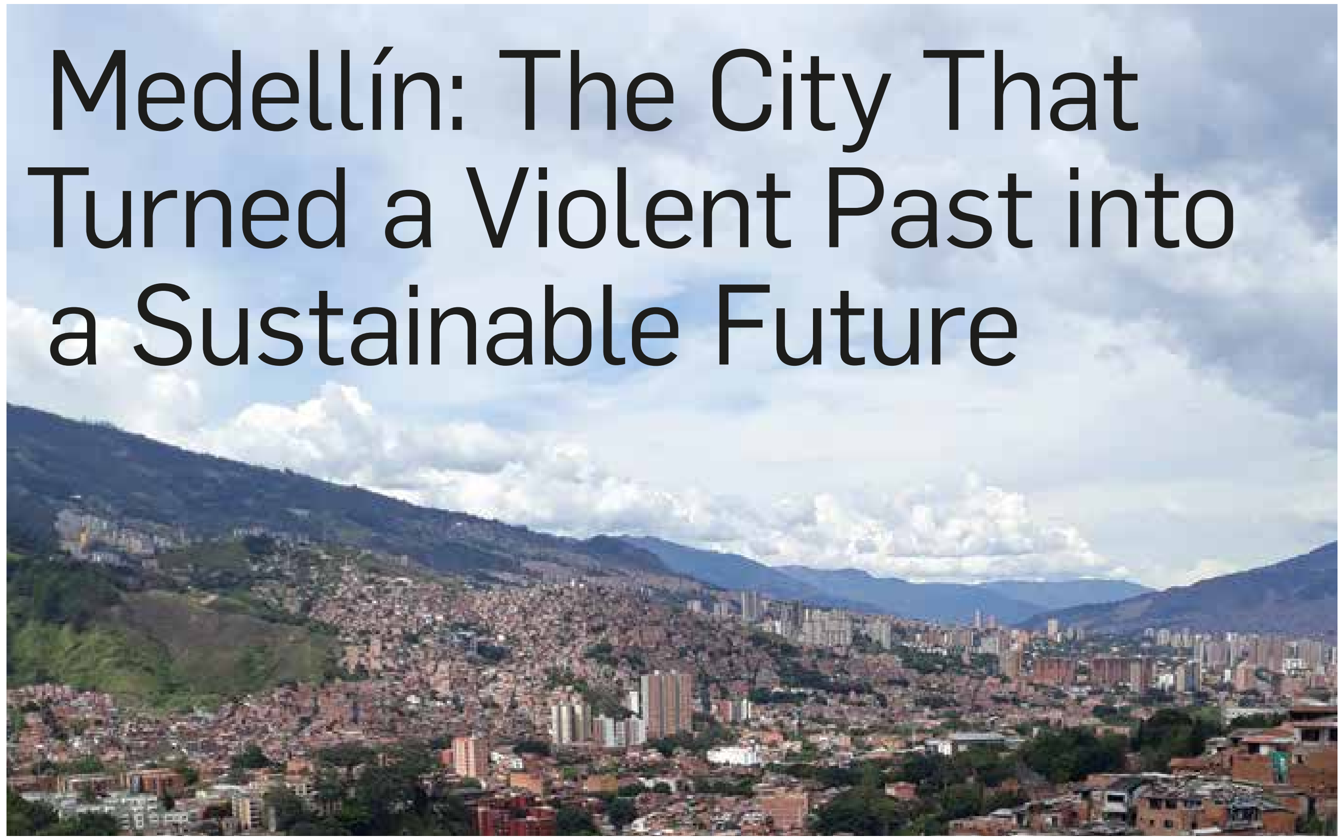
In 2021, we published our Sustainability-Linked Financial Framework, considered by specialists as the most comprehensive to date within our industry. The Framework further aligns our corporate sustainability commitments to our financing strategy as part of our Future in Action program. It establishes CEMEX's guiding principles when issuing new sustainability-linked financing instruments and includes indicators that directly contribute to Goals 7, 9, and 12.

Fostering transformational change in the communities

Through our Social Impact strategy, we contribute toward our purpose of building a better future through initiatives that improve the well-being of the communities where we operate. A key element is collaborating with the communities to co-create and implement locally tailored Community Engagement Plans — with an emphasis on education, employment, entrepreneurship, gender equality, inclusion, environmental protection, community infrastructure, and affordable housing. Overall, we have positively impacted more than 25 million people on an accumulated basis. ■

4 QUALITY EDUCATION
11 SUSTAINABLE CITIES AND COMMUNITIES
13 CLIMATE ACTION
16 PEACE, JUSTICE AND STRONG INSTITUTIONS

Medellín: The City That Turned a Violent Past into a Sustainable Future



Medellín, the second-largest city in Colombia, was considered one of the most dangerous cities in the world in the 1990s. Drug cartels reigned and homicides and clashes between gangs, guerrillas, and paramilitaries were commonplace. But two decades ago, the city began a transformation that was kickstarted by smart investments in transportation, infrastructure, education, technology, and public parks. Currently, Medellín, which is the capital of the department of Antioquia, has 2.6 million inhabitants and is striving to become a model for sustainable urban planning and innovation.

By Gabriela Maria Ensinck

This transformation began in its poorest neighborhood, Comuna 13. Located in the hills to the west of Medellín, this area became the perfect place for drug trafficking during the 1980s due to its poor accessibility and many alleyways. Its 12,000 inhabitants had to walk up and down steep paths and corridors where there was no access to vehicles, ambulances, or merchandise transport.

A story of resilience

In 2002, a violent episode known as Operation Orion — in which paramilitary commandos entered Comuna 13, shooting at close range to eliminate the guerrillas, leading to hundreds of injuries, deaths, and disappearances — became a watershed moment and an open wound in the community's history. After the tragic episode, a series of changes took place in the organization and infrastructure of the city, starting a process of pacification, which with ups and downs, continues to this day.

Two years later, in 2004, the construction of a cable car — commonly associated with tourism and leisure — marked another milestone, connecting this isolated area with the city center. In 2011, the inauguration of an electric escalator completely transformed the neighborhood, allowing its inhabitants to get from a public transport station to their homes in a matter of minutes instead of an hour and a half.

These infrastructure improvements were carried out by the Medellín Metro, a public company managed by the city and the state (province) of Antioquia, which, in addition to transportation, has a social agenda: to educate citizens. Thus, during trips by tram or metrocable, awareness-raising messages are heard to maintain cleanliness, give space to the elderly or disabled, as well as to greet and smile, all within the framework of what they call "Metro culture."

Under the slogan "Medellín, the most educated," a plan to improve infrastructure and build schools and libraries began in 2004, prioritizing lower-income sectors. Thanks to these infrastructure improvements, Comuna 13 became one of the most visited spots in Medellín. Tourists began to arrive, attracted by music, dancing, restaurants with local food, and the murals painted by street artists in favor of peace and coexistence.

The neighborhood youth, previously caught up in the world of drugs, created enterprises and cooperatives of gastronomic, creative, and tourist services. For them, being born and living in Comuna 13 has ceased to be a stigma and today is a source of pride.

A green recovery plan

In addition to becoming a socially integrated city, Medellín seeks to become a green one. The mayor, Daniel Quintero, has set an ambitious plan to cut carbon emissions by 20 percent, electrify all public transport by 2030, expand bike lanes by 50 percent, and double the number of public transport lines. He said that its post-Covid economic recovery plan will go hand in hand with its climate goals.

One of his most ambitious projects is to expand green corridors into the city in order to neutralize the urban heat island effect, which happens when concrete and pavement absorb the sun's power, radiating it out as heat during the night. As with the infrastructure and transportation projects, the location of green corridors in the poorest neighborhoods was prioritized.

For this initiative, Medellín was awarded the Climate Leadership Prize during the C40 World Mayors Summit held in Copenhagen in 2019. The project was considered an excellent example of how city planners and governments can use nature for smart urban design. With limited resources, this Colombian city is managing to improve existing settlement conditions, generating new public spaces, and promoting jobs and education with a multimodal transport infrastructure, while also taking care of the environment and social sustainability. ■

2 ZERO HUNGER
6 CLEAN WATER AND SANITATION
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
11 SUSTAINABLE CITIES AND COMMUNITIES

Water for the Desert

The Toshka Project is a century-long undertaking for Egypt, comparable to the construction of the Aswan Dam. Millions of cubic meters of water are diverted daily via the world's largest pumping station to make the desert fertile and relieve the overpopulated Nile Valley. For this, Wilo has received an order to supply 117 split case pumps with outputs ranging from 200 to 450 kilowatts.

By Ricarda-Marie Pomper, Wilo Group

The project name, Toshka, is a derivation of the name of an old Nubian village that the Egyptian government flooded when it created Lake Nasser. The Toshka Project is identified by the Egyptian government as a major national project designed to irrigate about 540,000 new feddans (= 56,700 acres) by elevating water from Lake Nasser. The estimated required water discharge is about 5.5 billion cubic meters (bcm)/year taken 265 km upstream of the High Aswan Dam. This large volume expelled from Lake Nasser has had a major transformational effect when irrigating the desert land. But its maintenance requirements are prohibitive, to say the least, as the huge volume of discharge is required to sustain the continued irrigation. Egypt's current share of 55.5 bcm/year of Nile water – and the electric source for the project – is dependent on the united network.

Incorporating the world's largest-ever pumping station, the Toshka Project sets out to make a vast area of Egypt's Western Desert suitable for agriculture, industry, and habitation, both assisting with national food security and relieving pressure on cities to accommodate a growing population.

Oliver Hermes, President & CEO of the Wilo Group, comments: "We are honored to begin harvesting previous years of work by winning a strategic project that is part of Egypt's Vision 2030 and under the supervision of the President of Egypt and the Ministry of Water Resources and Irrigation. The move is expected to further reinforce Wilo Egypt's position as a complete solution provider in the Egyptian market."

Hermes continues: "For the past four to five years, we have built our strong and strategic network with various key stakeholders in the private and government sectors in Egypt. Winning this project is a result of concrete strategic efforts done over years." Jens Dallendörfer, Senior Vice President Sales Region Emerging Markets & General Director of Wilo Rus, says: "The support, fast response of the Wilo technical team, and having the local production facility in Dubai helped us a lot to win this project by meeting the tight delivery time. Our production team has done a lot of great work to ensure that the highest quality meets the expectations of the customer. There are more phases to come in the same project, and we aim to continue to win the other phases and more mega projects as well."

Yasser Nagi, Managing Director, Wilo Middle East and Egypt & Group Sales Director MENA Region, comments: "With Wilo's approach, the team's fast response, and technical and commercial discussions with national product organizations, consultants, and contractors, Wilo's main challenge was the delivery time – a span of 12 weeks. However, dedication and commitment drove the Wilo Middle East production team to comply with the requirements and complete the project successfully."


Abdel Fatah El-Sisi, President of Egypt

Egypt's potential water projects

The Egyptian government has allocated $5 billion of EU-backed funds for 43 projects to develop clean water across the country. Egypt's Ministry of Water Resources and Irrigation has laid out regulations for using water in the 2050 Strategy for Water Sustainability Use and Consumption. The water strategy is in line with Egypt's 2030 Agenda, which aims to achieve green growth and lays out reforms to promote sustainable consumption and the diversification of resources across Egypt.

The 47 desalination plants will be located in the governorates of North and South Sinai, Suez, Ismailia, Port Said, Dakahlia, Kafr El-Sheikh, Beheira, Matrouh, and the Red Sea coast.

The five-year plan is expected to result in additional desalination capacity of 2.44 million cubic meters a day by the end of 2025. The program is overseen by the New Urban Communities Authority, the General Organization for Physical Planning, and the Holding Company for Water and Wastewater.

Wilo Egypt to serve customer needs with a modern sales structure

Germany's leading pumps and systems manufacturer, Wilo, established its subsidiary in Cairo, Egypt, in 2016 to consolidate its position on the global industrial map. Wilo Group is witnessing growing demand for its products in the Egyptian market.

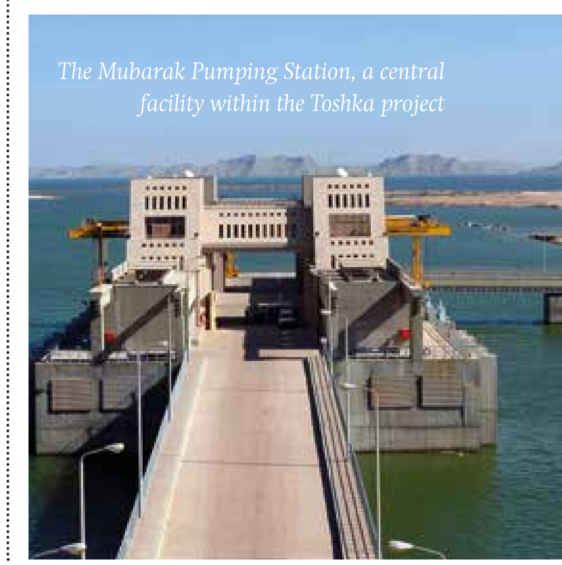
Egypt is one of the most significant marketplaces in the Middle East. "With Wilo's presence in the Egyptian market, we state another clear signal regarding our commitment to permanently strengthen our development in this area," says Oliver Hermes, President & CEO of the Wilo Group. "It also represents a further step in our intensified globalization strategy: The forecast to the development of the Egyptian market carries lots of positive indicators."

The presence of the subsidiary in Cairo is the first step in a series that Wilo plans to implement based on market feedback, as for example the construction of a local assembly line for a certain market-based scope of water pumps, for example for raw water intake or waste water treatment. Within the scope of the Groups digital transformation, Wilo is also focused on future products, markets, and projects, such as Smart Urban Areas in Egypt.

In 2020 and 2021, the company highlighted its focus on clean water supply, irrigation, and huge water treatment stations. Proudly, in a remarkably short period of time, Wilo Egypt became a main supplier for smart water solutions in this field, which is considered an aggressively quick response to the local market's needs.

In line with this, under the auspiciousness of President Abdel Fattah el-Sisi and the Egyptian government, Wilo Egypt was awarded prestige projects that serve the development of the country on its road to the New Republic, projects such as the Toshka Project, Army Stadium (New Capital), and El Galala City. On the other hand, significant projects in the private sector were supplied by Wilo water solutions, namely El Taweela Island in the Red Sea, the Al Bourouj compound, Amwaj, and Marasi North Coast. ■


The split case pumps that Wilo supplied to bring water to the agricultural areas


The Mubarak Pumping Station, a central facility within the Toshka project

Responsibility in Supply Chains

Supply chain sustainability and responsible procurement are critical to making global goals local business by ensuring that the extension of a company's operations, products and services can support the realities of our planet and better serve markets both today and in the future.

However, corporate supply chains are bigger and more complex than ever before. Open markets have enabled companies to source materials and outsource production to suppliers in developing and emerging economies. When done right, a global supply chain can deliver significant benefits to companies in the form of reduced costs and enhanced profitability and shareholder value. It can also contribute to much-needed economic and social development, resulting in higher standards of living for millions of people.

When supply chains are done wrong – by not taking into consideration the environmental, social and governance (ESG) performance of suppliers – companies leave themselves open to significant operational and reputational risks. Impacts on people and the environment can be substantial and severe.

Source: UN Global Compact

Business & Human Rights Navigator

Does your company wish to respect human rights along its supply and value chains? But the practical implementation poses challenges? The newly launched Business & Human Rights Navigator (BHR Navigator) might help!

By Erik Wessels, Helpdesk

More and more companies are focusing on human rights due diligence along supply and value chains, driven by increasing legal requirements as well as the expectations of customers, investors, business partners, and civil society. But how can companies meet these expectations? And how can human rights be respected in practice?

The BHR Navigator is an online tool created by the United Nations Global Compact in collaboration with the German government's Helpdesk on Business & Human Rights and Verisk Maplecroft. It guides companies around the world to better understand and address human rights impacts in their operations and supply chains by providing useful background information and guidance on 10 key human rights issues (see adjacent figure). Users can access in-depth analyses of key human rights issues, due diligence recommendations, as well as case studies illustrating how other businesses have responsibly addressed human rights impacts. The tool is based on and aligned with the Ten Principles of the UN Global Compact and the UN Guiding Principles on Business and Human Rights (UNGPs), and it aims to enhance companies' comprehension of how the UNGPs can be understood and implemented in practical terms. The BHR Navigator addresses the following 10 human rights issues.

THE 10 HUMAN RIGHTS ISSUES

Deep dive: Living wages

How can a company ensure that workers in their own operations and supply chains are paid a living wage, especially when countries do not have a statutory minimum wage? And what happens if the minimum wage fails to provide for a decent standard of living for workers and their families?

These are questions and challenges companies increasingly must deal with.

The International Labour Organization (ILO) estimates in its Global Wage Report 2020-21: Wages and Minimum Wages in the Time of COVID-19 that 266 million wage earners around the world – representing around 15 per cent of all wage employees – earn less than the minimum wage. Companies and their key stakeholders, such as investors, customers, and suppliers, are becoming increasingly aware of this problem. There is a growing demand to fix this problem – but how? One of the world's largest apparel manufacturers and retailers serves as a good example: Hennes & Mauritz AB (H&M).

A change of perspective is needed

Although ensuring living wages in supply chains is often seen as a mere cost factor, it can constitute an important investment. Both companies and suppliers can benefit from a living wage policy as part of a broader sustainability and competitiveness strategy:

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1. Increased quality: Companies can drive quality supply, integrate more effective risk management, and reach reputational gains by promoting living wages.

2. Reduced staff turnover and costs: Suppliers may benefit from reduced staff turnover and absenteeism, reduced training costs, output improvements in productivity and quality, and better access to higher-value markets and improved reputation.

3. Achieving business responsibility: Achieving living wages is part of the business responsibility to respect fundamental human rights: Identifying the risk of low pay and acting to mitigate or remediate this risk is one way businesses can align with the UNGPs.

4. Implementing the Sustainable Development Goals: Companies can meet their commitments to a wide range of SDGs. By committing to achieving living wages in supply chains, companies meet this commitment and create broader sustainable development and human rights benefits.

Deep dive: Migrant workers

Migrant workers in business can face a range of challenges to their rights, including discrimination, unfair working conditions, and harmful recruitment practices. The ILO Global Estimates on International Migrant Workers Results and Methodology report shows that international migrant workers comprise almost 5 percent of the global workforce and remain especially vulnerable to low wages, unsafe working conditions, discrimination, and trafficking.

How can businesses ensure that migrant workers are treated fairly along their supply chains? To address this risk, the UNGPs require the implementation of human rights due diligence processes along the supply chain by developing a policy statement, analyzing actual and potential risks, taking action, communicating performance, and establishing a remedy and grievance mechanism. The BHR Navigator breaks down every step of the human rights due diligence process in terms of migrant workers:

1. **Develop a policy commitment on migrant labor:** It is important that businesses integrate migrant workers in their policies regarding human rights — regardless of the nature of work, location of supply chain, or industry of operation. Companies could consider adopting codes of conduct to ensure that they require equal employment and non-exploitation practices with respect to migrant workers.

2. **Assess actual and potential migrant labor impacts:** Migrant workers are particularly vulnerable to abuse, as their right to live or work in a country may be tied to a job with their employer (for instance a sponsorship system), or they may be working illegally and do not want to risk losing their job and being exposed to authorities. It is recommended to conduct any interviews offsite or through "worker voice" tools, as workers may not be comfortable talking about harmful work experiences on site.

3. **Integrate and take action to address migrant labor impacts:** The actions and systems that a business will need to apply will differ depending on the outcomes of its impact assessment. For example, companies could consider conducting training about migrant workers' rights for the employees who are most likely to encounter migrant workers, such as procurement, human resources, and supply chain personnel. Those training sessions on migrant labor can also be offered to suppliers. They might include references to the relevant international standards and could be updated in line with innovations and adjustments to best practices.

4. **Track performance on migrant labor:** It is necessary for businesses to regularly review their approaches to migrant worker rights to see if they continue to be effective and have the desired impacts. Common approaches to check performance in the first tier of the supply chain are audits and social monitoring. Both can be undertaken internally by the company or by a third party. Audits can, for instance, help to understand the way migrant workers are treated and the rights they are afforded — such as their wages, working hours, and living conditions.

5. **Communicate performance on migrant labor:** Companies are expected to communicate their performance on respecting migrant workers' rights in a formal public report, which can take the form of a standalone report. Additional ways of communication may include in-person meetings, online dialogues, and consultations with affected stakeholders.

6. **Remediation and grievance mechanisms:** Grievance mechanisms can play an important role in addressing migrant labor issues in operations and supply chains. A conventional channel could be a hotline. When it comes to remediation, things may get complex, as remedial actions might have implications for a worker's right to reside in a particular country, so legal advice should be sought. Ensuring that remediation approaches consider the safety and wellbeing of migrant workers is important, especially if they appear to have been trafficked or are under the control of gangs or other illegal groups.

The examples above show that the BHR Navigator provides practical information and guidance for companies. The tool guides the user step by step through the different phases of the human rights due diligence process and features numerous case studies. With that, the BHR Navigator illustrates how companies can understand and address human rights impacts in their operations and supply chains.

The tool is freely accessible at bhr-navigator.unglobalcompact.org

The issues covered in the BHR Navigator primarily relate to the following SDGs:

Goal 1 **No poverty:** End poverty in all its forms everywhere

Goal 3 **Good health and well-being:** Ensure healthy lives and promote well-being for all at all ages

Goal 5 **Gender equality:** Achieve gender equality and empower all women and girls

Goal 8 **Decent work and economic growth:** Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Goal 10 **Reduced inequalities:** Reduce inequality within and among countries

Goal 12 **Responsible consumption and production:** Ensure sustainable consumption and production patterns

Goal 16 **Peace, justice and strong institutions:** Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

About the Helpdesk on Business & Human Rights:

The Helpdesk on Business & Human Rights is a free support service of the German Federal Government. The program offers advice to companies of all sizes individually, confidentially, and free of charge on the topic of human rights due diligence. The experienced advisors serve as a point of contact for initial advice and referrals, and they help businesses integrate environmental and social standards along their supply and value chains. The services also include tailor-made training, different event formats, project support, and free online tools.

The Helpdesk is situated within the Agency for Business & Economic Development (AWE). The AWE is financed by the German Federal Ministry for Economic Cooperation and Development (BMZ), and its executing agencies are the Deutsche Gesellschaft für internationale Zusammenarbeit (GIZ) GmbH and DEG — Deutsche Investitions- und Entwicklungsgesellschaft mbH, a subsidiary of KfW Bankengruppe. ■

For more information, follow @HelpdeskWiMR on social media and visit the website at wirtschaft-entwicklung.de/en/helpdesk-on-business-human-rights.

The Living Wage: Going Beyond the Minimum Wage

How much pay is enough pay? A burning question since the days of the Industrial Revolution of the 1700s when labor became a commodity.

By Ribhu Singh

The issue of how much constitutes enough remuneration for labor provided has been the subject of boardroom debates and dinner conversations amongst employers, policymakers, and economists for centuries. The question of decent pay remains a classic case of deciding how long a piece of string really is.

Global Living Wage Coalition (GLWC) defines living wage as "the remuneration received for a standard workweek by a worker in a particular place sufficient to afford a decent standard of living for the worker and his or her family." On the other hand, the minimum wage is a term used to describe the lowest remuneration per hour that a worker may be paid as prescribed by legislation. It is simply the starting point for determining how much a worker may be paid for labor provided. It does not consider the kind of lifestyle such remuneration can afford and maintain. The concept of living wage goes beyond minimum pay. It takes a step further to explore whether a worker can afford a decent standard of living with pay received for labor.

With living conditions being different in various parts of the world, one might ask how we can determine what constitutes a decent lifestyle without running the risk of being presumptuous. Ankler, economist and the founding father of the Ankler Methodology, argues that "subjectivity is not an obstacle to acceptance of economic concepts." He maintains that most economic concepts are partially based on subjectivity, which considers subjective factors such as gross domestic product (GDP), unemployment, and poverty.

Determining the living wage

The GLWC identified the Ankler Methodology as the standard to estimate living wage. In terms of the Ankler Methodology, the test for living wage rests upon two components. The first component entails estimating the cost of a basic but decent lifestyle for a worker and his or her family in a particular place. Secondly, one must determine if the estimated living wage is being paid to workers.

To establish the cost of a basic but decent lifestyle for workers, living costs are classified into three categories, namely, food, housing, and other essential needs. Food costs are determined based on a low-cost nutritious diet consistent with the recommendations of the World Health Organization (WHO) and local food preferences. Local food prices are also considered. Local housing costs are estimated based on international and local standards for decency and are informed by local housing authorities. The Ankler Methodology uses an extrapolation method to determine the cost of other essential needs, including healthcare, education, and transportation.

To arrive at the living wage estimate, the estimated total cost of a decent standard of living for a typical family is then defrayed over the typical number of full-time equivalent workers per family for that location.

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The living wage concept is concerned with whether remuneration is sufficient to cover household expenses and sustain a family, unlike the minimum wage, which simply prescribes what the basic remuneration should be, a legal construct with the force of law, according to Ankler & Ankler. Historically employers would set minimum wages as low as possible to maintain large profit margins while still operating within the bounds of the law, however to the detriment of the worker.

Addressing exploitative labor practices

The minimum wage is often driven by political motives and the interests of policymakers. Governments formulate it to balance competing interests, reduce poverty and ensure that household needs are sufficiently met. They also aim to stimulate employment and economic growth. The living wage is not a legal requirement for employers, so workers are susceptible to exploitative labor practices.

The International Labor Organization (ILO) Minimum Wage Convention ("The Convention") serves as a manual for governments, stakeholders, and members of the public to derive suitable living wage estimates when engaging in negotiations regarding where to set the minimum wage. Part (a) of the Convention expressly indicates what should be considered when determining the level of minimum wage; "the needs of workers and their families, taking into account the general level of wages in the country, the cost of living, social security benefits, and the relative living standards of other social groups."

The fundamental and ultimate objective is to ensure to workers a minimum wage that will provide a satisfactory standard of living for them and their families.

Historically employers would set minimum wages as low as possible to maintain large profit margins while still operating within the bounds of the law, however to the detriment of the worker.

The pursuit of advocating for a living wage has not been without challenges, especially in capitalist societies. Workers over the years have unionized to fight for decent pay, often going on protest to put pressure on employers to recognize the importance of the labor force.

Countries such as Argentina, Russia, and South Africa have had protests over low wages and the need for a decent standard of living. The events of August 16, 2012, in Marikana, South Africa, where 34 mine workers were shot dead by the police while protesting for wage increment, remain historical. The incident became known as the Marikana Massacre and has shed light on the exploitative labor practices faced by low-skilled and semi-skilled workers. South Africa, followed by Namibia and Suriname, remains the most unequal country globally in terms of the World Bank Gini Index, with the top 1 percent of earners taking 20 percent of income.

The negotiation process remains quite difficult particularly because of capitalist ideals which fuel multinational corporations. Wage level estimates entail a thorough study of labor supply and demand consultations with policy frameworks and stakeholders. Conflict is inevitable where all parties are concerned about looking after their interests.

The Ethical Trading Initiative (ETI) indicates that if budgets are not entirely increased when issuing a raise in wages for some workers, this could result in the retrenchment of others when companies find themselves in a situation where they cannot afford a large labor force, leading to unemployment. Consequently, this would defeat the purpose of pushing for a living wage because the living standards of some workers would be advanced and the downfall of others. The ETI further provides that lower-skilled workers are usually at risk of being priced out of the labor force because their skills may not be considered worthy of newly set higher-level wages.

The pursuit for a living wage is one part. It is equally as important to determine if a living wage is being paid. The Ankler Methodology makes provision for this by considering how workers are actually paid. In terms of the methodology, the living wage excluded payment for overtime because it must be earned during regular working hours. Workers should have enough disposable income after taxes in order to maintain a decent lifestyle, so this is also considered. The methodology does not include productivity bonuses when determining whether a living wage is being paid. Lastly, the process provides a guide to track labor levels in different labor structures, for example, standard, temporary, and seasonal employment.

The journey toward achieving an equal society where people enjoy a decent standard of living above the poverty line is still a long way ahead. It will take efficient negotiations and selfless compromise. There is no such thing as enough pay. The living wage is a starting point. ■

Migrant Workers: Pursuing a Dream Only to Find Their Rights Violated

According to the UN, there have been historic changes in migration in the last decade, including a rapid increase in the number of displaced people in the world. While many of those displaced are fleeing from harm, many others are migrating due to dire economic conditions.

By Gabriela Maria Ensinck

At dusk on June 27, 2022, a building clerk heard screams coming from a parked trailer truck on a road in San Antonio, Texas. Approaching the half-open door, he met the horror: 46 people dead, and 16 convalescent, including 4 kids, due to heat exposure and asphyxiation. They were migrant workers – Mexican, Honduran, and Guatemalan – trying to cross the border between Mexico and the United States. Searching for the dream of a better life, they only found death.

In 2022, there have been a record number of migrants crossing the US – Mexico border, where authorities are on pace to record more than 2 million arrests, according to the US Customs and Border Protection.

In Europe, deaths at sea on migrant routes almost double, year on year. More than 3,000 people died or went missing while attempting to cross the Mediterranean and the Atlantic last year, hoping to reach Europe, as reported by the UN refugee agency, UNHCR. Arbitrary detention, extrajudicial killings, sexual and gender-based violence, and forced labor and marriage are just some of the cases of abuse reported by people traveling these dangerous routes. Pope Francis called the neglect of migrants the "shipwreck of civilization" in 2016 when he first visited Lampedusa, the southern Italian island that acts as a gateway into Europe. >>

"We all lived together in a shed, and they deducted the rent from our salary."

Maribel Hernández

Migrating is not illegal, however migrants are often treated as criminals. In the words of the UN Global Compact, "Migrant workers can make a positive contribution to business performance and productivity by filling skill gaps, increasing access to international knowledge, strengthening contacts in international and local networks through new language skills and cultural awareness."

Even so, foreign workers — whether in a formal or an informal situation — often face discrimination, unfair working conditions, and harmful recruitment practices. Migrant workers are particularly at risk of other human rights violations, such as being trapped in forced labor due to abuse of vulnerability, a lack of understanding of their rights, and a lack of social capital or power.

Looking for the American dream, finding a nightmare

Maribel Hernández (31) started crossing the border from Tampico, her hometown in México, into the United States to work at a shrimp factory in 2018. "It was out of sheer necessity. I have two nieces, ages 15 and 7, and my 10-year-old son," she says in a phone call with The Global Goals Yearbook. "I went every year, to work in a shrimp factory for six months, in Louisiana. I had my passport and my visa, and I worked hard there from 6 a.m. to 6 p.m. to get ahead," she explains. "We all lived together in a shed, and they deducted the rent from our salary. We also had to pay for the trip and then the company would refund us."

In 2020, while working at the shrimp factory, Maribel fell ill with Covid, like most of her coworkers. "In May, I started with very severe symptoms, I felt like dying. One day, I couldn't stand on my feet. We all worked together in a very cold place and without protection or masks. I asked the supervisor to go to the hospital, and she denied it. That night, Reyna, one of my colleagues, called her boyfriend, who spoke English, and he drove us to the hospital. Then the supervisor texted her saying that we were fired. I didn't know what to do. I lost my job, I had nowhere to sleep, I didn't know anyone outside of my coworkers, I didn't speak English and I didn't know my rights," she recalls.

"Fortunately, my colleague's boyfriend invited us to his house. And he suggested that we contact the CDM (Centro de Derechos del Migrante) through their website. They advised us there, and after spending a few days in the hospital, I was able to return to Mexico. What I suffered was very unfair, and I wouldn't want other people to go through the same thing. Unfortunately, in my city there are not many opportunities, so the following year I crossed the border again to work in the US. I couldn't learn English yet, but at least I know what my rights are," Maribel affirms.

Standing for labor rights across the borders

"The migration crisis we are experiencing is the result of failed migration policy. Temporary work visas granted by governments serve companies, but not people fleeing poverty, violence, and lack of opportunities in their countries," says Jimena De Haro, CDM Communications Coordinator. This bi-national organization was founded in 2005 to protect migrant worker rights.

"The abuses suffered by migrant workers start from recruitment. Companies often outsource this task and there is no oversight. The applicants receive false offers, they have to pay for the visa and the trip, and they arrive at that job in debt and without being able to raise their voice," De Haro points out. "Then they have them living overcrowded, they make them work long hours, without paying the extras and without access to social and health services."

The reasons for migrating in search of work are many. "Some of the people are driven by economic necessity and violence. Others seek to learn a new language and gain experience," De Haro says. "But even in these cases, framed in JI visas to study or having summer jobs or as an au pair, abuses are reported."

Furthermore, women migrant workers are denied jobs, channeled into lower-paying roles, and exposed to gender-based violence at their workplaces. Sponsored by CDM, in March 2022, two migrant workers — Maritza Perez and Adareli Ponce — filed a lawsuit against the US government to enforce measures in order to end gender discrimination against women migrant workers in temporary labor migration programs.

The CDM also revealed abuses of agricultural workers in the H2A Visa Program, the most rapidly growing guestworker program in the United States. Based on interviews with 100 workers across Mexico who came to the United States on these visas in the last four years, the CDM documented discrimination, sexual harassment, wage theft, and health and safety violations by their employers. The report also showed how in the context of the Covid-19 pandemic, the program's systemic flaws exacerbate workers' vulnerability to the virus.

Opportunities and challenges

"Migration has changed since the days of my grandfather, who was a *bracero* [someone who has "arms"], when the United States needed workers because their men were at war," says Patricia Mercado, founder of Conexiónmigrante.com, a website that offers services and information to Mexican and Latino migrants living in the United States and their families in their home countries.

"In the past, it was men who went to work in the agricultural sector, and now there are more and more women who migrate to work in services such as childcare and beauty salons, and many do so with their children," Mercado says.

The reasons and the profiles of the migrants also changed. Some decades ago, most did it looking for better job opportunities. "The reality is that today, more and more people migrate fleeing from violence and organized crime. And here at the border, they meet the trafficking networks that abuse them and put their lives at risk," Mercado points out.

In recent years, México has gone from being a sending or transit country to being a receiving country for migrants. "The country toughened its immigration policy at the request of the United States, and many of those who came seeking to cross the border remain here. This is a great challenge but also an enormous opportunity since I believe that communities are positively transformed by the arrival of people with other habits and cultures," the founder of Conexión-Migrante affirms. >>

"The reality is that today, more and more people migrate fleeing from violence and organized crime."

Patricia Mercado, founder of Conexiónmigrante

"Migrating is not easy. Some people adapt, others live thinking about going back."

Susan Salamanca
Colombian Industrial Engineer

Linguistic barriers

Susan Salamanca (39) is a Colombian Industrial Engineer. She migrated to the Netherlands with her husband because he got a job offer. She only spoke Spanish and then began to learn English and volunteer at Fairwork, an NGO that supports victims of labor exploitation and human trafficking. When she felt confident with her English, she started looking for a job and found herself as an assistant in a shop. Then she realized that, if she wanted to work as an engineer, she would have to speak Dutch.

"I had never imagined living outside my country. I learned a lot. Not only the language but another culture. Migrating is not easy. Some people adapt, others live thinking about going back," Susan says.

Lidia Villegas (58), born in Medellín, Colombia, has been living in Amsterdam for 19 years.

"I met my Dutch husband through chat. I got married and came to Amsterdam. I had never been to Europe, I didn't speak Dutch or English, and I spent the six months of our marriage taking care of him because he got cancer and died," she says.

Lidia decided to stay. She had resigned from her job in Colombia and thought it would be difficult, being over 40 years old, to get another one. The Dutch state gave her a small pension. But a social worker would come every two weeks to check her apartment to make sure she lived alone. And she didn't have permission to work, either.

Through the church, she contacted Casa Migrante and became a volunteer. "This is a space where we support and help people from anywhere who speak Spanish with their paperwork," Lidia explains. Then she gave up state aid "because I wanted to regain my personal freedom. And I started babysitting and teaching Spanish," she argues.

For migrants, language is a barrier. "Discrimination is a subtle thing," Lidia says. "If you're not able to speak the language well, they don't think you're capable of doing the job."

Advantages of interculturality

Although their situations are less visible, internal migrants also suffer discrimination and labor abuse. The International Organization for Migration (IOM) estimates there are 763 million migrants inside of their countries of origin, and the number is expected to grow because of political and social conflicts, violence, lack of job opportunities, and increasingly due to the consequences of climate change, such as droughts, floods, and extreme weather conditions.

Businesses can struggle to ensure that migrant workers in their operations and supply chains have their rights upheld, and therefore they face legal, reputational, and operational risks. There is a close link between migrant labor and human rights abuses such as forced labor, modern slavery, and child labor. And companies can face legal charges if they are found to have any of these issues in their operations or supply chains.

KEY RESOURCES

The following resources provide further information on how businesses can address violations of migrant workers' rights in their operations and supply chains:

ILO, Fair Recruitment Toolkit: A modular training manual on fair recruitment to support with the design and implementation of fair recruitment practices.

Institute for Human Rights and Business, Migration with Dignity: A Guide to Implementing the Dhaka Principles: A practical guide to implementing the Dhaka Principles of fair and equal labor for migrants. The Dhaka Principles provide a roadmap that traces the migrant worker from recruitment, through employment, to the end of the contract, and they provide critical principles that employers and migrant recruiters should respect at each stage in the process to ensure migration with dignity.

BSR, Migrant Worker Management Toolkit: A Global Framework: A toolkit for respecting the rights of migrant workers throughout businesses and global supply chains.

Furthermore, campaigns by NGOs, trade unions, consumers, and other stakeholders against multinational corporations alleged to abuse migrant workers can result in reduced sales and brand erosion. Suppliers and clients may end contracts with companies that are found or suspected to abuse migrant workers' rights. And investors avoid financing companies that do not meet environmental, social, and governance (ESG) standards, causing narrow or more expensive access to capital and reduced shareholder value.

Companies that do not have a policy of diversity and respect for migrants also lose the opportunity that interculturality and diversity bring in an increasingly global and interconnected world.

Migration in numbers

- The IOM estimated that 281 million people were living in a country other than their countries of birth in 2020.
- That means only 1 in 30 people are migrants. But the number has been steadily increasing since 1970 and is projected to continue to do so.
- According to the International Labour Organization (ILO), the number of international migrant workers reached 169 million in 2021, nearly 5 percent of the global workforce.
- Sector figures show that 66.2 percent of migrant workers are in services, 26.7 percent are in industry jobs, and 7.1 percent are in agriculture. Women constitute 41.5 percent and men 58.5 percent of migrant workers. ■

"If you're not able to speak the language well, they don't think you're capable of doing the job."

Lidia Villegas

COLLECTING
to Feed the Children

By Gabriela Maria Ensinck

In Latin America, more than four million people live off of the collection, separation, and resale of recycled materials, according to World Bank estimates. According to WIEGO (Women in Informal Employment: Globalizing and Organizing), an NGO dedicated to empowering women who work in the informal sector, about 55 percent of workers in urban waste collection cooperatives in Latin America are women.

The Argentine Federation of Cartoneros and Carreros (slang terms for waste pickers/collectors and cart drivers) estimates that there are more than 150,000 collectors in the country. Jackie Flores, founder of the Argentine group of environmental promoters with a gender perspective, estimates that up to 65 percent of them are women. They were the ones who — in the most difficult times when waste-picking in Argentina was considered a contravention — began organizing themselves in order to claim their rights and created the first recycling cooperatives.

"I started waste-picking in 1989. Because of the hyperinflation, I had been left without a job, without a home, without anything. I squatted in an abandoned house with my children. We didn't have anything to eat, and we had to go out with other neighbors to rummage bags and eat from there, from the garbage," said Cristina Lescano (1959-2022), founder and former director of El Ceibo cooperative, where 290 people work.

Paradoxically, her struggle did not start over food or working conditions but because of birth control pills, which she obviously could not afford. "We found a doctor in the neighborhood who gave us the pills. And we thought, "If we can achieve this, why not keep moving forward?" Cristina remembered.

"It was very hard. They took us to jail for waste-picking. But there were also nice moments. Because we shared everything. We got to eat what we put on the table," she recalled. "That's when we started to organize ourselves. We didn't want to work at night, live on the street, with uncertainty."

Jackie Flores (53) also began waste-picking at the end of the 1980s. She was born in Córdoba, a central province of Argentina, and at the age of nine she arrived alone at Buenos Aires looking for an older sister and fleeing from alcohol and violence at home. She began to dedicate herself to street vending in the early 1980s during the military government, when Buenos Aires showed its worst side: that of police persecution and repression, especially of those who worked on the street.

After 10 years, two partners, and four children, Jackie was still working as a street vendor and had managed to organize herself along with other colleagues. But one day the police confiscated everything. She could not pay the rent and had to stay at an abandoned house with her children. "That's when I started to waste-pick," she says. That was a tough job that would help her build strength over the years. >>

From the slum to the government

"In cooperatives, we do much more than separate, pack, and value waste. In the day-to-day work, other problems are also addressed: gender-based violence, child labor, addictions... Many of the colleagues are single moms. At first they brought their children, not to pack but to accompany them because they had no one to leave them with," adds María Castillo, a waste picker and current national director of Popular Economy and Recycling in Argentina.

Jackie Flores is founder of the Argentine group of environmental promoters with a gender perspective.

She was born in a suburb south of Buenos Aires, Villa Fiorito, the same humble neighborhood as Diego Armando Maradona. At the age of 22 she had to go out to waste-pick, abandoning her dream of studying psychology. Today, María manages the work of the recycling cooperatives with private companies and local governments.

"By organizing ourselves, we were able to ask the City Government to recognize us as workers. There are colleagues who pushed carts while waste-picking, and today they are truck drivers and operators in the recycling plants. Most came from the province to work in the city. We paved the way for the emergence of other cooperatives in the country," she argues.

There are currently 12 recycling cooperatives operating in the city of Buenos Aires that are responsible for collecting and managing recyclable waste. The cooperatives also have daycare centers, libraries, as well as folk and trade schools for waste pickers to complete their formal educations.

It was not easy for María to work a job where the voices of command are mostly male. She more than once stood up, being a woman and a waste-picker, in front of powerful businessmen and her team of lawyers to defend the rights of her companions. And without having studied law, she learned by heart the regulations that oblige companies to manage their waste, and she was able to convince them that recycling cooperatives are qualified to do it.

> **"We are the ones who talk to the neighbors so that they separate the waste.**
>
> *Jackie Flores*

The fight for gender equality

The path to strengthening the recycling community was not easy. "The garbage industry is very rough, there are many interests at stake. And to this day, this activity is still very sexist," Cristina Lescano said. "When it comes to negotiating and selling the material, the figure of the man continues to be sought after. But they meet us, I don't know if we are better fighters or negotiators, but they can't get past us," she added.

According to WIEGO, organizations that are gender balanced or have a female majority "tend to be more horizontal in the exercise of leadership. They encourage greater participation of its members in decision-making and a better flow of information. In addition, women tend to take greater precautions regarding people's safety and hygiene."

For María, the organization has been key for changing the living conditions of many recyclers. "Being organized means a lot of things: economic income, social and health insurance. Many had never had health insurance. And they had to be convinced and accompanied so that they would stop working for a few hours to do the paperwork," María says.

And although conditions have improved for many of those who are dedicated to recycling, for many others the challenge remains the same: Survive amid the great dilemma of urban waste; profits for a few versus the needs of a majority.

"We are the ones who talk to the neighbors so that they separate the waste. We tell them what the route followed by the materials they throw away is like," says Jackie Flores before assuring: "Women, in the *cartonero* world are the majority, although we are invisible." ■

Cristina Lescano is founder and former director of El Ceibo cooperative, where 290 people work.

María Castillo is a waste picker and current national director of Popular Economy and Recycling in Argentina.

Global Goals Editorial Board

GLOBAL GOALS **YEARBOOK**

The Global Goals Yearbook is published under the patronage of the macondo foundation. It is a non-commercial publication and emerges from the renown Global Compact International Yearbook (2009–2017).

The Global Goals Yearbook helps to advance corporate transparency, promotes the sharing of good business practices, and, perhaps most significantly, gives a strong voice to the regional and global stakeholders that are at the heart of the sustainability agenda.

The task of the Global Goals Editorial Board (EB) is to support and advise macondo foundation to identify and locate core corporate sustainability issues. These issues should find entrance in the editorial content of the Global Goals Yearbook and dialogue panels conducted under the title Global Goals Forum.

The support does not involve any responsibility for the contents of the yearbooks in terms of liability or (inter-)national press law.

UN environment

The **United Nations Environment Programme** (UN Environment) is the leading global environmental authority that sets the global environmental agenda, promotes the coherent implementation of the environmental dimension of sustainable development within the United Nations system, and serves as an authoritative advocate for the global environment.

Our mission is to provide leadership and encourage partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations.

Headquartered in Nairobi, Kenya, we work through our divisions as well as our regional, liaison and out-posted offices and a growing network of collaborating centres of excellence. We also host several environmental conventions, secretariats and inter-agency coordinating bodies. UN Environment is led by our Executive Director Erik Solheim.

We categorize our work into seven broad thematic areas: climate change, disasters and conflicts, ecosystem management, environmental governance, chemicals and waste, resource efficiency, and environment under review.

unicef

UNICEF works in 190 countries and territories to protect the rights of every child. UNICEF has spent 70 years working to improve the lives of children and their families.

UNICEF promotes the rights and well-being of every child, in everything we do. Together with our partners, we work to translate that commitment into practical action, focusing special effort on reaching the most vulnerable and excluded children, to the benefit of all children, everywhere.

In all of its work, UNICEF takes a life-cycle based approach, recognizing the particular importance of early childhood development and adolescence. UNICEF programmes focus on the most disadvantaged children, including those living in fragile contexts, those with disabilities, those who are affected by rapid urbanization and those affected by environmental degradation.

UNICEF was created with a distinct purpose in mind: to work with others to overcome the obstacles that poverty, violence, disease and discrimination place in a child's path. We advocate for measures to give children the best start in life, because proper care at the youngest age forms the strongest foundation for a person's future.

UNOPS

UNOPS is focused on implementation and committed to UN values. We support our partners' efforts to bring peace and security, humanitarian and development solutions to some of the world's most challenging environments.

UNOPS works towards a better, more sustainable future by contributing to broader efforts to help partners achieve all 17 of the Sustainable Development Goals.

While UNOPS can expand capacity towards achievement of all the Sustainable Development Goals, focus is always defined by the needs of people, partners and countries.

As part of this, we're also committed to helping achieve the Paris Agreement on Climate Change, the Sendai Framework for Disaster Risk Reduction and are working with partners – like UN-Habitat – to make progress on the New Urban Agenda.

The development needs, as articulated by the above agreements and the Addis Ababa Agenda on Financing for Development, will require trillions of dollars in investments. UNOPS is committed to facilitating private sector investment to achieve the Global Goals.

The **UNSSC Knowledge Centre for Sustainable Development** was established to equip the UN and its partners with the knowledge, skills, and behaviours to implement the 2030 Agenda for Sustainable Development as well as the Paris Agreement under the United Nations Framework Convention on Climate Change.

The Centre supports policy and operational work of the UN through the development of learning tools, platforms for interaction and a mature set of learning offerings for UN staff. It serves as a catalyst and convener prompting dialogue and knowledge sharing on issues relevant to the vision and mission of the United Nations.

The 2030 Agenda for Sustainable Development profoundly challenges the way all development partners think, work and act. It requires enhanced multi-sectorial as well as cross-institutional integration and holistic thinking. Moving beyond separate mandates and structures, exploring linkages and interdependencies between different pillars and thematic issues is imperative. It is in this context that:

- We strengthen and communicate the sustainable development narrative.

- We focus on empowering stakeholders and facilitate integrated and transformative action for sustainable development.

- We support the UN Development System reform process.

The **World Business Council for Sustainable Development** (WBCSD) is a global, CEO-led organization of over 200 leading businesses working together to accelerate the transition to a sustainable world. WBCSD helps its member companies to become more successful and sustainable by focusing on the maximum positive impact for shareholders, the environment and societies.

Its member companies come from all business sectors and all major economies, representing a combined revenue of more than US$8.5 trillion and with 19 million employees. WBCSD's global network of almost 70 national business councils gives our members unparalleled reach across the globe. WBCSD is uniquely positioned to work with member companies along and across value chains to deliver high-impact business solutions to the most challenging sustainability issues.

The **Club of Rome** is an organisation of individuals who share a common concern for the future of humanity and strive to make a difference. Our members are notable scientists, economists, businessmen and businesswomen, high level civil servants and former heads of state from around the world. Their efforts are supported by the Secretariat in Winterthur, Switzerland, the European Research Centre registered in Constance, Germany and National Associations in more than 30 countries.

The Club of Rome conducts research and hosts debates, conferences, lectures, high-level meetings and events. The Club also publishes a limited number of peer-reviewed "Reports to the Club of Rome", the most famous of which is "The Limits to Growth".

The Club of Rome's mission is to promote understanding of the global challenges facing humanity and to propose solutions through scientific analysis, communication and advocacy. Recognising the interconnectedness of today's global challenges, our distinct perspective is holistic, systemic and long-term.

CDP is a not-for-profit charity that runs the global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts. Over the past 15 years we have created a system that has resulted in unparalleled engagement on environmental issues worldwide.

To achieve this, CDP, formerly the Carbon Disclosure Project, has built the most comprehensive collection of self-reported environmental data in the world.

Our network of investors and purchasers, representing over $100 trillion, along with policy makers around the globe, use our data and insights to make better-informed decisions. Through our offices and partners in 50 countries we have driven unprecedented levels of environmental disclosure.

Over the past 15 years CDP has created a system that has resulted in unparalleled engagement on environmental issues between investors, companies, cities, states and regions worldwide. CDP's data enables our network to link environmental integrity, fiduciary duty and public interest to make better-informed decisions on climate action.

The **macondo foundation** is a non-profit organization. It supports the following charitable purposes: The promotion of nature conservation, environmental protection and coastal protection; the promotion of tolerance in all areas of society and international exchange; the promotion of animal welfare; the promotion of development cooperation; the promotion of civic engagement.

Since 2018 the macondo foundation is patron of the Global Goals Yearbook in support of the Sustainable Development Goals (SDGs) and the advancement of corporate sustainability globally. As a grassroots publication it offers proactive and in-depth information on key sustainability issues and promotes unique and comprehensive knowledge-exchange and learning in the spirit of the SDGs and the Ten Principles of the Global Compact.

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Authors of this edition (in alphabetical order):
Nicole Austin, Pedro Ávila, Maike Böcker, Valérie Bouckaert, Adam Carrel, Dr. Jean Enno Charton, Dr. Roxana Codita, Tara Duane, Gabriela Maria Ensinck, James Evans, Peter Gassmann, Casey Herman, Lauren Jones, Colm Kelly, Angela Konert, Jana Krägenbring-Noor, Prof. Dr. Robert Kuttner, Dr. Elmer Lenzen, Javier Losada, Daniel Maier, Tanya McKenna, Prof. Dr. Ulrich Menzel, Dr. Roland Merger, Friedrich-Wilhelm Micus, Jennifer Motles, Milena Pighi, Ricarda-Marie Pomper, Julia Schmitt, Ute Schwing, Juliane Seipt, Ribhu Singh, Tom Strelczak, Maria Teresa Tomaselli, Frank Markus Weber, Achim Weick, Christina Witter

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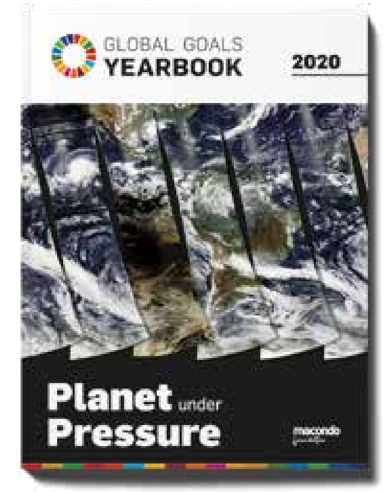

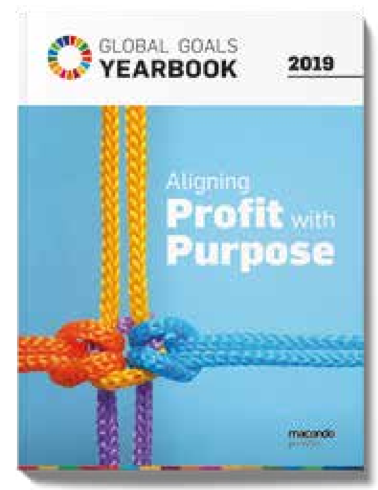

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