

Conversations for tomorrow

Quarterly review
N°1 — 2021

**Why sustainability
means collective action,
bolder leadership, and
smarter technologies**

Conver sa tions

for tomorrow

Quarterly review



Aerial View Waiwera, North Auckland, New Zealand.
Waiwera is a scenic area in the Auckland Region. The name is of Māori origin and means
"Hot Water", due to the natural thermal springs that stud the area.
We chose this image to reflect the fragile beauty of the natural world.

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Last year, the world came to a standstill. As we continue to grapple with the humanitarian and economic consequences of the pandemic, it is very clear that we need to connect with each other. The very magnitude of the COVID-19 crisis, the complex issues it has raised, and the uncertainty it has unleashed demand a collaborative and integrated response.

This is why I believe our new journal – “Conversations for Tomorrow” – is timely. As an organization, we recognize the

importance of bringing together key stakeholders – from businesses to government, non-profits to academia – to address our major societal and economic challenges. To support

those conversations, each edition of this journal will feature leaders and experts on the major strategic imperatives that are shaping the future of business and society.

We begin, appropriately, with sustainability – a topic close to my heart. Environmental and social challenges cross geographic and organizational boundaries and demand systemic changes that an individual company or country cannot deliver alone. While in 2020 we raised our own ambitions, putting Capgemini on the pathway to be a net zero business by 2030, we know that the journey ahead will be challenging for everyone. As we progress on our journey, it is also our goal to support our clients in the achievement of their sustainability aspirations as part of the urgently needed global transformation to net zero. We firmly believe that a sustainable future is achievable only with deep industry-wide collaboration with our clients, suppliers, and other stakeholders.

This edition therefore brings together wide-ranging perspectives from multiple stakeholders: businesses, non-profits, government, innovators, academics and Capgemini’s own subject matter experts. These viewpoints include perspectives from Frans Timmermans, the European Commission’s executive vice president of the European Green Deal; Beatriz Perez, chief sustainability officer at The Coca-Cola Company; and Dr. Sally Uren, chief executive of leading sustainability non-profit organization, Forum for the Future.

My thanks go to all the leaders and experts who contributed their thinking to this journal. By working together, and sharing ideas and innovations, we can seize the opportunities for a more sustainable and inclusive future.

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CEO, Capgemini Group

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Executive Summary

For businesses, sustainability – the need to address environmental issues and societal impact – has never been more important. Key stakeholders – investors, customers, employees, policy makers, and society as a whole – are carefully scrutinizing the actions of corporates. They all expect businesses and their leaders to lead the charge on sustainability issues.

As businesses look to make a positive impact on the world, build competitive advantage, and strengthen organizational resilience, this journal brings together diverse perspectives to inform our thinking and find solutions to major systemic challenges. It offers the thoughts and creative ideas of leaders and experts from corporates, non-profits, government, innovators, and academia:

Industry C-suite executives

We feature interviews with chief sustainability officers from across different sectors. Pia Heidenmark Cook, chief sustainability officer from IKEA, discusses embedding sustainability objectives across countries and functions and arriving at the right governance framework. *"A lot comes back to the cultural values of who we are and what we do,"* she says. She goes on to recommend, *"Start with understanding the sector you are operating in, identify the critical sustainability impacts for that sector, and then connect that with the cultural values of your organization to drive things forward."*

Laurence Pessez, global head of CSR at BNP Paribas, speaks about the key trends and drivers for sustainability in the banking sector. *"Sustainability is going to be increasingly regulated instead of only being a voluntary action on the part of firms. Sustainability is going mainstream, gaining in importance, and therefore must be seriously managed,"* she explains. Beatriz Perez, chief sustainability officer at The Coca-Cola Company – speaking about the organization's sustainability-driven growth model – says: *"Our sustainability goals are interlinked, and we think holistically about how we can achieve them."*

Non-profit organizations

Apart from industry executives at the C-suite level, we also bring in the perspectives of non-profit organizations, such as the Forum for the Future. Dr. Sally Uren, chief executive at Forum for the Future – which works with major players to arrive at a systems-based interconnected approach for sustainable development – says: *"Collaboration is critical for systemic change because no one actor can shift a system on their own."* Ajay Kela, president and CEO of the Wadhwani Foundation, which focuses on driving job creation in emerging economies, adds: *"Today, we operate in 20 countries, and our mission is to empower families with at least one individual with a family-supporting salary. Once you do that, the family can buy high-quality education and healthcare besides taking care of their essential needs. This not only transforms the immediate family but potentially transforms generations to come."*

Key government officials

Frans Timmermans, the European Commission's executive vice president of the European Green Deal, offers his perspectives on driving a 'green' recovery from the COVID-19 crisis, saying:

"We are at the start of an incredibly complicated transformation process. It will require enormous efforts, but it can be done." Matt Toombs, from the UK Cabinet Office – and director of partnerships and engagement for the COP26 (26th session of the Conference of the Parties, UN Climate Change Conference) – speaks about the importance of this major leadership gathering: *"...we are now seeing increasing impacts of climate change around the world, and we have started the critical decade where we need to really accelerate the transition to net zero."*

Innovators and environmental advocates

We also feature the perspective of a sustainability innovator, Bertrand Piccard, the explorer for sustainability behind the Solar Impulse, who circumnavigated the globe in his solar-powered airplane to demonstrate the potential of clean energy. In the words of Bertrand Piccard: *"I am convinced that the new explorers of the 21st century will be business leaders and captains of industry, collaborating with politicians and civic society to build a new model of sustainable growth, tackling our most critical environmental and social issues. What the world needs now is bold corporate leaders who are ready to step outside their comfort zone and make radical decisions in order to put their business strategy at the service of the general interest, by fighting climate change and reducing inequality."*

In-house experts

Here we bring in conversations from our senior in-house experts who are leading sustainability-driven solutions within the industry. Florent Andrillon, vice president, energy transition global leader at Capgemini – along with Ann Mettler, vice president, Breakthrough Energy – discuss the journey to climate neutrality.

"Essentially you need a productive interplay between the role of the public sector and the role

of the private sector," says Ann Mettler. "...the public sector cannot do it alone either. That's why the private sector is absolutely needed because there are still many clean technologies that either still need to be developed or that already exist but haven't scaled." Florent Andrillon adds: "Timing is key. We saw the same trend 15–20 years ago with the digital transformation wave." He goes on to say, "What is critical is that we need to speed up and go beyond big announcements of carbon neutrality. We need to go beyond the race because it's not a race – it's a common goal." Laura Quinn, senior strategy director at Purpose, along with Jeremy Heimans, CEO of Purpose, and Jean-Baptiste Perrin, Capgemini Invent for Society global leader, stress the important of corporate purpose: "To create real, meaningful change in this moment of recovery, today's leaders must go beyond current sustainability commitments and use their corporate power to become vocal advocates for far-reaching social, economic, and environmental solutions." Vincent de Montalivet, Sustainable AI expert at Capgemini draws attention to the opportunity for driving ethical and green AI. "The reality is that while AI has an energy impact, the opportunity for ethical and green AI to drive a sustainable future far outweighs any immediate cost," he says. We also showcase key insights and results from the Capgemini Research Institute's sustainability reports, which span a range of sectors: consumer products and retail, automotive, and energy and utilities.

Academics

Economist and Harvard Business School professor, Rebecca Henderson, shares key perspectives from her book *"Reimagining Capitalism in a World on Fire,"* which details the shift that many organizations are making from shareholder primacy to stakeholder capitalism.

These perspectives are intended to shape our thinking and inform the strategic programs needed to drive a more sustainable future in the new normal.

Discussions with... .

Leaders from industry
and non-profits,
senior government
officials and experts.



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BREAKTHROUGH ENERGY

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Vice President, Europe

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Pia Heidenmark Cook

Chief Sustainability Officer,
Ingka Group



IKEA PUTTING PLANET AND PEOPLE AT THE HEART OF CULTURE AND OPERATIONS



® Pia Heidenmark Cook is the Chief Sustainability Officer at Ingka Group, the largest IKEA franchisee and an organization that accounts for more than 90% of IKEA's

turnover. She leads the sustainability agenda across the IKEA group business, managing a multi-disciplinary team of sustainability professionals across innovation, policy and strategy, impact assessment, risk, and the compliance and verification teams that operate close to business units and markets.

The Capgemini Research Institute spoke with Pia Heidenmark Cook to understand more about embedding sustainability objectives across countries and functions and how the right governance framework can support sustainability initiatives.

SUSTAINABILITY AT IKEA

What are the key drivers for IKEA's commitment to sustainability and the investments it makes in this area?

— We have a people and planet-positive strategy for sustainability, launched in 2012 and updated in 2018. Our first environmental policy came out in 1991. So, we've been practicing sustainability for a while. Initially, our environmental policy was primarily focused on optimization – being thrifty with energy, water, and other resources. Since 2000, our sustainability objective has been about merging business development and sustainability and viewing business opportunities through a sustainability lens by understanding the planet or societal constraints.

A lot comes back to the cultural values of who we are and what we do. I think every company faces a crisis situation once in a while, where something you do goes wrong in your supply chain or operations. In these sorts of situations, we really try to get to the root of what happened, why it happened, what our role is in the situation, and how we can support solutions that make a difference in the future. Such root cause analysis led to "IWAY," IKEA's supplier code of conduct.

We also believe in taking a long-term view. We are not a listed company or a foundation-owned company. This enables us to take a long-term view and look at longer horizons, such as longer payback horizons for the right investments. For instance, we believe that the future should be low-carbon or carbon-free. As a result, we have invested over two billion euros in the last 10 years into wind and solar energy.



Pia Heidenmark Cook
Chief Sustainability Officer,
Ingka Group

"Since 2000, our sustainability objective has been about merging business development and sustainability and viewing business opportunities through a sustainability lens by understanding the planet or societal constraints."

What are the key focus areas of IKEA's sustainability strategy?

— Our people and planet-positive strategy rests on three pillars. One is inspiring and enabling one billion people to lead healthy and sustainable lives.

Our second focus area is being climate positive and promoting a circular economy. We are signatories of the Paris Climate Agreement and we are committed to limiting global temperature rise to 1.5 degrees Celsius by adopting emission targets. We believe that circularity is a key enabler of becoming climate positive. This is because it helps reduce our environmental footprint – emissions and use of resources – in the products we sell, in our raw materials, and in other parts of our supply chain. Our stores and shopping centers actually constitute only 4% of our environmental footprint – most of it is actually embedded in our supply chain.

The third and last part is unique and very inclusive, where we aim for fair treatment of our workforce. We are also looking at extending support to local communities. For instance, during the COVID-19 crisis, IKEA has focused on community emergency response services, such as donating our products to homeless centers, hospitals, and refugee centers.

How does IKEA drive its circular economy approach?

— Our circular economy initiative is focused on four major areas. First, and by 2030, we aim to have only renewable and recycled materials in IKEA's home furnishing products. Around 60% of IKEA's product range is currently made of renewable materials and about 10% is made of recycled materials. We have set targets and direction for different raw-material categories – recycled, renewable, and reused materials on a roadmap to 2030.

The second goal is to offer products that meet the nine "circular design" criteria, ranging from durability to how the product can be reassembled or disassembled and sold again.

IWAY: IKEA's code of conduct for suppliers

IWAY, which is short for the "IKEA way of responsibly procuring products, services, materials, and components" is the organization's supplier code of conduct and sets social and environmental requirements for all suppliers and service providers.

IWAY is broadly divided into two parts: "IWAY Must" and "IWAY Standard." IWAY Must lists requirements that all suppliers and service providers must comply with before working with IKEA. These include no child labor, no forced or bonded labor, payment of minimal legal wages, and accident insurance for all workers. "IWAY Standard" includes "IWAY Must" requirements as well as general requirements that suppliers are expected to comply with within a period of 12 months of partnering with IKEA, such as environmental responsibility, workers' health and safety, and waste management.

IKEA mandates that suppliers communicate the IWAY code of conduct to their employees and their subcontractors. Suppliers' compliance with IWAY is maintained through training and support, standard reporting procedures, and a program of regular audits conducted by IKEA and third-party auditors⁽¹⁾ that are instigated without prior warning to maintain an element of surprise.

¹ IKEA, "Sustainability, Building a better business with IWAY."

We are currently reviewing our different product categories according to this framework to identify the categories that meet the criteria, categories that need to be repurposed, and categories that don't fit in the future scenario.

The third area is engaging with consumers in entirely new ways. We are trialing leasing as an option, mainly in a B2B scenario since it's a more mature market. The aim is to see how we can maintain ownership of a product throughout its lifecycle by taking back a product after the lease period, refurbishing it, and leasing it again. So, we are trying to extend the lifetime

of our products for as long as possible. We are also looking at buyback options for consumers, where they can return their products for a voucher.

Finally, we are also assessing different parts of our value chain. The aim is to understand the capabilities

“We see a severe anxiety among consumers about climate change. They understand climate change is a reality, it's happening and it's caused by human activity.”

we need to add and the changes we need to make to drive circularity, especially in product development and in-store. We are still in very early days, though we do have a high recycling rate, since we have been practicing recycling for the last 10 to 15 years.

Are your consumers more vocal and enthusiastic about your sustainability initiatives? How does IKEA address consumer expectations?

— We see a severe anxiety among consumers about climate change. They understand that climate change is a reality; it's happening, and it's caused by human activity. This is more so among young people. However, people are not fully clear on what action they should take; what action is climate friendly or what activity is not. Consumers are keen to understand whether their actions can make a difference. They feel there is either a real or perceived cost to sustainability that is reflected in the high prices they see.

The solution is often that, as a company, you need to step in and showcase your solutions clearly to consumers. At IKEA, we do not have a “green” corner with a green or sustainable range of products that come with a price increase. Instead, we have a holistic approach. We had set an objective to have all our wood-based products – sofas, beds, and tables – produced

either from FSC-certified wood (Forest Steward Council) or from recycled wood by 2020. Likewise, since 2015 we've only used sustainable cotton; all our cotton-based textiles are made exclusively from sustainable cotton. We decided in 2015 to replace incandescent light bulbs with LEDs – this was way ahead of legislation. Our latest initiative is to stop single use plastic use in our product range and in the restaurants. So, overall, it's not about a specific product range – it's about adopting an holistic approach.

What challenges did you face with your sustainability initiatives?

— The challenges are predominantly around change management – proposing new ways of doing things rather than doing it the old way. They are about showing the business case, proving why it makes sense, and influencing and

inspiring people to understand why the new solution makes a difference. This is because, in many instances, people may not accept that their actions are really going to make a difference. Take energy or energy equipment investments, for example. The cost of LEDs, wind, or solar has reduced

“Since 2015 we've only used sustainable cotton – all our cotton-based textiles are made exclusively from sustainable cotton.”

by 80% in the last ten years, but still a lot of people view it as an expensive proposition. So while your initial investment when using a new technology is high, eventually you will reduce your operational costs, and when you both own and operate your business, it is the right thing to do. So, for me, it's fundamentally about change management.

Could you give us an overview of how sustainability is managed within IKEA?

— At IKEA we have committees for key topics. There are committees for areas such as people & culture and risk and we also have a sustainability committee. Our CEO is the chairman of the sustainability committee and I work closely with our CEO and deputy CEO, who is also our CFO. We have members from the sustainability committee represented in different country and function-specific management teams.

I have a global team cutting across multiple disciplines. So, I have an innovation

and development team where we have circular economy as a big project. This team also looks at urban farming, clean energy initiatives, and new digital solutions. I also have an analytics team that measures the true impact of activities we undertake. There is a retail team that works closely with the retail business. There is also a climate specialist, a sustainable transport specialist,

and a human rights specialist supporting different functions.

At IKEA, it's business opportunities that drive our sustainability initiatives, rather than a reactive act for compliance with rules and regulations."

We don't have a separate CSR function. For us, CSR is about sustainability, and sustainability is about economic, social, and environmental responsibility.

On the social responsibility part, everything we do is a

collaboration between people and culture, risk and compliance, and with me, for sustainability. Though it's a shared responsibility, everything we do on the human-rights side and in local communities resides with sustainability.

What concrete steps would you recommend for organizations looking to embed sustainability into their business operations?

— It depends a lot on your geographical location and where you are in terms of sustainability maturity. I would say that the starting point is to understand your business from the sustainability point of view – understanding the critical raw materials and functions where sustainability impact can be created. For instance, when you're looking at where sustainability initiatives can make a difference in the case of IKEA, it's more about wood from a raw materials perspective and the supply chain function from an operations perspective. In other words, identify the opportunities and then connect them back to your organization's culture and values.

Second, understand what drives your people. At IKEA, it's business opportunities that drive our sustainability initiatives, rather than a reactive act for compliance with rules and regulations. So, find the business opportunities in sustainability. For example, though there are a lot of challenges to be addressed on the environmental front, understand where you can make a difference – is it air pollution or water or the food supply chain? Accordingly, partner with NGOs and other companies, since partnerships are fundamental in achieving effective solutions. •



Pia Heidenmark Cook
Chief Sustainability Officer, Ingka Group

**“Finally, on the social front,
think about inclusive growth.
How can you make sure that no
one is left behind and build a
workforce through reskilling
and competencies that are
equipped for the future?**

**To summarize, start with
understanding the sector you
are operating in, identify the
critical sustainability impacts
for that sector, and then
connect that with the cultural
values of your organization to
drive things forward.”**



Laurence Pessez
Global Head of CSR,
BNP Paribas



SUSTAINABILITY IN THE FINANCIAL SERVICES SECTOR

**BNP PARIBAS**

Laurence Pessez has been the Global Head of Corporate Social Responsibility (CSR) at BNP Paribas since 2010. She has been

instrumental in building the organization's CSR function, formulating its environmental policy, and overseeing the deployment of a global CSR strategy.¹ Under her leadership, BNP Paribas was named the "World's Best Bank for Sustainable Finance" in 2018 by Euromoney, a leading publication in the field of international finance,² and the "World's Best Bank for Corporate Responsibility in 2019."³ She is a board member of the French think tank, Institute for Sustainable Development and International Relations (IDDRI). She is also a board member of "Finance for Tomorrow," an initiative that brings together leading public, private, and institutional players in the Paris financial center that are committed to sustainable finance. Laurence is also a member of the banking board of "UN Principles for Responsible Banking".

The Capgemini Research Institute spoke with her to understand the key trends and drivers of sustainability in the banking and financial services sector, and the actions BNP Paribas is taking to drive sustainability.

¹ BNP Paribas, "BNP Paribas appoints Laurence Pessez as Group Corporate Social Responsibility Director," June 2010.

² BNP Paribas, "The BNP Paribas Group has been named as the World's best bank for sustainable finance 2018," December 2018.

³ BNP Paribas, "The World's best bank for corporate responsibility in 2019," November 2019.

SUSTAINABILITY AT BNP PARIBAS

What does BNP Paribas's sustainability approach focus on?

— Our sustainability strategy is structured around four areas of responsibility. First is the economic pillar. This focuses on systematic integration and management of environmental, social, and governance (ESG) risks, conducting business in an ethical manner and engaging with products and solutions that have a positive impact on society. The second one is the social pillar. This focuses on employees by promoting diversity and inclusion, ensuring responsible employee management, and supporting learning. The third pillar focuses on civic responsibility. This encompasses both the social and community involvement needed to ensure our products and services are widely accessible, and the protection of human rights through our financing and investments. The fourth one is the environmental pillar. The key objective is to drive energy transition to low-carbon projects among clients and support engagements that tackle climate change. This also includes a commitment to supporting biodiversity and circular economy topics.

Could you highlight some of BNP Paribas's notable successes and achievements in the area of sustainability?

From an operations perspective, our bank has been carbon-neutral since 2017. We achieved carbon-neutrality



Laurence Pessez
Global Head of CSR,
BNP Paribas

“From an operations perspective, our bank has been carbon-neutral since 2017. We achieved carbon-neutrality in various ways – reductions in carbon emissions linked to business travel, energy efficiency in buildings and data centers, use of renewable energy, and by compensating for residual effects.”

in various ways – reductions in carbon emissions linked to business travel, energy efficiency in buildings and data centers, use of renewable energy, and by compensating for residual emissions. From the core business perspective, BNP Paribas has announced an exit calendar for its support to the coal sector. For instance, since 2017, our funding for new coal-fired power plants has ceased completely. For existing corporate financing for utilities and mining companies using coal, our bank announced a cessation of financing support for countries in Europe and the OECD by 2030 and for the rest of the world by 2040. Overall, we want to align our credit portfolio to support the “below two degrees” temperature target of the Paris Agreement. We have also collaborated with four other international banks to develop a common, open-source methodology, called the PACTA methodology, in order to align our portfolios in the most emitting sectors (electricity production, fossil fuels, transportation, cement, and steel).

How does BNP Paribas monitor the progress of its sustainability initiatives and ensure accountability?

— A public dashboard, where we monitor and report our progress on sustainability initiatives, has been in place since 2012. We also provide details about our sustainability commitments in our registration documents and, today, we are linking the variable compensation of our 7,500 managers, including those from our corporate officers, with targets for sustainability initiatives. Before 2012, sustainability was not viewed as a key subject, but it became mainstream once we linked sustainability targets to the compensation of executives.



Overall, we want to align our credit portfolio to support the ‘below two degrees’ temperature target of the Paris Agreement.”

“ “

The next wave of being responsible will entail broader action, not only in the health and environmental sectors, but also on employment, education, and other broader societal issues.”

How far has COVID-19 impacted sustainability trends in banking and financial institutions?

— Overall, sustainability will remain a key theme for banking and financial institutions. This reflects the urgency of reducing CO₂ emissions. COVID-19 will also accelerate the focus on biodiversity as the pandemic has strengthened the link between the loss of biodiversity, especially deforestation, and economic development. This is not an easy topic to address. For instance, measuring the impact of banking activities on biodiversity is complex as it is not restricted to reporting on one unique criterion. So, there is groundwork to be done currently by the financial sector, corporates, and NGOs in finding the right metrics within the framework of the TNFD (Taskforce on Nature-related Financial Disclosure). That is why BNP Paribas has been co-chairing the Informal Working Group that is tasked with setting up and launching a work plan for the TNFD.

The second-most important trend, as a result of COVID-19, is the rise of the social part of sustainability (e.g., initiatives focused on safe working conditions for the workforce, fair labor policies, societal issues). As a result, we feel that the S of ESG parameters must be more extensively considered by asset managers and banks. We are already seeing social bonds (bonds issued to fund social projects) growing in importance. So, the next wave of being responsible will entail broader action, not only in the health and environmental sectors, but also on employment, education, and other broader societal issues.

Overall, sustainable financing will also place more emphasis on the social

aspects of sustainability as well as the “green” environmental aspects. At BNP Paribas, we are already active in financing social projects that offer solutions focused on employment access, education, or fighting inequality. We are also active in social bonds and have been financing microfinance institutions for 30 years now, with a total of two million beneficiaries of our loans.

What are some of the challenges that organizations face in achieving their sustainability targets and ambitions? How do you overcome these challenges?

— The major challenge is change management. This is because sustainability entails in-depth transformations in the way we operate. When we initiated sustainability-driven, non-financial lending criteria, our relationship managers found it difficult to drive such conversations with corporate clients. Now our credit committees use lending criteria that extend beyond financial metrics and include potential risks from an ESG perspective as well. Our emphasis on including sustainability-driven criteria for lending accelerated in 2016 after COP 21. This helped us to push the subject of climate change to clients and make them feel responsible. Now, most of our corporate clients in different countries are working on transforming their business models, especially on the climate front. In 2017, we went one step further. We created an organization-wide company engagement department to embed sustainability within the different layers of the organization. This included rolling out training to all the staff and enhancing awareness on different pillars of sustainability, such as climate change and social issues.

Could you talk to us about your work in establishing standards for sustainable financing?

— We have set sustainability-driven standards and criteria for our corporate clients as we wanted to create some impact on society as a whole. But the impact would be much more powerful if many banks collectively agree and operate on common standards and principles. This is the foundation of the “Principles for Responsible Banking.” This is a United Nations global initiative, launched in September 2019, which has already gathered 200 banks – operating across different business models and geographies. As part of the initiative, we agree to align our portfolio with the Paris Agreement and contribute to the SDGs of eradicating poverty, protecting the planet, and ensuring prosperity for all by 2030.

What is BNP Paribas's view on the outlook for sustainability initiatives in the near and long term?

— Sustainability is going to be increasingly regulated instead of only being a voluntary action on the part of firms. Sustainability is going mainstream, gaining in importance, and must therefore be seriously managed. Banks and financial institutions need to be prepared to report additional financial and non-financial metrics, adapting their IT systems and databases to embed sustainability criteria. However, complexity is bound to be an issue here as it's a new topic for risk, compliance, and regulatory departments. Ultimately, we want to prioritize sustainability so that it is as important as the rest of the business. We foresee sustainability being embedded across the firm – from any investment decisions the bank takes to the performance appraisals of relationship managers.

What recommendations would you offer financial services firms that plan to scale their sustainability initiatives?

— The support of the board and management is one of the critical success factors for sustainability initiatives. However, boards are realizing the importance of sustainability, especially with growing regulations, and are taking bold actions such as linking sustainability targets with compensation. The next success factor is the importance of collaboration and working with different stakeholders. This is because sustainability is a journey. We must join forces with investors, NGOs, and corporates to drive broad, inclusive growth. •



We foresee sustainability being embedded across the firm – from any investment decisions the bank takes to the performance appraisals of relationship managers."



Laurence Pessez
Global Head of CSR,
BNP Paribas

“Boards are realizing the importance of sustainability, especially with growing regulations, and are taking bold actions such as linking sustainability targets with compensation.”

The next success factor is the importance of collaboration and working with different stakeholders. This is because sustainability is a journey. We must join forces with investors, NGOs, and corporates to drive broad, inclusive growth.”



Beatriz Perez
Chief Communications,
Sustainability, and Strategic
Partnerships Officer,
The Coca-Cola Company



DRIVING SUSTAINABLE GROWTH WHILE MAKING A POSITIVE IMPACT



Since 2011, Beatriz Perez has served as The Coca-Cola Company's first Chief Sustainability Officer, where she has developed and led its global sustainability goals, with a particular focus on water stewardship and women's economic empowerment. She has advanced a global sustainability strategy designed to help grow the business while making a positive difference for consumers, communities, and the environment.

The Capgemini Research Institute interviewed Bea to understand how Coca-Cola is embedding sustainability within its operations and the broader ecosystem.

SUSTAINABILITY AT COCA-COLA

What are the key focus areas of Coca-Cola's sustainability agenda?

— Our sustainability goals are interlinked, and we think holistically about how we can achieve them. Just as we look for more opportunities to grow our business, we think about operating our business in a sustainable way. Purpose matters now more than ever. Our purpose is to refresh the world and make a difference. We aim to create a more sustainable business and a better shared future. Our sustainability goals are embedded in our purpose and cover a range of areas, from water stewardship to women's empowerment (*see "Coca-Cola: Key sustainability areas" on following page*).

Could you highlight some of your most successful sustainability initiatives and the impact that they have had?

— Our water replenishment and women's empowerment programs have been high-impact areas for us. In 2007, we set a goal to return 100% of the water used in our beverages and their production to communities and nature by 2020. We achieved this target first in 2015, five years ahead of schedule. We have replenished more than 100% of the



Beatriz Perez

Chief Communications,
Sustainability, and Strategic
Partnerships Officer, The
Coca-Cola Company

"In 2007, we set a goal to return 100% of the water used in our beverages and their production to communities and nature by 2020. We achieved this target first in 2015, five years ahead of schedule. We have replenished more than 100% of the water we use every year since 2015 and this grew to 160% in 2019."

water we use every year since 2015 and this grew to 160% in 2019. Also, we have provided water and sanitation for families and households in poor and vulnerable parts of the world. For instance, our Replenish Africa Initiative (RAIN), which began in 2009, is on target to reach six million people in 41 African countries by the end of 2020.

The goals of driving water replenishment and women's empowerment are also intertwined. According to IPSOS research funded by USAID, GETF, and the Coca-Cola Foundation¹ having access to clean, nearby water sources also empowers women to improve their futures and to bring their families and communities out of poverty. Furthermore, there is overwhelming evidence that achieving equality and empowerment for women has broad ripple effects that are good for society. In 2010, we built on that foundation and developed our global "5by20" strategy to economically empower five million women across our value chain by the end of 2020. To achieve our goals, we take great care in collaborating with our regional partners to build local programs, and then scale the most successful programs. We believe this customized approach is the best way to ensure lasting women empowerment.

How has COVID-19 impacted your sustainability goals and initiatives? How do you plan to overcome them?

— The COVID-19 pandemic, in one way or another, has impacted the goals we have set for ourselves across our key sustainability focus areas. It has presented challenges, but also some opportunities to continue making a difference. For instance, in Great Britain, we set a goal to increase recycled plastic in our packs to 50% by early 2020. The move was delayed as a result of COVID-19, due to measures including social distancing rules and being unable to allow engineers on site. However, by September 2020, we ensured that all plastic bottles across our core brands in Great Britain are made with 50% recycled plastic.

¹. Women & Water: A Ripple Effect: A Theory-Based Approach to Understanding the Gendered Impact of Water Programs, 2018.

Coca-Cola: Key sustainability areas

Water stewardship: Replenish 100%+ of water used in our beverages annually, continue to improve water efficiency, and treat all wastewater across all operations.

Sugar reduction: Reduce added sugar, make smaller packages, expand beverage offerings with more nutrition and hydration benefits, offer consumers transparent information to make informed choices, market our beverages responsibly.

Packaging: Make 100% of our packaging recyclable globally by 2025 – and use at least 50% recycled material in our packaging by 2030, recover and recycle a bottle or can for each one we sell by 2030, bring people together to support a healthy, debris-free environment.

Climate: Reduce carbon footprint of the "drink in your hand" by 25% by 2020 (2010 base year), Science-Based Target to reduce our absolute carbon emissions by 25% by 2030 in line with the Paris Agreement goals.

Agriculture: Ensure that suppliers meet the human and workplace rights, and responsible farm management standards set out in our Sustainable Agriculture Guiding Principles.

Women: Enable the economic empowerment of five million women by the end of 2020; aim for our organization to be 50% driven by women.

We have maintained similar momentum in our water leadership efforts. COVID-19 has thrown into stark relief the importance of action on water, including access to clean water and sanitation. Within the last nine months, we have collaborated with partners in government, business, and civil society to join four distinct water leadership movements (*see “Water leadership movements”*).

We remain focused on our long-term sustainability goals despite the pandemic. At the same time, we also hope that governments, society, and corporations can apply the same compassionate and urgent action we've seen in the pandemic response toward tackling other shared causes, such as social justice and sustainability.

How can sustainability help to create long-term value for organizations?

— In the last decade, we have seen crucial improvements in the prioritization of ESG topics. I believe that consumers care deeply about the environment and have high expectations for companies to do their part on sustainability. There is a clear business case for a strong, purpose-driven ESG strategy. Consumers want to purchase sustainable products from a responsible brand, and research has confirmed that sustainability sentiment is particularly consistent across income levels. I think consumers' expectations of companies will only increase in coming years.

In order to realize the true value of our sustainability initiatives, we must be diligent in ensuring that our goals are measured and deeply connected to the business. For instance, over the last two years we combined our business and sustainability reviews into one integrated annual Business & Sustainability Report. We also index the contents of the report to several important reporting frameworks and standards, such as the Global Reporting Initiative (GRI) Sustainability Reporting Standards and the Task Force on Climate-related Financial Disclosures (TCFD). We've also seen an entire step change within much of the investor community. With investors now seeking and analyzing sustainability data, more robust conversations

are able to take place in the boardroom, leading to better outcomes all round.

How does Coca-Cola align its value chain partners – such as vendors, suppliers – around its sustainability goals?

— Organizations have an important role to play in creating systems-level change to realize a more just and sustainable economy. At Coca-Cola, for example, we operate in over 200 countries and territories. As a system, we have around 225 bottling partners worldwide, involving around 900 bottling plants, employing more than 700,000 people and serving about 30 million retail customer outlets. We recognize that we cannot achieve any one of our sustainability goals on our own. As a global company with a wide supply chain and consumer reach, we have a significant role to play in meeting many of these ambitious aims.

For example, respect for human rights is foundational to our business and embedded in our culture. To ensure adherence to our expectations, we facilitate third-party audits as part of our human rights' due diligence program.

We believe that partnership across our system, business, government, and civil society will be critical to us reaching all of our goals and targets. We remain committed to engaging proactively to help drive collective action for a better shared future.

Could you share some examples of how emerging technologies are helping Coca-Cola achieve its sustainability goals?

— We are exploring the use of AI and blockchain within our supply chain for advanced analytics and inventory planning and management. We are also piloting it in many areas of our business, from end-to-end visibility of our ingredients and material supply to predictive consumer purchasing patterns that can inform a variety of outputs, such as marketing, packaging, and production. The impacts of the



Water leadership movements

Water Resilience Coalition: A CEO-led initiative launched in March 2020 to reduce water stress by 2050.

WASH4WORK: A public-private initiative aimed at addressing water, sanitation, and hygiene challenges in the workplace.

WaterAid: A campaign to propel access to clean water to the top of the corporate agenda for the post-COVID recovery.

Business for Nature: A collaboration platform which brings together major organizations to call for greater action to protect nature.

pandemic have demonstrated the need to further accelerate our use of the technologies within our business.

From a sustainability standpoint, we see potential for several emerging technologies to help improve efficiency within our operations while reducing waste. For instance, in Europe, our bottling partner – Coca-Cola European Partners – is exploring blockchain technology for tracking recycled plastic supply sources. This is in support of our World Without Waste goals as we continue to expand the number of packages made partially or entirely of recycled materials.

What would be your recommendations for organizations on scaling sustainability initiatives?

— I'm a firm believer in the transformational power of partnerships. It is part of our DNA that we must work together by forming meaningful partnerships to create shared opportunities for communities and people around the world. In our sustainability journey, our company has benefited immensely from the knowledge and experience that our partners bring to the table. We have learned that solutions to some of the sustainability challenges can only be unlocked if relevant stakeholders work collaboratively to create a system that enables positive change.

If the COVID-19 pandemic has taught us anything, it is that we cannot act alone. We're in this together. The crisis has highlighted the interconnected nature of our world, demonstrated the need for deep systemic change, and revealed that the best solutions often lie in local, in-country capacity and knowledge that can be scaled. After the initial shock of COVID-19 has passed, the lessons we learn must be applied to help us "emerge stronger" – so we can better live out our purpose every day to refresh the world and make a difference. •



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and Strategic Partnerships Officer,
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Sally Uren
Chief Executive,
Forum for the Future



ACCELERATING THE SHIFT TOWARDS A SUSTAINABLE FUTURE



Sally Uren is Chief Executive at Forum for the Future, a leading international sustainability non-profit. She is leading Forum's mission to create a more sustainable future by catalyzing transformational change in key global systems. As part of this, she works with leading global players, including businesses such as Unilever and Olam, and foundations such as the Laudes Foundation, to address complex challenges in systems as diverse as food, energy, apparel, and shipping. With almost 30 years' experience in sustainability, Sally acts as an independent advisor on Advisory Boards for several global businesses. In December 2017, Sally received an OBE in the Queen's New Year's Honors List for services to sustainability in business. The Capgemini Research Institute spoke with Sally Uren to understand the Forum's systems-based approach to sustainable development.

A SYSTEMS APPROACH TO SUSTAINABILITY

Could you tell us about Forum for the Future and its overall mission?

— Our mission is to catalyze progress towards sustainable development using a systems-based approach. In other words, we try to understand the world around us as a set of interconnected systems, and use that understanding to design for transformational change. It's about really recognizing that the world isn't linear and that everything is connected. And if we can understand those connections more in key challenge areas, we can potentially accelerate progress towards sustainability.

What are some of Forum's key focus areas?

— We work in partnership with a number of organizations in business, philanthropy, and the public sector and our partnerships and collaborations are focused on three key challenge areas. One is how can we ensure we stay below a 1.5-degree temperature rise by the end of this century. The second is looking at how we can design and deliver a sustainable food system. The third is understanding how we can design and deliver sustainable value chains and sustainable livelihoods. Our partnerships and collaborations are designed to activate key leverage points in those challenge areas, and we use our systemic approaches, tools, and techniques very deliberately to try and drive positive change.



Sally Uren
Chief Executive, Forum for the Future

"Our mission is to catalyze progress towards sustainable development using a systems-based approach. In other words, we try to understand the world around us as a set of interconnected systems, and use that understanding to design for transformational change."

Could you tell us more about the systems approach and what it entails?

— The systems approach is about undertaking a really good diagnosis of any particular challenge area to identify where the interconnection points are – or leverage points, as we call them. These are areas for action that can drive transformational change. So, for example, if we're looking at the interconnected systems of climate and nutrition, then soil health is a really great leverage point. If we can improve soil health, we can drive benefits for climate as well as nutrition. Similarly, if we're looking at the food system, then the protein in our food system is a really good leverage point. If we can rethink protein and look at alternative proteins, then we can start to drive resiliency in the food system. So, the first step in the systems approach is a really great diagnosis that allows you to understand where to act.

“

Collaboration is critical for systemic change because no one actor can shift a system on their own.”

The other part of a systems approach is designing for transformational change. By that I mean change that has two key features. The first is change that is catalytic, which means you design some change and then that change in and of its own right sparks further change in the system. For example, we have been looking at alternative business models in commodities to understand how, by changing the business model, you can then drive benefits for livelihoods, the environment, and the economy. The second feature is designing change that is self-sustaining. This involves identifying the enabling conditions around a particular change intervention, be it policy, finance, or behavioral conditions that need to be there for an innovation to really scale.

Could you highlight an example of the systems approach applied to an industry challenge and the need for collaboration to solve such challenges?

— Collaboration is critical for systemic change because no one actor can shift a system on their own. That's why it's vital to "bring the system into the room" to really understand how to activate different elements of a system to

drive that change. Our “Cotton 2040” project, for example, is a collaboration between sustainable cotton standards such as the Better Cotton Initiative; well-known brands and retailers, such as Burberry and Marks & Spencer, as well as manufacturers and non-profits. With the representatives of different parts of the system in the room, we then created different future scenarios for where the cotton industry might be going, the big risks that the industry faces, and where the opportunities lie.

This process really helps people step out of their current reality and to think big. And looking at the future of cotton, it became really clear that there

were a number of systemic issues that need to be addressed today to secure a sustainable future for cotton. These include driving demand for sustainable cotton among everyday consumers, building climate resilience in the industry, and aligning

sustainable cotton standards. Currently, these standards are all slightly different, which means that a smallholder farmer wanting to convert from conventional to sustainable cotton can find it really confusing and difficult. This is why we have been working to harmonize metrics and approaches across the standards to make it easier to convert from conventional to sustainable cotton. We've also published a guide to sourcing sustainable cotton as a way to build demand for it in the apparel industry.¹

What is holding back the adoption of sustainable business practices within organizations?

— Typical barriers tend to be short-term time horizons, lack of access to available capital, the lack of an enabling policy environment, and the lack of a mindset that is in a regenerative space – i.e., one that understands that economic health equals planetary health. Those are the typical barriers that we tend to need to step over to start to drive transformational change.

What can organizations do to overcome these barriers?

— One of the approaches that is really interesting at the moment is the

¹ Cotton Up, “A Practical Guide to Sourcing More Sustainable Cotton.”

level of investment and interest in nature-based solutions, such as Unilever's EUR1 billion Climate & Nature Fund² and Amazon's USD2 billion Climate Pledge Fund.³ Both businesses are placing big bets on key levers for change and I think that's one way to step out of the barriers. So really understanding the material areas where you can make a big difference and placing big bets is one way of overcoming barriers.

Thinking long term is another tactic. We're seeing more and more organizations developing 10-year visions but not locking them down into the inflexibility of annual goal setting. So, having a guiding star, a North Star, and an active pathway to get there, also helps to deal with some of the barriers. And then you see organizations just experimenting with different business models. I love what Patagonia has been doing in this area. I think a

willingness to experiment and innovate is a hugely positive characteristic.

How has the COVID-19 crisis impacted the conversation around sustainability?

— COVID has created some sustainability positives, such as new public-private partnerships, and governments stepping in to protect the vulnerable. It has also accelerated some very important trends, such as the adoption of renewable energy and digital access to healthcare. Equally though, it has made some of the pathways to sustainability harder. So, if you think about the apparel industry and the massive chaos to supply chains, there's a really difficult socio-economic story there. Similarly, in travel and tourism – many communities in the world are dependent on tourism for local economic growth, and that's gone in the short term.

Looking ahead, what are some of the changes that you envisage in the world in the next 10–15 years in the area of sustainability?

— I think we are at a massive inflection point. At Forum for the Future

² Unilever, "Unilever sets out new actions to fight climate change, and protect and regenerate nature, to preserve resources for future generations," June 2020.

³ Amazon, "Amazon Announces \$2 Billion Climate Pledge Fund to Invest in Companies Building Products, Services, and Technologies to Decarbonize the Economy and Protect the Planet," June 2020.

we have been working on a project called “Future of Sustainability” that has shown us that multiple different versions of our future are currently emerging. There is a version of our future – a trajectory called “Transform” – where we use this moment to reset, to build back better, to redefine the goals of the economic system, and to broaden them out to account for environmental and societal value. That is really great news for sustainability. It would suggest that we are able to use this decade to design solutions that will address the worst of the climate emergency.

“ But equally, we see a trajectory emerging – one we call “Compete and Retreat” – where we see huge negative pressure on multilateralism and global governance, and with that our ability to solve global challenges such as climate just falls away. And in that trajectory, sustainability doesn’t really move in a significant way.

My own view is that for all of us involved in sustainability right now, what we do over the next 6-12-18 months has actually never mattered more.”

We also see two other trajectories: “Disciplined” – which is about strong government intervention to ensure public health outcomes, and “Unsettled” – which is just a continuation of where we are today, lurching from one crisis to another.

My own view is that for all of us involved in sustainability right now, what we do over the next 6-12-18 months has actually never mattered more. This is because we have these multiple versions of our future opening up every day. As sustainability professionals, we need to pay attention to “Transform,” and ensure that every decision we make, every action we take, is aligned with “Transform.” Because then, that might become the dominant version of our future.♦



Sally Uren

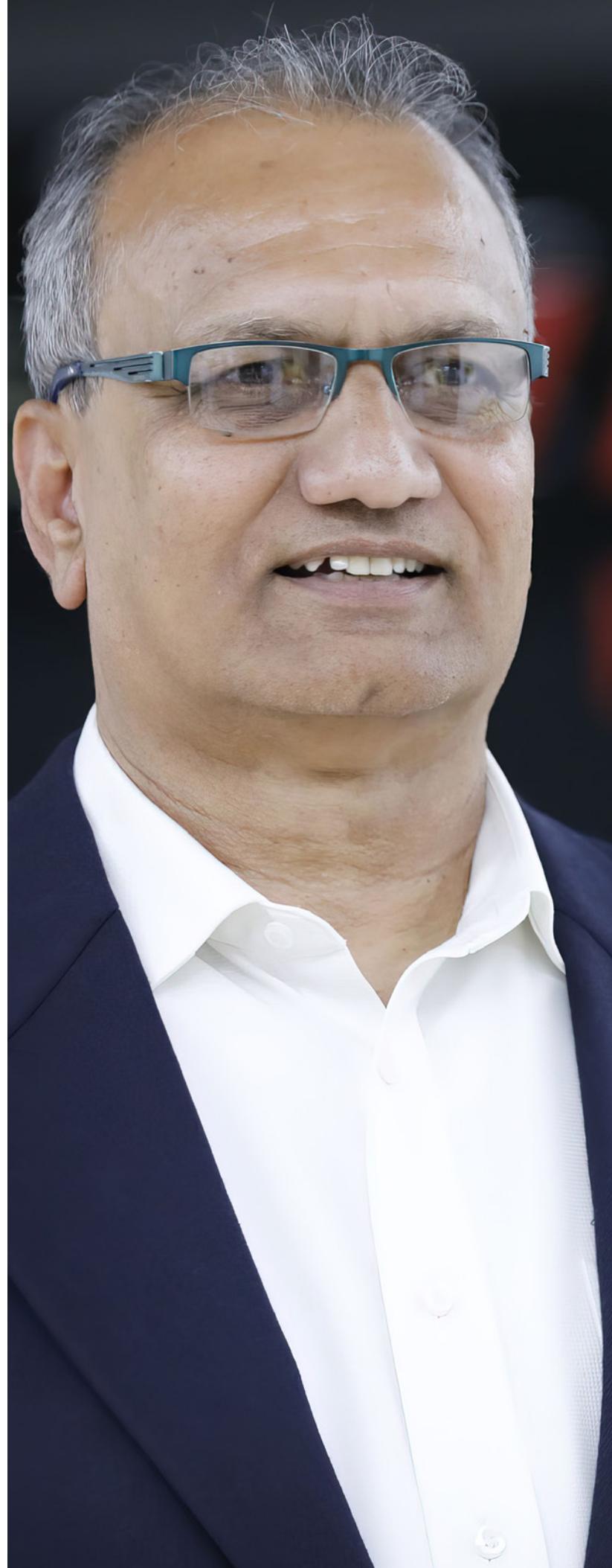
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Dr. Ajay Kela
President and CEO,
Wadhwani Foundation



JOB CREATION THROUGH SKILL DEVELOPMENT, ENTREPRENEURSHIP, AND INNOVATION



Dr. Ajay Kela is the President and CEO of the Wadhwani Foundation, a not-for-profit with the primary mission of accelerating economic development in emerging economies by driving job creation through large-scale

initiatives in entrepreneurship, small business growth, innovation, and skilling. For the last decade, he has spearheaded the Foundation's initiatives, securing government investments of over USD100 million towards job creation. He has built and deployed replicable job ecosystems in 20 countries in Asia, Africa, and Latin America. The Capgemini Research Institute spoke with Dr. Kela to better understand the various job-creation and skilling initiatives undertaken by the organization, their impact, and the pandemic's effect on the job creation ecosystem.

DELIVERING SUSTAINABLE ECONOMIC AND SOCIAL IMPACT

What is the overall mission of the Wadhwani Foundation? Could you highlight some of the critical initiatives of the Foundation?

— We are a platform for family-supporting wages and jobs. Today, we operate in 20 countries, and our mission is to empower families with at least one individual with a family-supporting salary. Once you do that, the family can buy high-quality education and healthcare besides taking care of their essential needs. This not only transforms the immediate family but potentially transforms generations to come. Our initiatives aim to create such jobs and empower youth with the 21st-century skills required to command such employment. We pick countries with large and growing youth populations – for example, India, Mexico, Brazil, Indonesia, the Philippines, and individual African nations. Some of our key initiatives include (see “*Wadhwani Foundation: List of Initiatives*”):

Wadhwani Advantage: This program focuses on companies in “the missing middle” of revenues between USD 3-30 million with 100-1000 employees. Many of them have the potential to grow 2x-10x in size but need guidance and support. Our Wadhwani Advantage initiative helps such companies realize their potential. India, for instance, has about 1.2 million such enterprises. The Foundation works with a subset of these enterprises and empowers them with growth consulting services and tools, thus enabling a trajectory of perpetual growth realization.

- **Wadhwani Entrepreneur:** This initiative focuses on helping startup entrepreneurs to become the next generation of Wadhwani Advantage companies. We have three programs within this initiative that inspire, educate, and support entrepreneurs at various stages of their journey.
- **Wadhwani Inspire:** With programs such as NEN eWeek or a reality-show targeted at secondary and tertiary city entrepreneurs, we inspire a generation of youth towards entrepreneurship.



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Wadhwani Foundation: List of initiatives

Wadhwani Technology Platform • Wadhwani Academy • Wadhwani Market Research and Policy

Wadhwani Advantage: Empowers small business entrepreneurs with AI-empowered business management and business consulting services to maximize their growth potential

Wadhwani Entrepreneur: Inspires, educates and enables startup entrepreneurs

Wadhwani Inspire establishes a culture of entrepreneurship at a national level

Wadhwani NEN empowers students with knowledge and skills to create high-potential startups

Wadhwani Venture Fastrack (VFT) maximizes success rates of early-stage startups

Wadhwani Opportunity: Provides 21st century employability skills to job-seeking students

Wadhwani Innovation: Accelerates large-scale innovation within academia and industry through innovation grants in partnership with governments and other organizations

Wadhwani Catalyst Fund: Amplifying economic and jobs impact through scaling global third-party efforts

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- **Wadhwani National Entrepreneur Network:** NEN runs a one-year practitioner's course on entrepreneurship for master's and graduating students. Every student in the class starts a Practice Venture (PV) where they implement what they learn in the classroom. This empowers them with real-world entrepreneurship skills.

Wadhwani Venture Fastrack: VFT supports startup teams to minimize their failure rate and maximize their growth potential. In India today, many incubators are not equipped to provide the services that entrepreneurs need. Therefore, we developed a technology-enabled solution to help incubators manage their cohorts through a library of technology solutions that they can offer to accelerate their startups' growth.

In your Advantage Initiative, how do you identify the companies to support?

— For this, we need to answer the question – “who creates jobs?” Large companies do not create many jobs. They target growing at 15%–25%, which they achieve mainly through productivity increases. Globally, 70% of all new jobs created every year are created by startups and small businesses. We pick such companies where job growth and revenue growth are aligned. As they fulfill their mission of revenue growth, we fulfill ours of job growth.



— share of all new jobs
created every year
by startups and small
businesses

There are three channels that we employ to identify companies. One is through our partnership with banks that extend loans to these small and medium businesses. The second channel is the industry associations. The third is through our direct marketing efforts.

In today's economy, innovation is of crucial importance. Are there initiatives specifically to nurture innovation?

— In a knowledge economy, no country can become a leader unless it's a leader in innovation. India is among the top ten economies of the world. But when it comes to innovation, we are ranked 69. However, when Indians leave India, they lead major innovative companies, such as Microsoft and Google, and top research labs at the University of California, San Diego, MIT, and Harvard. Our mission is to create role models in India, be it individuals or institutes, who will inspire another generation.

We have been experimenting with two investments: one is at the Indian Institute of Technology Bombay, where we are developing low-cost biosensors and biomedical devices for the Asian region; and the other is at the National Center for Biological Sciences, where we are conducting stem cell research for cardiac and neural diseases. We got leading researchers from Stanford and the University of Kyoto to be principal investigators for the latter. They spent 3–5 years in Bangalore, and now 150 Ph.D. postdocs are working under them. Most of our researchers aspire to be "first in India" or "best in India." We want to change that mindset to being "first in the world" and "best in the world."

Do you also partner with foundations working towards similar goals as yours?

— We created the Wadhwani Catalyst Fund for this purpose. It's our effort towards amplifying our impact on the economy and jobs through scaling global third-party efforts. Many for-profit and not-for-profit organizations, while pursuing their mission, are also creating jobs that provide family-supporting wages. In such cases, we are willing to provide funding, technology solutions, and program management support to help them scale.

Could you highlight some of the Wadhwani Foundation's most successful initiatives that stand out in terms of impact?

— We have developed a skilling curriculum focused on twenty-first-century skills such as critical thinking, problem-solving, customer centricity, etc., that

will dramatically transform the employability of an individual. We worked with about 1,500 companies and found that while hard skills constitute 30% of what they look for, the remaining 70% is all about soft skills. Most companies feel that even if employees have a base level of hard or technical skills, they can fill that gap, but they can't fill the other hole. So, we have developed our curriculum based on this understanding.

Today, learning is not bound to a "sage on the stage" model with faculty delivering a course. Self-help videos dominate learning, as evident from thousands of DIY YouTube videos. Most of our curriculum is based on this "watch, think, do" pedagogy. That's the pedagogy that has now been accepted by the National Skill Development Corporation (NSDC) in India. All NSDC partners are required to deliver our curriculum. Our content is video-centric and relevant to the industry. Additionally, the data analytics that we perform around student engagement is critical to know whether learning is happening. Today, on

average, probably more than 150,000–200,000 students take our course every year.

We have also trained over 3,000 entrepreneurship faculty over the last 10–15 years who teach entrepreneurship to tens of thousands of students each

“We have developed a skilling curriculum focused on twenty-first-century skills that will dramatically transform the employability of an individual.”

year. Finally, as part of our Wadhwani Advantage program, we experimented with 1,000 companies in India and Mexico last year to see if small business entrepreneurs are willing to consume consulting resources and help them realize their potential. We were able to demonstrate this if the entrepreneurs came with the hunger to grow. They gave us an NPS score of 60+, which is unheard of. So, this year, we're scaling it to 2x–5x of those numbers in India, Mexico, and Brazil.

What do you think large organizations can do to support sustainable job creation?

— There are many ways in which large organizations can support job creation. From a procurement perspective, they can look at purchasing goods and services from smaller organizations and provide favorable payment terms to small businesses. They can offer apprenticeship opportunities to skilling students. When we work with large organizations, we provide soft skills training, while they provide training in hard skills. We ask them to recruit 3x or 4x, the number that they will eventually absorb. The idea is to have a 6–12 month apprenticeship

program, where they can pick 10%–20% of the trainees and release the rest to their supply chains, which is a win-win proposition for everyone. Small organizations and startups in particular come with an innovation DNA. Many large organizations today leverage startups to address some of their challenges, and they can extend this to small businesses with an established infrastructure and expertise to translate innovations into commercial products. For large consulting organizations, we would encourage them to provide consulting services to small businesses pro bono.

How does the emerging trend towards a liquid workforce impact your initiatives?

— It doesn't impact our initiatives at all. Our mission is to create jobs and empower people with the skills needed to fulfill those jobs. It doesn't matter if the marketplace is hiring permanent, part-time, or gig employees. The transition to the gig economy and remote work is going to happen. It's convenient for the individual and works for large organizations such as Uber, Fiverr, Care, Etsy, where employees can work for 10 hours and still be full-time students or homemakers and earn enhanced wages. The sharing economy is a good thing. It will fulfill the gaps in family-supporting wages.

How do you think the pandemic is going to impact job creation and upskilling?

— I think the impact of COVID will last for another two to three years. When COVID hit we shifted our focus from helping small businesses grow to help them stabilize and then take them on a growth journey. COVID also impacted the ability of partners to deliver hard skills training programs. We encouraged them to roll out our online program directly to students and accelerated building digital hard skills programs so learning was not compromised.

While there is a dark side to COVID, there is a much brighter side as well. COVID has accelerated the embrace of digital technologies across industries. Digital is here to stay. Even if you're selling jute bags, if you're not online, your business is going to suffer. Now, doctors and patients, homemakers and grocery stores, faculty and students are open to and comfortable conducting their business digitally. Digital adoption has been accelerated by 5-10 years, and this has thrown open a lot of opportunities to innovate and accelerate business growth. And that's what we intend to leverage. It's in our DNA to leverage technology for delivering solutions. •



Dr. Ajay Kela
President and CEO
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Matt Toombs

Director of Partnerships and
Engagement in the COP26 unit
of the UK Cabinet Office



DRIVING INTERNATIONAL COLLABORATION FOR A SUSTAINABLE FUTURE

**Cabinet Office**

Matt Toombs is Director of Partnerships and Engagement in the COP26 unit of the UK Cabinet Office, where he is responsible for driving international collaboration around the five focus areas of the UK's presidency of the COP26

summit to be held in Glasgow in November 2021. The five areas include clean energy, clean transport, nature-based solutions, adaptation and resilience, and finance. Matt is also responsible for driving engagement with a range of non-government stakeholders, including business and civil society. The Capgemini Research Institute spoke with Matt Toombs to understand the UK government's plans and priorities for the COP26 summit as it seeks to accelerate the pace of the change on climate action.

**BUILDING MOMENTUM ON INTERNATIONAL
CLIMATE ACTION**

Could you give us a background on the COP process and the goals of the COP26 summit?

— The COP process goes back to the Rio Earth Summit in 1992. Since 1995, there have been meetings almost every year that have built on the multilateral framework that was set up in Rio to tackle climate change. The most significant of these was the Paris meeting in 2015 – COP21 – because it was the first time that all countries came together and agreed on a set of temperature goals to ensure that average global temperature rise stays well below 2 degrees Celsius, and if possible below 1.5 degrees.

The Paris meeting also established the process for implementation and delivery against those goals, and a critical part of that are the nationally determined contributions. This is a process for countries to determine their own contribution to tackling the Paris goal and to commit to updating them with greater levels of ambition every five years. The reason why COP26 is so significant is because it's the first time since the Paris meeting that countries will be updating their national plans.

It is also significant because we are now seeing increasing impacts of climate change around the world, and we have started the critical decade where we need to really accelerate the transition to net zero. The current nationally determined contributions are on a trajectory of an over-three-degree Celsius global temperature rise. We need the



Matt Toombs

Director of Partnerships and Engagement in the COP26 unit of the UK Cabinet Office

"We are now seeing increasing impacts of climate change around the world, and we have started the critical decade where we need to really accelerate the transition to net zero. The current nationally determined contributions are on a trajectory of an over-three-degree Celsius global temperature rise."

collective commitments to be three to five times greater to meet the Paris targets. So, we need to accelerate international action on mitigation and we also need to make progress on finance, adaptation, and resilience.

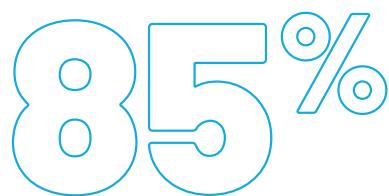
Could you tell us about the progress made since the Paris Agreement on climate action?

— One of the most significant things that the Paris Agreement has achieved is that it has provided, for the first time, a very clear signal to businesses, investors, and other groups about the direction the world is moving towards in terms of climate change. This has enabled a rapid increase in investment and action across the business community. Since Paris, we have seen a huge expansion of net zero targets, which has been really positive. All countries

and organizations committed to net zero now represent nearly 70% of global GDP. Even more important for showing businesses are taking action now, are the commitments to credible, science-based actions over

the next 5-10 years, through the UN-recognized Race to Zero campaign.¹ In the last year we have seen some of the world's biggest companies from a range of sectors joining the Race to Zero, including those from 'hard to abate' sectors, such as steel and cement. We've also seen significant increases in commitments from cities and regions. Around 11% of the global population is now covered by cities or regions that have made material commitments since Paris.

¹ The Race to Zero campaign is a global coalition of businesses, investors and others committed to achieving a net zero carbon economy by 2050; UNFCCC. (n.d.) *Race To Zero Campaign*. Retrieved from <https://unfccc.int/climate-action/race-to-zero-campaign>



the fall in cost of solar in the last 10 years

The other thing that we've seen since Paris is the changing economics. One of the significant shifts has been the falling costs of low-carbon technologies. The cost of solar has fallen by 85% in the last 10 years and wind by 49% and solar and wind are now the cheapest sources of new-build power generation for two thirds of the global population. We'll be getting to a point in the next few years where there will be upfront price parity between battery electric vehicles and internal combustion engine vehicles. We're also seeing significant decreases in prices for renewable energy on long-term power contracts.

I think that there are some very positive signs in terms of movement on both the economics and business ambition. But there are clearly still huge challenges. To remain on track to limit global warming to 1.5 degrees we need to halve global emissions by 2030. And so significant further action is needed and we need to increase the pace of change.

What are the goals of the UK's presidency of the COP26 summit?

— As Alok Sharma, the COP president-designate set out at the recent Climate Ambition Summit, over the next year, we want to unite against climate change, build a consensus, and broker an agreement around four key goals.

First, we must deliver a step change in mitigation to keep the 1.5 degrees Celsius temperature goal within reach. Second, we must strengthen adaptation and resilience, building on initiatives such as the Race to Resilience and the Adaptation Action Coalition, announced this January.

Third, we need to get finance flowing: we must collectively honor the commitment to mobilize \$100bn for developing countries which was agreed in Paris, as well as increasing flows of private finance. Fourth, we will be working to enhance international collaboration,

“We are aiming for the most inclusive COP. We want to bring in a full range of voices to the process: business, investors, governments, civil society and academia.”

particularly around five key themes or focus areas that include clean energy, adaptation and resilience, energy transition in transport, nature-based solutions, and finance. We are also aiming for this to be the most inclusive COP. We want to bring in a full range of actors and voices to

the process, including business, investors, governments, civil society, and academia. We are playing a role as a convener of those voices and supporting those voices in influencing outcomes at COP26.

Could you describe the five focus areas for the UK's presidency of the COP26?

— The aim of the five focus areas is to bring together governments, businesses, and civil society to help accelerate the transitions that are needed in each of those areas. Starting with clean energy, we've launched an Energy Transition Council, which brings together global leadership in the power sector to work together to accelerate the transition from coal to clean power. This is complementary to the Powering Past Coal Alliance, an international coalition of governments, businesses and civil society, led by the UK and Canada, that's committed to phasing out coal. There are still some 50 countries today that are planning new coal

"We're all seeing the impacts of climate change already hitting hard and there hasn't been sufficient investment in adaptation and resilience to date."

plants. We really need to work together to make sure that clean power is the most attractive investment opportunity for all countries. There is also a real jobs and growth opportunity here. The International Renewable Energy Agency has estimated that there could be 42 million jobs in this sector by 2050, so there's a huge opportunity for countries to embrace this transition.

In the area of adaptation and resilience, we're all seeing the impacts

42 M

estimated number of jobs in the clean power sector by 2050

\$6 T

estimated infrastructure investments needed ever year until 2030 to meet the Paris Agreement goals

of climate change already hitting hard and there hasn't been sufficient attention or investment in adaptation and resilience to date. This is a priority for the UK presidency and we're looking at improving protection from the impacts of climate-related extreme weather, increasing the availability, efficiency, and accessibility of finance for adaptation and resilience and working with the public and the private sector on that.

On clean road transport, the challenge is that we need to double the pace of transition to zero-emission vehicles. We also have to set a trajectory for the share of zero-emission vehicles to be 15% of global light vehicle sales by 2025. That's a significant increase from the current level of 5%. We want to do that through a series of commitments from governments, cities, manufacturers, and fleet owners. In the area of finance, we're aiming to ensure that climate is integrated in every financial decision. We also need to improve the quantity and quality of public finance dedicated to the net zero transition. Estimates indicate that we need USD six trillion in infrastructure investment every year until 2030 to meet the Paris Agreement goals, with four trillion invested in developing countries. Public finance is essential here, but certainly won't go far enough. Mobilizing private finance is going to be crucial and companies really need to consider what significant new investments they can make into low-carbon projects, particularly in developing countries. This can really help those countries set more ambitious national plans for themselves.

And finally, in the area of nature-based solutions, we want to tackle the twin challenges of biodiversity and climate together. These are very closely connected, and this really does call for a whole of society effort involving national governments and working with indigenous peoples, farmers, scientists, conservationists, and business. We'll be looking to use the convening power of our presidency to create domestic and international spaces for dialogues around how to protect and restore these ecosystems.

In what ways can businesses contribute to these efforts?

— The first thing I'd say is that businesses are already taking action. In many ways, they are ahead of governments in taking action. That is incredibly powerful and sends a very strong signal to others around the world. Some of the things that businesses are already doing, which we would encourage more to do, is making commitments to net zero and importantly, setting credible short-term plans for how they are going to get there. One of the specific ways to do this is to join the Race to Zero initiative. We would also

encourage businesses to become advocates within their supply chains across their sectors, and with national and local governments, employees, customers, and civil society groups. A number of businesses are already doing this, and that can be really powerful to make sure that we all move together on this transition.

There are also some specific commitments that we're encouraging businesses to make across different campaigns in different sectors – for example, signing up to the "EV100" commitment to electrical vehicles,

the 100% renewable energy commitment or "RE100"² or the "Powering Past Coal Alliance." Signing up for the "Task Force on Climate-related Financial Disclosures" is another option, which involves disclosing against 11 recommended disclosures, particularly scope 3 emissions. This makes

We hear from businesses across a wide range of sectors that they're seeing a strong bottom-line benefit of the net zero commitments that they're making."

increasingly good economic sense. We hear from businesses across a wide range of sectors that they're seeing a strong bottom-line benefit of the net zero commitments that they're making and really positive impacts in terms of staff retention, recruitment, and customer engagement. There's an important resilience element as well. According to a recent report, 215 of the biggest global companies report risks worth USD1 trillion from climate impacts.³ And many of those impacts are expected to hit within the next five years. So, committing to the transition to a net zero economy is also a way of managing corporate resilience.

What is holding back progress on climate action?

— Part of the challenge is the pace of change. Even as the economics is moving in a favorable direction and creating stronger investment incentives for climate action, the pace of change needs to significantly increase. For instance, we need the global transition to clean power to progress four times faster this decade than over the last one.

² RE100 is an initiative that brings together hundreds of large organizations that are committed to 100% renewable energy; RE100. (n.d.) *About us*. Retrieved from www.re100.org/about-us

³ CDP, "World's biggest companies face \$1 trillion in climate change risks," June 04, 2019.

I think it is also important to highlight the need for a just transition – the transition needs to be fair and inclusive and it needs to support communities. Taking the example of coal, countries with significant coal power generation and mining will face large social and financial challenges in transitioning from coal. Financial and technical support, such as countries sharing experience of successful social dialogue processes, reskilling programs and transitioning coal powered utilities, will be important to help them overcome these very real social challenges.

The third challenge I'd say would be around coordination. Individual countries or companies that are trying to drive a low carbon transition themselves will find it a lot more difficult than groups of companies, countries, and larger markets doing this in cooperation and that's why we want to bring together key markets.

How has COVID-19 impacted the conversation around climate action?

I would say that despite the pandemic, the momentum on climate action has really continued to grow. This is a real opportunity to build a more sustainable, inclusive economy and society. And so, ensuring a green and inclusive recovery is going to be a central element of the UK's presidency of the COP26 and has been a crucial part of our discussions with other countries and with business and civil society.

I have been struck by the significant progress that was made globally last year, despite significant challenges. The UK co-hosted the Climate Ambition Summit in December with the UN and France, in partnership with Italy and Chile, which brought together 75 world leaders alongside businesses and civil society. As a result of announcements made during and before the summit, together with those expected early next year, countries representing around 65% of global CO₂ emissions, and around 70% of the world's economy, will have committed to net zero emissions or carbon neutrality by early next year. While this is encouraging, it is still not enough, so we must keep maintaining this momentum throughout 2021 and beyond. •



Matt Toombs

Director of Partnerships and
Engagement in the COP26 unit of
the UK Cabinet Office

“I would say that despite the pandemic, the momentum on climate action has really continued to grow.

This is a real opportunity to build a more sustainable, inclusive economy and society.”



Ann Mettler
Vice President, Europe,
Breakthrough Energy





Florent Andrillon
Vice President, Energy
Transition Global Leader,
Capgemini Invent

MAPPING THE JOURNEY TO NET ZERO

Ann Mettler from Breakthrough Energy and Florent Andrillon from Capgemini Invent discuss the journey to climate neutrality and its impact on business and IT strategies.

Ann Mettler is Vice President, Europe, at Breakthrough Energy. Previously, she was Director-General and Head of the European Political Strategy Centre (EPSC), the European Commission's in-house think tank. In 2019, Ann was recognized as one of the top five women shaping Brussels by politics- and policy-focused news organization, Politico.

Florent Andrillon is Vice President, Energy Transition Global Leader, Capgemini Invent. Having begun his career in the energy sector, Florent has spent many years helping companies deliver their strategies for energy transition, acceleration, and global transformation, notably leveraging digital technology (e.g., smart buildings, e-mobility, and smart energy).

What does it mean to be net zero?

— **Florent Andrillon:** Net zero means achieving a balance between the greenhouse gases put into the atmosphere and those taken out in order to reduce global warming. Companies can contribute to this trajectory. Many companies have announced carbon neutrality targets, which they plan to deliver through offsets and minimum real efforts towards reducing their footprint, but they must go beyond that and engage a real plan to reduce their emissions all along their value chain.

What impact could unchecked climate change have on the private sector?

— **Ann Mettler:** Well, first of all, it will have a very negative impact. This is really an existential threat, which is very much the way that public policy is viewing it now. There is a consensus that we have perhaps 10 to 12 more years to really turn this around. This is why the European Commission recently made the emission reduction targets for 2030 more ambitious, raising them from 40 to 55 percent. This is done in view of the fact that anything we want to happen in 2030, we essentially need to do today. We need to start today. We really need to step up our ambition. Interestingly, the private sector is waking up to this and that has been very conducive to public policy because before, it was oftentimes a stumbling block to bolder climate action – so, it's good that the private sector is coming around and finally taking action.

2030

The European Commission recently made
emissions reduction targets for 2030 more ambitious,
raising them from 40 to 55 percent.

What concretely has changed today in the way the world, and the private sector in particular, views climate change?

— **Ann Mettler:** I think that we are all experiencing climate change in a way that maybe we didn't five years ago. From the point of view of citizens, this has made a real difference. For companies, the reckoning has come simply because it's now showing up on their balance sheets. They're seeing what climate change has done, whether that's in terms of stranded assets that they are now sitting on or climate disasters that they have been exposed to, or seeing the gradual decline of the fossil fuel industry. I have studied global trends for most of my professional life and there is something that is definitely different this time around. The energy transition is now an overriding global trend that is unstoppable, in my opinion, and the private sector, as I said, has come to realize this and is now finally coming on board.

— **Florent Andrillon:** What's changed is that sustainability is the new digital. It's becoming the core business. Companies are aiming for net zero for several reasons – first, because clients are asking them to, so there are clear client expectations. Soon, if you look at the B2B space, having a clear net zero target and roadmap and being under a certain level of emissions will become a must-have. Second, because investors in the financial sector are now looking at sustainability with deep scrutiny. As a result, companies' financing model is also changing if they are not committed and if they do not show efforts to reduce the negative impact of their activity. The finance world is making it much more of a requirement than before. Third, the regulatory movement toward net zero around the world will put GHG emissions reduction as a prerequisite to maintaining a license to operate. Last, this also creates new opportunities and companies are (re)inventing business models for a sustainable world that will give them an edge in this new era.



Soon, if you look at the B2B space, having a clear net zero target and roadmap and being under a certain level of emissions will become a must-have.”



Are companies now realizing that getting to net zero can also be cost-effective?

— **Ann Mettler:** Companies are seeing that early leaders in sustainability are now the winners. I read recently that the largest energy company in the United States today is actually a clean energy utility and not a fossil fuel company. This is a global trend, and those that were early adopters are now doing better. Companies are starting to realize this and that's why they are quickly trying to reorient. Getting to net zero is becoming part and parcel of the business model. This is a systemic change that's occurring in the business community that is genuinely different from, let's say, a decade ago.

What is required to make the journey to sustainability a reality?

— **Florent Andrillon:** Timing is key. We saw exactly the same trend 15–20 years ago with the digital transformation wave. It started with a few leaders and a few top managers seeing it, and it took many years to be rolled out massively. With sustainability, we have no choice because it's more than a business issue. What is critical is that we need to speed up and go beyond big announcements of carbon neutrality. We need to go beyond the race because it's not a race – it's a common goal. So, what needs to be done when you're a company is that you need to really engage in transformation across all your activities and to engage all your people in it, because it's not only a top-down issue but a company-wide issue. That's why, engaging the staff and engaging stakeholders is critical for companies to really change their operations and to adapt their business model to new sustainability frameworks.

— **Ann Mettler:** Essentially you need a productive interplay between the role of the public sector and the role of the private sector. In the public sector, we're seeing that the European Green Deal is now really the overriding policy objective of the European Union. That means a "whole of government" approach to meeting these targets, leading to climate neutrality in 2050.

What is interesting, and this has always been a challenge hitherto, is that one nonetheless faces a massive collective action problem. Even if Europe were leading, what would happen if the rest of the world didn't go along? That is the world we have faced to date because Europe was always ahead

of the curve, but with the result that, if others were laggards, we were not achieving the ultimate climate goals. What is different this time around is that countries such as China, Japan, South Korea, and soon hopefully also the United States have all made their own pledges for either carbon or climate neutrality, either in 2050 or 2060.

This means that now a large part of the world and those that are the biggest emitters have come to a consensus that climate change is an overriding challenge, and that something must be done about it. And that gives me hope that this time around it will really be different. However, the public sector cannot do it alone either. That's why the private sector is absolutely needed because there are still many clean technologies that either still need to be developed or that already exist but haven't scaled.

Thanks to the International Energy Agency, we know that more than 50% of the CO₂ reductions that we need to become climate neutral by 2050 will need to come from technologies that are not yet commercialized. That means they may exist, but they're too expensive, too marginal, and are not being used. So, a lot of our thinking needs to be around how we unleash these technologies.

What is needed to bring clean technologies to the forefront and to help them scale?

— **Ann Mettler:** There are a number of aspects here; number one is that research and innovation need to be front and center. This is not a good time to cut research and innovation budgets; if anything, they need to be



share of CO₂ reductions needed to become climate neutral by 2050 that will need to come from technologies that are not yet commercialized.

scaled up. Second, these technologies exist, but they are too expensive. This is why we need to bring down what Bill Gates likes to call the green premium. This is the difference in price between a product that emits CO₂ and a product that doesn't emit CO₂. Oftentimes, the price differential can be substantial, so a lot of our thinking should be around how to bring down the green premium. The European Commission is thinking about what is called a "Carbon Contract for Difference," which is essentially about bringing down the green premium, and therefore making it more attractive to use these low-carbon or no-carbon products.

Are we seeing the dialogue on sustainability between the public and private sector converging?

— **Florent Andrillon:** There is a clear need for investment to accelerate and scale innovation. But this investment doesn't have to be all public funding because there won't be enough. Public funding is really more of a trigger to increase and attract some private investment. We're now seeing a very good level of dialogue and I know that the European Commission is organizing a lot of meetings with the private sector to understand the roadblocks to finance this innovation, and what they can do in terms of regulation to de-risk the investment and make it easier. Is it growing fast enough? Probably not. And to accelerate that, public support must go beyond funding, to easing regulations and adopting a sandbox approach to enable innovations to be tested before they are regulated. And the private sector is really keen to engage in such a transformation.

Where should businesses start in order to reach their net zero goals?

— **Ann Mettler:** Every company needs to have an idea of their carbon footprint. It doesn't just need to be the company's own carbon footprint. We also need a better understanding of Scope 3 emissions – these are all of the emissions that occur throughout the value chain – and that's quite difficult. From a public policy perspective, I believe we need better reporting mechanisms. Companies will need to report on their carbon footprint, including on the Scope 3 emissions. Perhaps, we even need new frameworks that measure carbon avoided or carbon reduced in a much more productive way than is currently the case.

A lot of what companies do today to reduce their carbon footprint are offsets and a lot of these offsets are nature-based solutions, which is

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We need to have a better understanding of Scope 3 emissions – these are all of the emissions that occur throughout the value chain.”



planting trees or investing in renewables. I’m not per se against that, but we also need to think about what companies can do to accelerate new clean technologies that we know we will need – and that would be a good starting point.

It is my hope that because European companies, on balance, didn’t embrace the digital revolution very well, they will be more receptive to embracing this clean tech revolution and really seeing the opportunity that it holds in creating new markets and being a first mover and enjoying the advantage that that brings, because the writing is on the wall. This is unstoppable. This will happen and companies need to find the internal strength to do what must be done.

What are some examples of clean technologies available today that are ready to be scaled?

— **Florent Andrillon:** In a recent report¹ we identified 55 high-impact technology projects in Europe that are applying technology to use cases across different sectors. Clean hydrogen is something we took a deep look at, where there are 12 technology projects leveraging green hydrogen for transportation where we believe it can have a very big impact, or in shipping, or in decarbonizing hard to abate sectors like steel or cement. Smart technologies can be very impactful. For instance, in the transportation sector, mobility-as-a-Service rolled out and deployed massively across Europe can reduce emissions. Smart buildings are another high-impact area where we looked at the acceleration of construction and renovation leveraging 3D printing, geomodeling. Finally, a sector that must not be forgotten is agriculture and land use, where we can apply technology to grow food in a way that has less impact on the soil and identify low carbon alternatives to meat.

¹ Capgemini, “Fit for Net-Zero report,” October 14, 2020.

How are countries managing the transition to net zero? Which countries are leading the way?

— **Ann Mettler:** Europe has been leading the way and early successes, both in wind and solar, have come out of Europe. It has always been very noteworthy that the countries that were both economically most successful, and also the leaders in environment, were the Nordic countries – in particular, Denmark and Sweden. In many ways, they have been the most successful economies in Europe – consistently, and over a long period of time. They have managed to essentially combine economic, social, and environmental objectives in their model of governance. The hope is that all of Europe can do this.

However, I will say that others have also woken up to the opportunity. China is currently working on its next five-year plan, which will commence in 2021. I know that clean technologies and environmental objectives will be very central to that next five-year plan. I also believe that the United States will see a step change now in embracing clean technologies and the energy transition under a new administration.

It is my hope that Europe, as one of the most advanced economies in the world, will continue to lead the way on the transition to net zero, not only politically as we have been doing, but also economically and through innovation by really developing the next generation of technologies that are needed to reach these net zero goals. •

This is an edited version of a podcast that was published on December 2, 2020. To listen to the full conversation, please visit: www.capgemini.com/resources/mapping-the-journey-to-net-zero

Discussions

FIT FOR NET ZERO

55 tech quests to accelerate Europe's recovery and pave the way to climate neutrality





Ann Mettler

Vice President, Europe,
Breakthrough Energy



Florent Andrillon

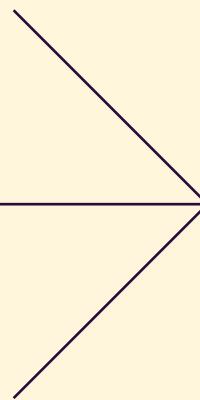
Vice President, Energy Transition
Global Leader, Capgemini Invent

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Art icles

...from leading public
figures, environmental advocates
and academics.



EUROPEAN COMMISSION

A green recovery and healthy future for all

Frans Timmermans, Executive Vice President for the European Green Deal, European Commission

→ p.74



SOLAR IMPULSE FOUNDATION

Business leaders, it's your turn to become the explorers of tomorrow!

Bertrand Piccard, Initiator and Chairman of the Solar Impulse Foundation

→ p.80



HARVARD UNIVERSITY

Shareholder Value as Yesterday's Idea

Rebecca Henderson, McArthur University Professor, Harvard University

→ p.88



Frans Timmermans

Executive Vice President for
the European Green Deal,
European Commission

A GREEN RECOVERY AND HEALTHY FUTURE FOR ALL

Frans Timmermans began his career with the Dutch Ministry of Foreign Affairs in 1987. In 1998, he was elected as a member of the House of Representatives for the Dutch Labour Party (PvdA), where he dealt principally with foreign affairs. From February 2007 to February 2010, Mr. Timmermans was Minister for European Affairs in the Dutch government. In 2010, Mr. Timmermans returned to Parliament as the Labour Party's spokesperson on foreign policy. On November 5, 2012, Mr. Timmermans became Minister of Foreign Affairs in the Dutch government. Two years later, on November 1, 2014, he became First Vice-President of the European Commission, responsible for better regulation, interinstitutional relations, sustainable development, the rule of law and the Charter of Fundamental Rights. Since December 1, 2019, he is the Executive Vice-President of the European Commission, responsible for the Green Deal.

Some may want to run from science, but no one can hide from reality. While the pandemic continues to dominate day-to-day life, the climate and biodiversity crises remain a clear and present danger. The droughts, the wildfires, the floods, the storms, the viruses; they are all the harbingers of worse to come.

Taking cues from the best science available, and simply by opening our eyes and ears, it is clear that we're rushing towards a dangerous tipping point. Even die-hard climate deniers and fossil fuel fans will now admit that the end of their bonanza is in sight. Slowly but surely, all nations are coming to terms with the fact that the costs of non-action will be huge, and the consequences dire.

Over the past year, the pandemic forced our world to a grinding halt. As it did, it offered us a chance to take a step back and reflect: what world do we want our children and grandchildren to grow up in?

The pandemic forced our world to a grinding halt. As it did, it offered us a chance to take a step back and reflect: what world do we want our children to grow up in?"

There is a simple, but fundamental, choice to make for each government and every business. Do we continue on the path

we know by growing shareholder dividend on the back of a slash-and-burn economy while poisoning our air, seas and lungs? Or, are we ready to embark on a new path of sustainable growth in a clean, circular, and inclusive economy, where health is wealth instead of the tally of GDP indicators?

We can green inner cities and move around with sustainable, electric transport. As hundreds of mayors already know, this is how we



We have the skills
and technology to do it

2030

The EU has committed
to cutting at least 55% of greenhouse
gases by 2030

“

All it takes is clear-sightedness and the courage to finally say farewell to a 150-year-old carbon-based society.”



"Around the world, we are about to spend enormous amounts of money to build back better. We have one chance to get it right, to spend it on where we want to be tomorrow. Let's not waste it by locking ourselves into soon-to-be obsolete technologies and outdated carbon business models."

can purify the air and cool down our streets and parks, preventing hundreds of thousands of premature deaths per year due to air pollution. We can make agriculture less dependent on poisonous pesticides, saving the insects that pollinate our crops and help put healthier food on the table. And we can renovate our homes, make them more energy efficient and comfortable, and support local jobs. We have the skills and the technology to do it. All it takes is clear-sightedness and the courage to finally say farewell to a 150-year-old, carbon-based, take-make-dispose society.

The European Commission, in response to European government leaders' request to chart the EU's long-term course, is working to make Europe the world's first climate-neutral continent in 2050. As we do so, we challenge everyone to beat us to it: in a global race to zero, we all win.

The European Green Deal is our growth model, our plan to invest in innovative technologies, new markets, and sustainable jobs. The EU will cut at least 55% of greenhouse gases by 2030. Our Climate

Law puts the targets for 2030 and 2050 into law. This way, we provide as much long-term predictability and stability as possible, especially now.

In the next couple of months, the European Commission will prepare the legislation to support our climate targets and to deliver regulatory consistency. This is exactly what many in business have been asking for, and rightly so. Because you know the change is coming. Many companies, especially the largest ones, even recognized it much earlier than we politicians did. Investors are increasingly switching their portfolios.

Make no mistake: what we will do on the European emissions trading system, on renewable energy, in automotive; all these steps will imply structural changes in many industries. We are at the start of an incredibly complicated transformation process. It will require enormous efforts, but it can be done.



Make no mistake: what we will do on the European emissions trading system, on renewable energy, in automotive; all these steps will imply structural changes in many industries.”

Around the world, we are about to spend enormous amounts of money to build back better. We have one chance to get it right, to spend it on where we want to be tomorrow. Let's not waste it by locking ourselves into soon-to-be obsolete technologies and outdated carbon business models. It would be dereliction of duty if we were to invest in sectors with a limited future, only to create stranded assets and economic problems further down the line. Let's focus our recovery on our common future instead.

At the end of the day, this is not about saving the planet. It will do fine without us. This is about a healthier and better life for all of us. Climate change will not stop because we close our eyes. Not acting is not an option. •



Bertrand Piccard

Initiator and Chairman of the
Solar Impulse Foundation

BUSINESS LEADERS, IT'S YOUR TURN TO BECOME THE EXPLORERS OF TOMORROW!

Bertrand Piccard – serial explorer, psychiatrist, United Nations goodwill ambassador,¹ Initiator and Chairman of the Solar Impulse Foundation – comes from a long line of scientific explorers. His grandfather, Auguste Piccard, was the first person to reach the stratosphere by balloon. Bertrand's father, Jacques Piccard, was the first to descend to the deepest part of the ocean, the Challenger Deep in the Mariana Trench, along with US Navy Lieutenant Don Walsh. Bertrand himself made history with the first non-stop, round-the-world balloon flight in 1999. Then, in 2016, he circumnavigated the globe in the "Solar Impulse 2" – a solar-powered airplane – with the aim of demonstrating the immense potential of renewable energies. Following the success of the flight, Bertrand founded the Solar Impulse Foundation with the aim of selecting 1,000 solutions that can protect the environment in a profitable way.² The solutions act as practical tools to help decision-makers adopt more ambitious energy policies and achieve their environmental targets. Bertrand is also the founder of the World Alliance for Efficient Solutions, which was set up with the goal of bringing together actors in the field of clean technologies. By 2019, its members included more than 2,000 startups, corporations, investors, and public authorities.

¹ UN Environment Programme. (n.d.) *Bertrand Piccard*. Retrieved from www.unenvironment.org/people/bertrand-piccard.

² Solar Impulse Foundation. (n.d.) *Exploring Efficient Solutions*. Retrieved from <https://solarimpulse.com/efficient-solutions>.



Roald Amundsen, the Wright brothers, Charles Lindbergh, Edmund Hillary and Tenzing Norgay, Neil Armstrong, my grandfather Auguste Piccard, and my father Jacques Piccard ... what do all these names have in common and stand for? They are associated with some of the most pioneering events of the 20th century. These explorers pushed the limits of what was possible in order to discover the ends of the Earth, ocean and space. They showed the importance of the pioneering spirit in deepening our knowledge of the world and advancing humanity.

Today, we are aware of the complexity and beauty of the Earth, but also of its fragility. This is why our challenge is no longer the discovery of new territories, but the exploration of new ways of thinking and doing. This will be critical if we are to build a model where societal prosperity grows in balance with Nature, allowing us to tackle inequalities and build broad-based prosperity for all. I am convinced that the new explorers of the 21st century will be business leaders and captains of industry, collaborating with

politicians and civic society to build a new model of sustainable growth, tackling our most critical environmental and social issues.

What the world needs now is bold corporate leaders, rather than managers, who are ready to step outside their comfort zone and make radical decisions in order to put their business strategy at the service of the general interest, by fighting climate change and reducing inequality. It's encouraging to see that more and more leaders are now making commitments on these issues and taking action. Last year, the number of corporations that committed to reaching net zero carbon emissions by 2050 more than doubled, including major players such as BP or Nestlé. Others, such as Microsoft, have gone further by declaring that they would become carbon-negative, meaning they will reduce CO₂ in the atmosphere.

Last June, I gathered 12 corporate partners of the Solar Impulse Foundation, from LVMH to BNP Paribas. They signed a commitment to implement concrete actions to ensure a clean recovery of the global economy and also called on governments for more

Businesses can drive this step change

**OVER
170**

**business and investor CEOs
urged the EU to raise its 2030
greenhouse gas emissions reduction
to at least 55%**

“

**Others, such as
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further by declaring
that they would become
carbon-negative – they
will reduce CO₂ in the
atmosphere.**

ambitious environmental policies. Many corporations have made similar commitments in recent weeks, and coalitions of responsible companies are emerging in the food, chemical, transport, and fashion industries in particular. A few months ago, over 170 business and investor CEOs urged the EU to raise its 2030 greenhouse gas emissions reduction targets to at least 55 percent. These developments point to increasing recognition among business leaders that protecting the environment, and putting sustainability at the heart of their strategy, are critical to driving societal impact and long-term value for all their stakeholders, from their investors to the communities they operate in.

Thanks to innovative clean technologies, companies can reap significant financial benefits while reducing their negative environmental impact. This is in line with the work I initiated through the Solar Impulse Foundation and its labelling system for clean and

New York, US, June 11, 2016.
Solar Impulse 2 flying over the Statue
of Liberty.
© Solar Impulse | Revillard | Rezo.ch



March 1, 1999. Breitling Orbiter 3
and its pilots – Bertrand Piccard and Brian Jones
– flying over the Swiss Alps after taking off
on their round-the-world effort.
© Piccard Family



profitable solutions.³ We have spent the past three years selecting and labelling technological solutions that protect the environment in a financially profitable way. These solutions allow companies to unlock new business opportunities, reduce energy and water consumption and cut back on waste, set up circular economy processes, and use resources more efficiently. Some examples of solutions that have received the Solar Impulse Efficient Solution label include:

- “Plasma Vortex” – a non-chemical-based, environmentally friendly, and cost-effective industrial wastewater decontamination system. The system reduces the energy required to treat hazardous wastewater by 97% and delivers a payback in under 2 years.⁴
- “SPEED” – a solution for energy-efficient Application-Specific Integrated Circuit (ASIC) design that delivers significant energy savings for IoT devices, while reducing time-to-market for chip

³ Solar Impulse Foundation. (n.d.) *Efficient Solution Label*.
Retrieved from <https://solarimpulse.com/label>.

⁴ Solar Impulse Foundation. (n.d.) *Plasma Vortex*.
Retrieved from <https://solarimpulse.com/efficient-solutions/plasma-vortex>.



"It's not easy to change the practices of an economic system through the will of a few individuals. But when one business leader shows that protecting the environment has become more profitable than destroying it, they clear the path for others to follow suit."



Cairo, Egypt, July 13, 2016.
Solar Impulse 2 flying over the Pyramids.
© Solar Impulse | Jean Revillard | Rezo.ch

makers from a few months to a few weeks.⁵

- “KEYOU-inside” – a solution that allows fossil fuel-based internal combustion engines to be redesigned to run on hydrogen from renewable sources. The solution enables OEMs to integrate zero-emission vehicles into their portfolio within a short time frame and offers a 40-80% lower Total Cost of Ownership (TCO) compared to other zero-emission solutions.⁶
- “ecoBirdy” – ecoBirdy is an award-winning company that has developed a technology to transform plastic waste into high-grade raw material that can replace virgin plastic. The production process enables low energy upcycling of products without the use of any non-renewable resources.⁷

Embracing innovations like these to build sustainable businesses will be key to the continued relevance and success of corporations. The young people who demonstrate and strike for the climate today are the talents of tomorrow and will only look to join companies who share their values. Consumer behavior, too, is increasingly shaped by sustainable values. Employees and customers will avoid those who are perceived to endanger the future of humankind.

Of course, it is not easy to change the practices of an economic system through the will of a few individuals. But when one business leader shows that protecting the environment has become more profitable than destroying it, they clear the path for others to follow suit. Following Edmund Hillary and Tensing Norgay’s first ascent of Everest in 1953, nearly 4,000 people have managed to reach the ‘roof of the world’. And today I appeal to the pioneering spirit of business leaders to also embark on a major journey and become the new explorers of the 21st century! •

⁵ Solar Impulse Foundation. (n.d.) *SPEED*. Retrieved from <https://solarimpulse.com/efficient-solutions/speed>.

⁶ Solar Impulse Foundation. (n.d.) *KEYOU-inside*. Retrieved from <https://solarimpulse.com/efficient-solutions/keyou-inside>.

⁷ Solar Impulse Foundation. (n.d.) *ecoBirdy*. Retrieved from <https://solarimpulse.com/efficient-solutions/ecobirdy>.



Rebecca Henderson

McArthur University Professor,
Harvard University

SHAREHOLDER VALUE AS YESTERDAY'S IDEA

Rebecca Henderson is the McArthur University Professor at Harvard University, where she teaches the course on "Reimagining Capitalism." Henderson spent the first twenty-one years of her career at MIT's Sloan School where her research focused on the economics of innovation and on the question of how large organizations can reinvent themselves. Inducted into the American Academy of Arts and Science in 2018, Henderson is also a Research Fellow at the National Bureau of Economic Research. Henderson's academic career is complemented by a deep engagement with the practice of management. She has been on the boards of Amgen, a Fortune 200 company, for eight years, and Idexx, an S&P 500 company, for fifteen. She has also consulted with a wide variety of companies including IBM, Motorola, Cisco, Nokia, Eli Lilly, BP, ENI, Unilever, P&G, and many smaller firms, and is routinely invited to speak to executives across the world.

What is capitalism?

One of humanity's greatest inventions, and the greatest source of prosperity the world has ever seen?

A menace on the verge of destroying the planet and destabilizing society?

Or some combination that needs to be reimagined?

We need a systemic way to think through these questions. The best place to start is with the three great problems of our time—problems that grow more important by the day: massive environmental degradation, economic inequality, and institutional collapse.

The world is on fire. The burning of fossil fuels – the driving force of modern industrialization – is killing hundreds of thousands of people, while simultaneously destabilizing the earth's climate, acidifying the oceans, and raising sea levels.¹ Much of the world's topsoil is degraded, and demand for fresh water is outstripping supply.² Left unchecked, climate change will substantially reduce GDP, flood the great coastal cities, and force millions of people to migrate in search of food.³ Insect populations are crashing and no one knows why – or what the consequences will be.⁴ We are running the risk of destroying the viability of the natural systems on which we all depend.⁵

Wealth is rushing to the top. The fifty richest people among them own more than the poorer half of humanity, while more than six billion live on less than \$16 a day.⁶ Billions of people lack access to adequate education, health care, and the chance for a decent job,

while advances in robotics and artificial intelligence (AI) threaten to throw millions out of work.⁷

The institutions that have historically held the market in balance – families, local communities, the great faith traditions, government, and even our shared sense of ourselves as a human community – are crumbling or even vilified. In many countries the increasing belief that there is no guarantee that one's children will be better off than oneself has helped to fuel violent waves of anti-minority and anti-immigrant sentiment that threaten to destabilize governments across the world. Institutions everywhere are under pressure. A new generation of authoritarian populists is taking advantage of a toxic mix of rage and alienation to consolidate power.⁸

You may wonder what these problems have to do with capitalism. After all, hasn't the world's GDP quintupled in the last fifty years, even as population has doubled? Isn't average GDP per capita now over \$10,000 – enough to provide every person on the planet with food, shelter, electricity, and education?⁹ And, even if you

Wealth is rushing to the top

6bn

More than 6 billion people live
on less than \$16 a day

“

The institutions that have historically held the market in balance – families, communities, faith traditions, government – are crumbling or even vilified.



“Thousands of firms have committed themselves to a purpose larger than profitability, and nearly a third of the world's financial assets are managed with some kind of sustainability criterion.”

think business should play an active role in attempting to solve these problems, doesn't it seem, at first glance, an unlikely idea? In the majority of our boardrooms and our MBA classrooms, the first mission of the firm is to maximize profits. This is regarded as self-evidently true. Many managers are persuaded that to claim any other goal is to risk not only betraying their fiduciary duty but also losing their job. They view issues such as climate change, inequality, and institutional collapse as “externalities,” best left to governments and civil society. As a result, we have created a system in which many of the world's companies believe that it is their moral duty to do nothing for the public good.

But this mind-set is changing, and changing very fast. Partly this is because millennials are insisting that the firms they work for embrace sustainability and inclusion. When I first launched the MBA course that became “Reimagining Capitalism,” there were twenty-eight students in the room. Now there are nearly three hundred, a little less than a third of the Harvard Business School class. Thousands of firms have committed themselves to a purpose

larger than profitability, and nearly a third of the world's financial assets are managed with some kind of sustainability criterion. Even those at the very top of the heap are beginning to insist that things have to change. In January 2018, for example, Larry Fink, the CEO of BlackRock, the world's largest financial asset manager, sent a letter to the CEOs of all the firms in his portfolio that said the following: "Society is demanding that companies, both public and private, serve a social purpose. To prosper over time, every company must not only deliver financial performance, but also show how it makes a positive contribution to society. Companies must benefit all of their stakeholders, including shareholders, employees, customers, and the communities in which they operate."¹⁰

BlackRock has just under \$7 trillion in assets under management, making it among the largest shareholders in every major publicly traded firm on the planet. It owns 4.6 percent of Exxon, 4.3 percent of Apple, and close to 7.0 percent of the shares of JPMorgan Chase, the world's second-largest bank.¹¹ For Fink to suggest that "companies must serve a social purpose" is the rough equivalent of Martin Luther nailing his ninety-five theses to Wittenberg Castle's church door.¹² The week after his letter came out, a CEO friend reached out to me to confirm that surely he didn't – really – mean it? My friend was in a state of shock. He had based a long and successful career on putting his head down and maximizing shareholder value, and to him Fink's suggestion seemed ludicrous. He couldn't imagine taking his eye off the profit ball in today's ruthlessly competitive world.



To prosper over time, every company must not only deliver financial performance, but also show how it makes a positive contribution to society."

“

It is possible to see the elements of a reimagined capitalism right now, and to see how these elements could preserve capitalism and make the entire world better off.

In August 2019 the Business Roundtable – an organization composed of the CEOs of many of the largest and most powerful American corporations – released a statement redefining the purpose of the corporation: “To promote an economy that serves all Americans.” One hundred and eighty-one CEOs committed to lead their companies for “the benefit of all stakeholders: customers, employees, suppliers, communities, and shareholders.”¹³ The Council of Institutional Investors (CII) – a membership organization of asset owners or issuers that includes more than 135 public pension and other funds with more than \$4 trillion in combined assets under management – was not amused, responding with a statement that said, in part:

CII believes boards and managers need to sustain a focus on long-term shareholder value. To achieve long-term shareholder value, it is critical to respect stakeholders, but also to have clear accountability to company owners. Accountability to everyone means accountability to no one. BRT has articulated its new commitment to stakeholder governance... while (1) working to diminish shareholder rights; and (2) proposing no new mechanisms to create board and management accountability to any other stakeholder group.¹⁴

One of the world’s largest financial managers insists that “the world needs your leadership,” and some of the world’s most powerful CEOs publicly commit to “stakeholder management,” while many businesspeople – like my (hugely successful) CEO friend and many large investors – think they are asking for the impossible. Which of them is right? Can business really – and I mean really – rescue a world on fire?

I've spent the last fifteen years of my life working with firms that are trying to solve our environmental and social problems at scale – largely as a means of ensuring their own survival – and I've come to believe that business has not only the power and the duty to play a huge role in transforming the world but also strong economic incentives to do so. The world is changing. The firms that change with it will reap rich returns – and if we don't reimagine capitalism, we will all be significantly poorer.

I started this journey with an appropriately British degree of skepticism, but I am now surprisingly optimistic – in the "if we work really hard, we might just succeed" sense of optimistic. We have the technology and the resources to build a just and sustainable world, and doing so is squarely in the private sector's interest. It is going to be hard to make money if the major coastal cities are underwater, half the population is underemployed or working at jobs that pay less than a living wage, and democratic government has been replaced by populist oligarchs who run the world for their own benefit. Moreover, embracing a pro-social purpose beyond profit maximization and taking responsibility for the health of the natural and social systems on which we all rely not only makes good business sense but is also morally required by the same commitments to freedom and prosperity that drove our original embrace of shareholder value.

A mere decade ago the idea that business could help save the world seemed completely crazy. Now it's not only plausible but also absolutely necessary. I'm not talking about some distant utopia. It's possible to see the elements of a reimagined capitalism right now, and to see how these elements could add up to profound change – change that would not only preserve capitalism but also make the entire world better off. •

Excerpted from "Reimagining Capitalism in a World on Fire" by Rebecca Henderson.
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Inc. References can be found in the original text.

Perspec tives

...from Capgemini's
internal experts.



GOING BEYOND CORPORATE SUSTAINABILITY TO ENSURE A RESILIENT AND EQUITABLE RECOVERY

Authored by Laura Quinn, Senior Strategy Director and Private Sector Lead at Purpose;
Co-signed by Jeremy Heimans, CEO of Purpose, and Jean-Baptiste-Perrin, Capgemini Invent for Society, Global Leader

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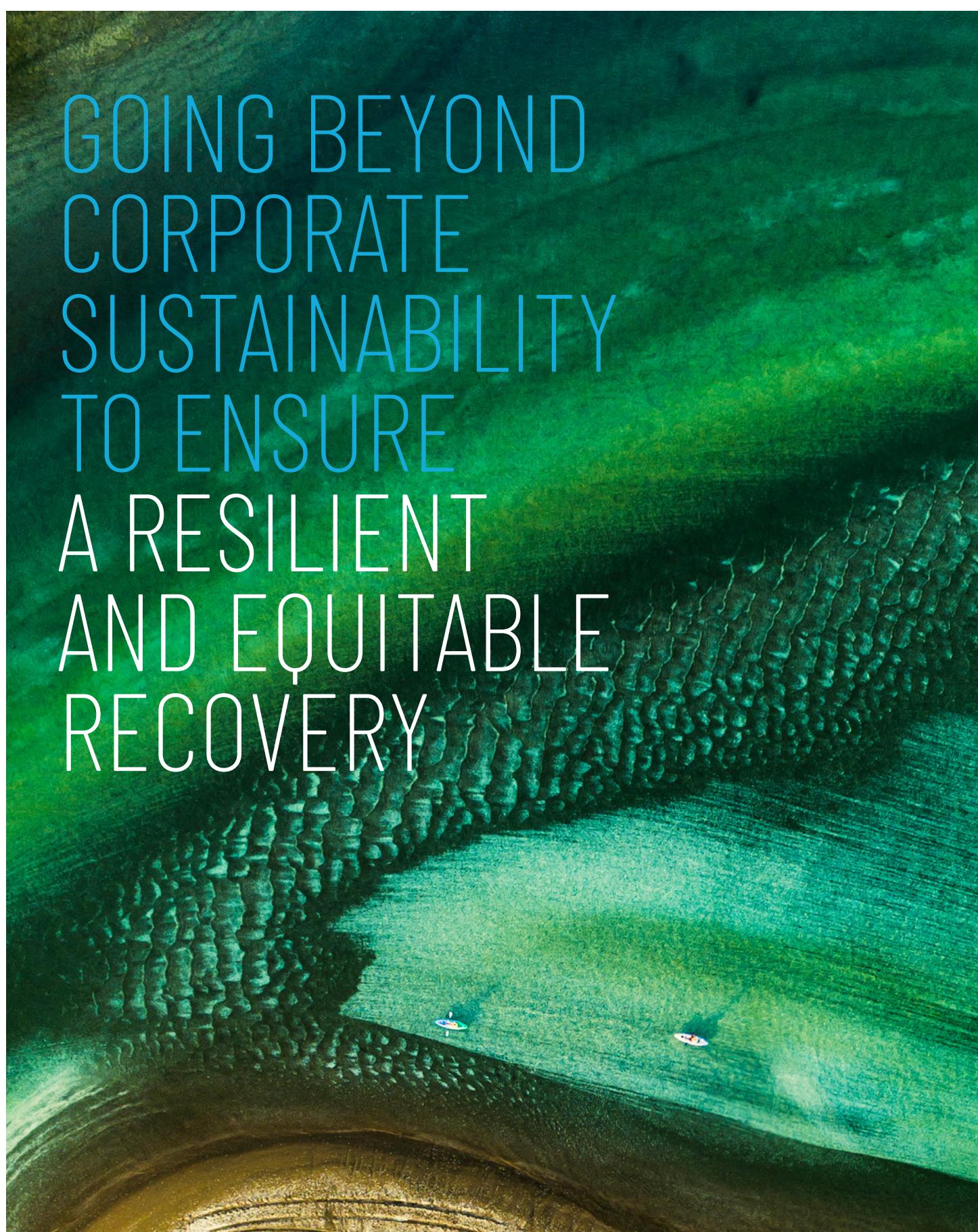


GREEN OR MEAN? SEPARATING THE MYTH OF AI'S CARBON IMPACT FROM THE REALITY

Vincent de Montalivet, expert in artificial intelligence and sustainable development, Capgemini

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GOING BEYOND CORPORATE SUSTAINABILITY TO ENSURE A RESILIENT AND EQUITABLE RECOVERY





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About Purpose: We build and support movements to advance the fight for an open, just, and habitable world. We use public mobilization and storytelling to help the leading organizations, activists, businesses, and philanthropies engaged in this fight, and we create campaigning labs and new initiatives that can shift policies and change public narratives when it matters most.

Filled with shocks, unrest, and sadness, 2020 delivered a powerful moment of reckoning to businesses. It has proven, beyond doubt, that the pursuit of a triple bottom line¹ since the 1990s, the expansion of corporate sustainability in the 2000s, and more recent calls for stakeholder capitalism – although critical shifts in their own right – haven't succeeded in delivering a substantially more equitable and resilient society.

It is said that the magnitude of a crisis is determined not just by the impact of the events involved but also by the fragility of the system it attacks. In the case of COVID-19, our social and economic fragilities were laid bare. To create real, meaningful change in this moment of recovery, today's leaders must go beyond current sustainability commitments and use their corporate power to become vocal advocates for far-reaching social, economic, and environmental solutions.

Around the world, those most impacted by the pandemic have been racial minorities, the poor, and women. The pandemic infected and killed Black Americans 1.5 times more than white Americans and the story was similar in the UK, where Black, Asian, and minority ethnic people had between 10% and 50% higher risk of death.² The inequities highlighted by the pandemic went far beyond health. Globally, women's jobs became more vulnerable to the crisis than men's as they took on an even greater proportion of unpaid labor and childcare. In the US, food-insecure households with children doubled from 14% to 28%³ since May 2020, with communities of color most affected. In short, COVID-19 showed that we have a long way to go to close the wealth, income, job, and education divides around the world.

¹ Investopedia. (n.d.) *Triple Bottom Line (TBL)*. Retrieved from www.investopedia.com/terms/t/triple-bottom-line.asp.

² NPR, "As Pandemic Deaths Add Up, Racial Disparities Persist — And In Some Cases Worsen," September 23, 2020.

³ Harvard T.H.Chan School of Public Health. (n.d.) *Children's food insecurity increasing during COVID-19 pandemic*. Retrieved from www.hsph.harvard.edu/news/hspn-in-the-news/childrens-food-insecurity-increasing-during-covid-19-pandemic/.

**Laura Quinn**

Senior Strategy
Director and Private
Sector Lead at
Purpose



We saw that people who were most financially impacted by the pandemic were also most invested in companies 'doing good,' demonstrating a new appetite and urgency for business-led solutions."

more affluent consumers, this changed as the pandemic went on. We saw that people who were most financially impacted by the pandemic were also most invested in companies "doing good," demonstrating a new appetite and urgency for business-led solutions for the recovery and beyond.⁵

This consumer demand stretched into other corporate behaviors as well, including greater support for worker power. Nearly 70% of American voters said that workers should have more of a voice in the workplace following COVID-19.⁶ This interest was fueled by a collective, cultural reconsideration of who society's most valuable workers are. It was healthcare professionals, grocery store staff, care home staff, warehouse workers, sanitation workers, delivery people, and armies of on-demand gig workers who emerged as

interests.⁴ At the same time, consumers also believe companies were reacting faster than governments and that brands need to play an active role in relief efforts. Whereas interest in ethical or sustainable products is traditionally strong among

⁴ Capgemini Research Institute, "Why purpose-led organizations are winning consumers' hearts," June 2020.

⁵ Kantar, "Could COVID-19 be the tipping point for sustainability?" June 17, 2020.

⁶ Fast Company, "Companies' bad response to the pandemic is leading to greater support for worker power," May 14, 2020.

our most essential workers during the pandemic. As vocal support grew for these essential workers, it became an increasing point of public debate that these same people are often trapped in low-paid jobs without the basic protections many of us consider basic employment rights: sick pay, health insurance, and the right to a decent, living wage. Once again, we saw that people of color were disproportionately at risk.

Not only did customer appetite for more equitable and sustainable business practices increase, corporate leaders and investors were also vocal in demanding a sustainable recovery. In June 2020, a letter was signed by more than 200 leading UK-based businesses demanding an inclusive and

sustainable post-COVID economy.⁷ A coalition of global businesses leaders, representing a combined annual revenue of over USD100 billion and global workforce of over 500,000, proposed a roadmap to global leaders to create "an

inclusive and sustainable post-COVID economy that benefits society, the planet, and shareholders for generations to come." Investors, too, have made demands.⁸ Over 100 investors representing over EUR11 trillion of assets under management wrote to leaders and decision-makers across the EU demanding a green recovery from the COVID-19 pandemic.⁹

At the same time as consumer, corporate, and investor demand grew, we've also seen a surge in political will to ensure a green and equitable recovery, underpinned by public demand. The EU's Next Generation recovery plan and its 2021 budget emphasize the bloc's ambition for "fair, inclusive, and sustainable growth," with provisions for providing fair minimum wages to help vulnerable workers and a target of 30% of all recovery expenditure to be dedicated to climate mainstreaming. The UK, for instance, has announced plans to "build back better" with a Green Industrial Revolution.¹⁰ The US has committed to build back better by advancing racial equity across the American economy¹¹ and building a clean energy future.¹² At the recent

⁷ Corporate Leaders Groups, "More than 200 leading businesses urge UK Government to deliver clean, inclusive and resilient recovery plan," June 1, 2020.

⁸ Leaders on Purpose, "Global CEOs Call on Governments and Business to Build a Better "Purpose-First" Economy."

⁹ IGCC, "Open letter to EU leaders from investors on a sustainable recovery from COVID-19."

¹⁰ Financial Times, "Boris Johnson: Now is the time to plan our green recovery," November 18, 2020.

¹¹ Whitehouse.gov, "Executive Order On Advancing Racial Equity and Support for Underserved Communities Through the Federal Government," January 20, 2021.

¹² Whitehouse.org, "Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis," January 20, 2021.



As consumer, corporate, and investor demand grew, we also saw a surge in political will to ensure a green and equitable recovery underpinned by public demand."

G20 summit, India committed to a sustainable and inclusive recovery that respects the human dignity of workers, as well as to exceeding its Paris Agreement targets on climate.¹³

Reaching beyond sustainability to deliver a better future

Of course, it could be argued that none of this is truly new. We've seen consumer demand for sustainable products rise; we've heard government rhetoric on delivering worker protections and building inclusive, green economies; and corporate leaders have long acknowledged the need for sustainable leadership. What is new, however, is the momentum and urgency with which all these powers are coalescing. 2020, after all, has delivered a shock to pretty much every system we know. And, although the onus does not solely rest with the corporate sector to lead through this moment, it has opened a window of opportunity for business leaders to deliver transformation at greater scale than we've imagined before. This doesn't diminish the tireless and crucial work of sustainability and ESG teams to date. In fact, in many ways, it is the moment they have been waiting for.

Where such leaders can add greater value is to go beyond corporate sustainability to use their voice, reach, and resources to become powerful advocates for a green, equitable, and resilient future. That requires looking beyond the business's own four walls to demand and deliver more far-reaching impact. It means building multi-stakeholder coalitions that can drive change at scale from many angles at once. It means working with peers to develop pre-competitive agreements that level the playing field in order to benefit the environment, workers and society. It means integrating green and equitable innovation across all stages of the value chain. It means designing policies that protect workers and tackle structural inequalities across society. It means taking bold positions on public policies that are designed to protect society's most vulnerable and the environment. It also culminates in smart marketing and communications that invite consumers to be participants in change, driving deeper and more meaningful connections.

As we enter 2021 with this unique coming together of priorities, and a renewed sense of urgency, business leaders have an opportunity to radically reimagine the potential of corporate power to be a force for an equitable, just, and green recovery for all.♦

¹³ Times of India, "At G20, PM focuses on green policies," November 22, 2020.

GREEN OR MEAN? SEPARATING THE MYTH OF AI'S CARBON IMPACT FROM THE REALITY





Vincent de Montalivet

expert in artificial intelligence
and sustainable development,
Capgemini

**Given that AI, like any other technology,
requires an energy supply, how do we assess its
impact on the organization's carbon footprint?
Careful attention is needed to separate the
myths attached to AI's energy impact and the
actual reality.**

In organizations today, AI has yet to reach maturity: only 13% of companies have implemented AI on an industrial scale.¹ However, while its use may not be widespread, the fact remains that AI consumes energy like any other technology and will do so once it is a mature technology that is routinely used across organizations:

- AI needs large volumes of data in order to learn the behaviors needed for automated response. Machine learning algorithms based on mathematical models rely on sampling or “training” data to make predictions or decisions without being explicitly programmed to do so. It is through training that an AI application becomes “intelligent.”
- Training smart systems in this way can require considerable processing power, depending on the number of operations to be performed.

This is where the carbon footprint cost can emerge:

- Researchers at the Allen Institute for AI have calculated that training an AI system to generate or recognize words and sentences similar to human language (NLP) can result in as much carbon dioxide as five American cars over their lifetime (including the manufacture of the car itself).²
- Driving AI innovation and new levels of performance can come at a cost: performance gains are achieved through a larger volume of data, and therefore from larger models and more calculations.³ In May 2020, OpenAI announced the largest AI model in history. Known as GPT-3, it took months of training and has 175 billion parameters!⁴

¹ Capgemini Research Institute, “The AI-powered enterprise: Unlocking the potential of AI at scale,” July 2020.

² MIT Technology Review, “Training a single AI model can emit as much carbon as five cars in their lifetimes,” June 2019.

³ Arxiv.org. (n.d.) *Speed/accuracy trade-offs for modern convolutional object detectors*.

Retrieved from <https://arxiv.org/pdf/1611.10012.pdf>

⁴ Le Monde, “GPT-3, l'intelligence artificielle qui a appris presque toute seule à presque tout faire,” November 2020.

The energy impact of business AI: reality check

But to build a precise picture of the energy consumption of AI in business, we need to bear in mind a number of reality checks:

There are many ways to implement AI and some projects do not involve the training of models. In fact, they only require a dozen parameters to be adjusted. Thanks to statistical and descriptive analyses – coupled with a good understanding of business requirements – it is now possible, using techniques such as regression or clustering, to achieve a range of goals, from optimizing warehouse stock to detecting fraud in finance or public services. In our recently published research, we tried to ascertain the GHG footprint of some of the popular AI use cases. Our analysis shows, for instance, that the GHG emissions produced in training and executing these AI systems amount to only a few kilograms (1–10) of CO₂ equivalent.⁵ This is very small in comparison with the overall GHG emissions of large organizations which typically range in millions of tons of CO₂ equivalent per year. We must keep in mind that the need to train complex models only applies to a few of the AI solutions now deployed at scale. When more complex neural network techniques must be used – such as in image recognition – the models used are often open source ones that have already been trained. Transfer learning techniques are then applied so that the results obtained with the training data are adapted to the client's data. This means you can avoid the need to retrain a model. This technological "recycling" helps to limit the impact on energy resources of a massive



The need to train complex models only applies to a few of the AI solutions now deployed at scale. When more complex neural network techniques must be used – such as in image recognition – the models used are often open source ones that have already been trained."



⁵ Capgemini Research Institute, "Climate AI: How artificial intelligence can power your climate action strategy," November 2020.

deployment of artificial intelligence projects in companies.

Broadly speaking, AI solutions, digitization, and increasing data volumes (including the production of new data) rightly raise questions about the future energy impact of tech and data innovations. But one reality is clear: the carbon footprint of technologies does not follow the same growth curve as data volume,⁶ not least because significant advances in energy efficiency have helped to limit the impact.

Towards “sustainable AI” and a convergence of technological and ecological transitions

With a clear sense of what is myth and reality in terms of AI’s energy impact, we can turn to the bigger question: how can we accelerate the age of green AI. Researchers and engineers around the world are working to optimize the energy consumption of AI solutions. This ambition is driven by a clear purpose: for AI to achieve the same level of performance as human intelligence (i.e., being capable of performing thousands of trillions of operations per second) while only consuming 20 watts of energy.⁷

There are many initiatives underway to achieve that goal:

- A new eco-designed chip to meet the high demands of deep neural network model computation with more efficient energy consumption.⁸
- Using innovative and carbon-efficient methods for training and running certain neural networks to avoid default configurations that may not be optimal from an environmental standpoint. Several versions of reinforcement learning environments have been developed which reduce run-times significantly.⁹
- The availability of “mother” models that have already been trained. Researchers at MIT developed an AI system that improved the computational efficiency of the system in some key ways, cutting down the pounds of carbon emissions involved – in some cases, down to low triple digits.¹⁰

⁶ U.S. Energy Information Administration. (n.d.) *Electricity in the United States*. Retrieved from www.eia.gov/
energyexplained/electricity/electricity-in-the-us.php; Ericsson. (n.d.) *A quick guide to your digital carbon footprint*. Retrieved from www.ericsson.com/en/reports-and-papers/industrylab/reports/a-quick-guide-to-your-digital-carbon-footprint.

⁷ AI Impacts. (n.d.) *Brain performance in TEPS*. Retrieved from <https://aiimpacts.org/brain-performance-in-teps/>
⁸ IEEE Access, “FPGA-based Accelerators of Deep Learning Networks for Learning and Classification: A Review,” January 2019.

⁹ Towards Data Science, “100% Faster Reinforcement Learning Environments with Cygym,” April 2020.

¹⁰ Massachusetts Institute of Technology, MIT-IBM Watson AI Lab, Shanghai Jiaotong University, “Once-for-all: train one network and specialize it for efficient deployment,” August 2019.

- Making and using tools for the automatic reporting of consumption and impact measurements available as open source. For instance, a group of researchers from University of Montreal created a “Machine Learning Emissions Calculator” to estimate the environmental impact of training machine learning models. It takes into account the location and energy grid of the servers used for training, the length of training, and the make and model of servers used in training to estimate the amount of carbon released in the atmosphere.¹¹

As well as minding its own footprint, AI is also a transformational technology that has the power to positively influence sustainable development. With an almost 80% positive impact on sustainable development goals,¹² AI is a critical technology in implementing climate strategies to reduce organizations’ greenhouse gas emissions by an average of 13%.¹³

This focus on positive outcomes for society as a whole reflects the importance of ethical AI. Key stakeholders – from governments to academic experts – agree on the need to adopt an ethical approach¹⁴ to trusted artificial intelligence. This means improving people’s lives while not exacerbating existing problems or creating new ones. In other words, the colossal power of artificial intelligence must be placed at the service of sustainable development.

This points to a reality where AI is used across the value chain to help companies achieve their sustainable goals: designing new environmentally responsible products, calculating carbon impact from resource extraction to distribution, optimizing logistics, improving energy efficiency at factories and warehouses, and reducing inefficiencies and waste through the promotion of recycling and the circular economy.¹⁵

The reality is that while AI has an energy impact, the opportunity for ethical and green AI to drive a sustainable future far outweighs any immediate cost.

Just as AI must be ethical, it must be sustainable. •

¹¹ ArXiv, “Quantifying the Carbon Emissions of Machine Learning,” November 2019.

¹² Nature, “The role of artificial intelligence in achieving the Sustainable Development Goals,” January 2020.

¹³ Capgemini Research Institute, “Climate AI: How artificial intelligence can power your climate action strategy,” November 2020.

¹⁴ European Commission. (n.d.). *News*. Retrieved from https://ec.europa.eu/info/news/artificial-intelligence-2019-apr-08_fr

¹⁵ Google APIs. (n.d.) *ARTIFICIAL INTELLIGENCE AND THE CIRCULAR ECONOMY*. Retrieved from <https://storage.googleapis.com/gweb-sustainability.appspot.com/pdf/AI-and-CE.pdf>

Reports

Key insights on
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SUSTAINABILITY AT SCALE: A CROSS- SECTORAL VIEW OF WHY SUSTAINABILITY GOALS NEED A RESET

The changing climate and environmental degradation are top of the global agenda. Given widespread concern about climate risk, biodiversity loss, resource scarcity and the wider wellbeing of society, hard sustainability questions are being asked of organizations across sectors.

Changing consumer behaviors and societal values in terms of environmental friendliness, social responsibility and economic inclusiveness are translating into a demand for corporate change. And, with regulatory scrutiny and demands also growing, particularly in sectors like energy, failure to act can be a costly and significant risk. During the course of 2020, to understand the current situation – and to gauge where different industries stand – we published a range of sustainability research reports focusing on the consumer products and retail, automotive, and energy and utilities sectors.

This report provides a condensed version of the key themes that emerged from this multi-sector research.¹ The implications and risks of climate change will be significant and sometimes unpredictable. Collaboration and shared learning will therefore be critical, which is why we think it is helpful to draw together the insights and learnings from different sectors. Responding to the world's sustainability needs will require a collaborative and shared approach.

What do we mean by sustainability?

Based on the United Nations' definition of sustainable development, we assess sustainability across three dimensions:

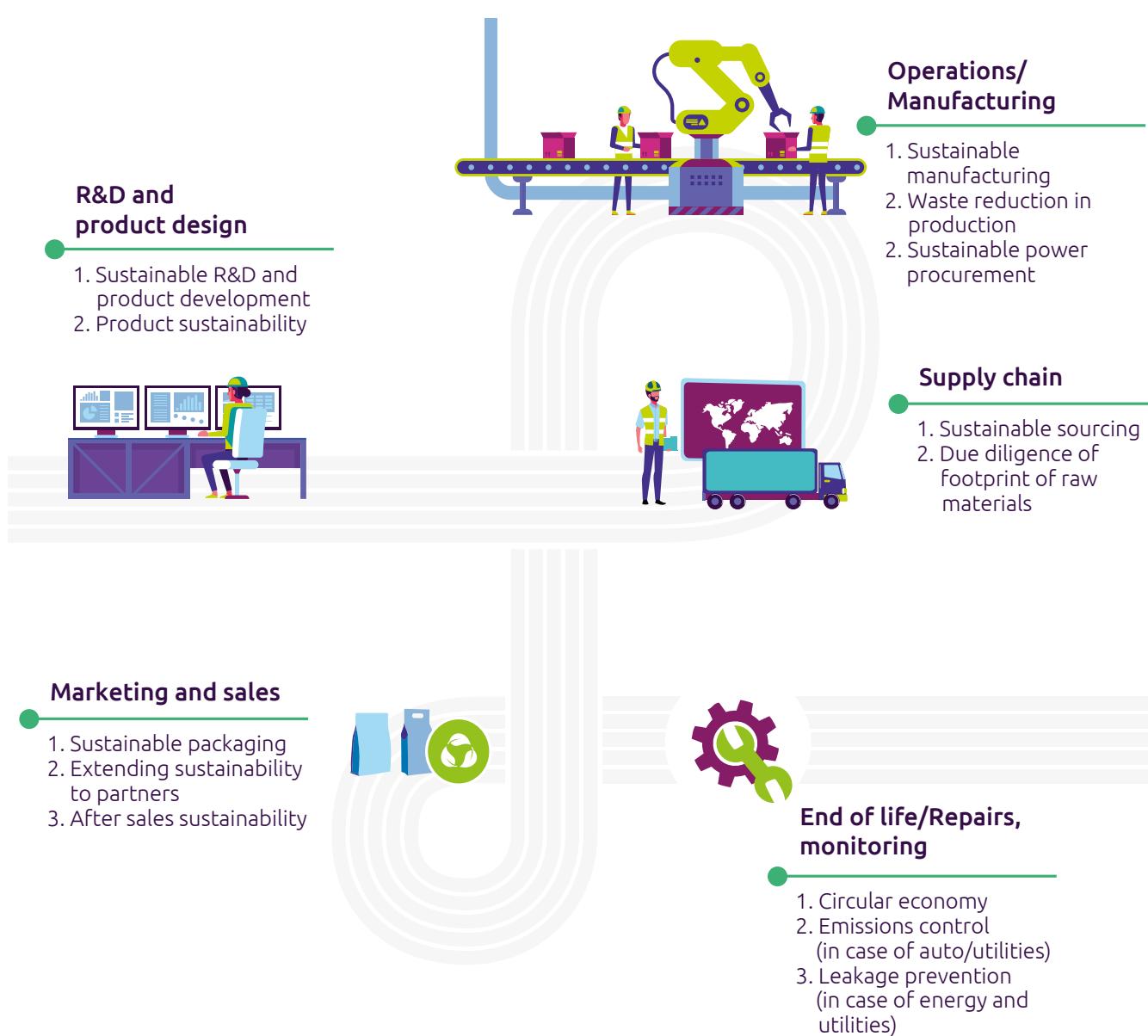
- **Environmental responsibility** (conservation of natural resources, reducing carbon and greenhouse gas emissions, etc.)
- **Social responsibility** (safe working conditions, fair labor policy against child labor, gender discrimination, and forced labor, etc.)
- **Economic inclusiveness** (fair trade, committed to a wider cause – poverty eradication, education, etc.)

¹ Capgemini Research Institute, "The automotive industry in the era of sustainability," March 2020;

² Capgemini Research Institute, "How sustainability is fundamentally changing consumer preferences," July 2020;

³ Capgemini Research Institute, "Powering sustainability," October 2020.

Figure 1: Examples of sustainability initiatives across the value chain as applicable to different industries



Source: Capgemini Research Institute analysis.

1. Sustainable organizations drive significant customer-facing and financial benefits

Our research finds a strong connection between sustainability and tangible business benefits.

→ **Increase in revenue:** Over six in ten organizations in the CPR and energy sectors said that they have already generated a revenue increase from sustainable operations. For instance, Unilever's 'Sustainable Living Brands' are growing about 70% faster than the rest of the business and delivering 75% of the company's growth.² Nearly 80% of executives pointed to an increase in customer loyalty as a key benefit from sustainability initiatives. Companies are exploring a range of sustainability growth drivers. For instance, Danish energy company Orsted signed the largest ever green corporate PPA (power purchase agreements, where large businesses purchase clean energy for the long term at set prices) with Taiwan-based TSMC. The PPA is based on 920MW of energy from offshore wind farms

over 20 years.³ In retail, the collaboration between Adidas and "Parley for the Oceans", a collaboration network, led to Adidas selling more than one million sneakers made with recycled ocean plastic in 2017.⁴

→ **Increase in brand value:** Over two thirds (69%) of CPR organizations and over six in ten from energy and utilities pointed to an increase in brand value (see Figure 2). The impact of sustainability credentials on brand value and sales is supported by our consumer research. If consumers perceive that the brands they are buying from are not environmentally sustainable or socially responsible, 70% tell their friends and family about the experience and urge them not to interact with the organization.

→ **Improvement in ESG ratings:** In both CPR and energy and utilities, over six in ten organizations said they had achieved a more positive environment, social, and governance (ESG) rating as a result of their sustainability initiatives. Today, this is a strategic imperative, given the link between ESG and access to capital markets, with major asset managers focused on sustainability.



Over six in ten organizations in the CPR and energy sectors said that they have already generated a revenue increase from sustainable operations."

² Unilever, "Unilever's purpose-led brands outperform," June 2019.

³ Greentech Media, "Microchip Giant TSMC Signs 'World's Largest Corporate Renewables Deal – for Offshore Wind,'" July 2020.

⁴ Business Insider, "Adidas sold 1 million pairs of sneakers made from ocean waste in 2017 — now the company is introducing a line of recycled clothing and taking steps to become even more sustainable," May 2018.



All investors, regulators, insurers, and the public, need a clearer picture of how companies are managing sustainability-related questions. This data should extend beyond climate to questions around how each company serves its full set of stakeholders, such as the diversity of its workforce, the sustainability of its supply chain, or how well it protects its customers' data.⁵

Larry Fink, chairman and CEO of BlackRock

Figure 2: More than six in ten organizations have driven an increase in revenue from sustainable operations

Percentage of organizations agreeing to the benefits below



Sources:

Capgemini Research Institute, Sustainability in Energy and Utilities survey, July-August 2020, N=300 sustainability executives, 300 business executives; Sustainability in Consumer Products and Retail survey, April-May 2020, N=750 consumer products and retail organizations.

⁵ "A Fundamental Reshaping of Finance," BlackRock Inc website.

2. However, implementation of sustainability initiatives is uneven and patchy

We have seen that organizations make sustainability a strategic imperative and see it as capable of delivering a significant return. However, if the sustainability strategy is to achieve these ambitious goals, it needs to be pursued across the value chain. Though organizations consider it as a strategic priority, our research shows that implementation is patchy. Below we outline where our three sectors have major challenges in their approach in terms of focusing on the right use cases, achieving scale, or maturity of approach:



62% of automotive organizations claimed to have developed a comprehensive sustainability strategy with well-defined goals and targets."

Automotive: suppliers lag OEMs and industry as a whole not focused on what's critical

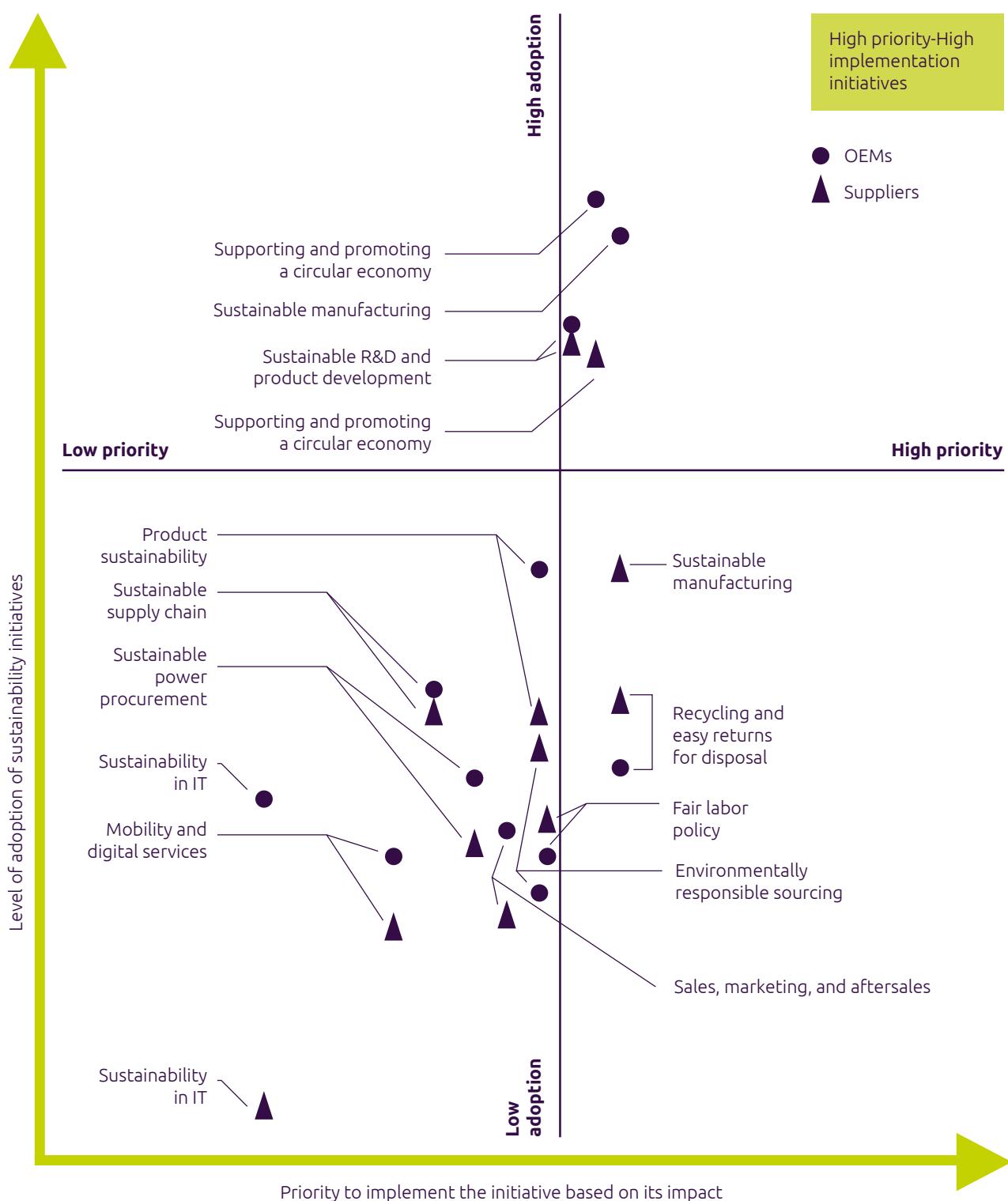
Our research found that 62% of automotive organizations claimed to have developed a comprehensive sustainability strategy with well-defined goals and targets. To assess this,

we analyzed the deployment of specific sustainability initiatives, ranging from "Sustainable R&D and product development" to "Sustainability in IT":

- It is clear that some initiatives receive significant attention, but there is not a consistent focus on the entire value-chain. The most commonly deployed initiative is "supporting and promoting a circular economy". This is being deployed by 52% of the companies we surveyed.
- In contrast, "sustainability in IT" is only being adopted by 8% of the organizations.

As Figure 3 shows, we compared the level of adoption of sustainability initiatives against their priorities indicated by experts. The top-right quadrant is the sweet spot – where OEMs and suppliers are implementing initiatives that have the most impact. We found that suppliers lag OEMs in adopting and prioritizing sustainability initiatives, across all but three initiatives. However, the average level of adoption of initiatives (vertical axis) is on the lower side, implying significant room for improvement industry-wide, more so for automotive suppliers.

Figure 3: Automotive suppliers lag OEMs in adopting sustainability initiatives



Sources: Capgemini Research Institute survey of automotive executives (N=503) and sustainability experts (N=317), November-December 2019.

Consumer products and retail: achieving global scale is rare

Three-quarters (75%) of the sector's organizations claim to have a strategy, infrastructure, and resources in place to drive sustainability and circular economy efforts. Further, nearly half have started to deploy sustainability initiatives across some of the regions in which they operate. However, when it comes to achieving scale across their global footprint, fewer than a quarter have achieved widespread coverage.

Figure 4: Sustainability maturity across the value chain is low



Source: Capgemini Research Institute, Sustainability in Consumer Products and Retail Survey, April–May 2020, N=750 consumer products and retail organizations.

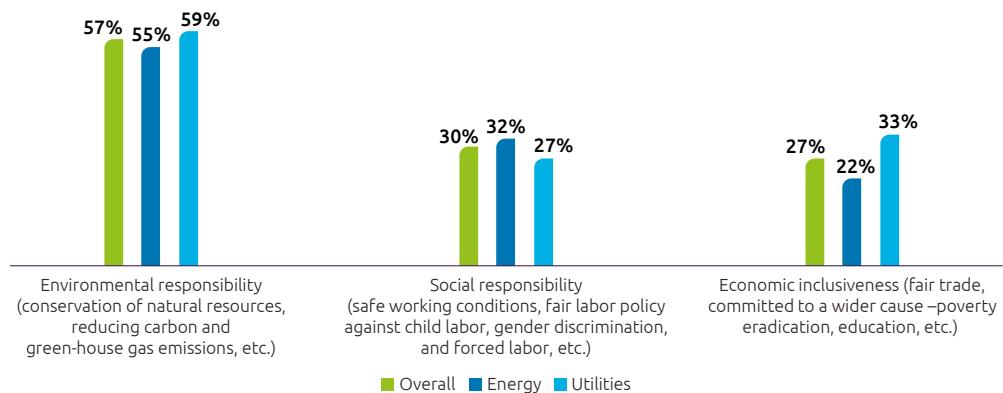
Energy and utilities: organizations not focused on the social dimension of sustainability and carbon emissions practices remain uneven across global footprint

Over half of the sector's firms (57%) said they had a mature approach to sustainability – meaning they had sustainability initiatives deployed widely throughout the organization that focused on environmental responsibility. However, as Figure 5 shows, this relatively strong 'environmental' maturity does not reflect in other areas of the sustainability equation, particularly 'social':

- Only 22% of energy companies rated their approach to economic inclusiveness practices as mature.
- Only 27% of utilities say they have mature social responsibility practices, such as safe working conditions or labor policies that guard against child labor, gender discrimination, and forced labor.

Figure 5: Fewer than one in three energy and utilities organizations have mature social and economic practices

Maturity of sustainability initiatives (% of organizations)

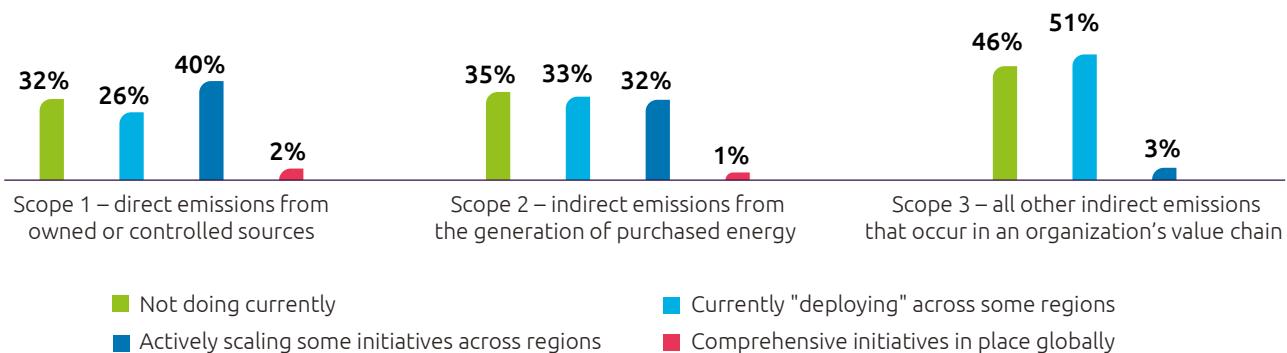


Source: Capgemini Research Institute, Sustainability in Energy and Utilities survey, July-August 2020, N=300 sustainability executives.

Further, when it comes to reducing carbon emissions, our research suggests that there is much work to be done. Fewer than half have mature practices in reducing Scope 1 emissions, and only 3% have mature practices for tackling Scope 3 emissions (see Figure 6). “Scope 1 is way bigger than Scope 2 for us, which is probably similar to most,” says Stephanie Dvorak, director of environmental sustainability at Schlumberger.

Figure 6: Only 3% of energy and utility organizations have mature practices for tackling Scope 3 emissions

How mature are your organization's practices/initiatives to reduce the below carbon emissions by "scope"?
(% of organizations)



Source: Capgemini Research Institute, Sustainability in Energy and Utilities survey, July-August 2020, N=300 sustainability executives.

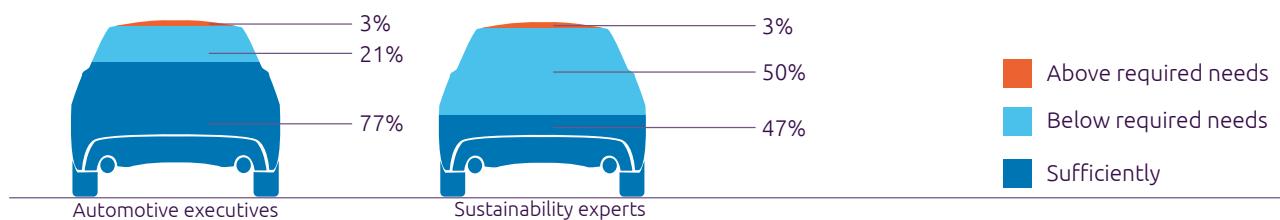
3. Challenges in prioritizing and scaling sustainability initiatives

The challenges facing organizations in scaling sustainability initiatives are many and varied, from margin impact to lack of investment. Below, we outline the main challenges for our three sectors:

Automotive: greater investment commitment needed

Sustainability requires considerable investment, yet under-investment is a significant issue and many experts in our research believe the industry is not making sufficient commitment. Half of outside experts think that the investment is below what is required, but only one in five executives agree. Automotive industry executives are yet to appreciate the scale of investments needed to realize their sustainability goals.

Figure 7: Sustainability investment – percentage denotes the split among respondent answers



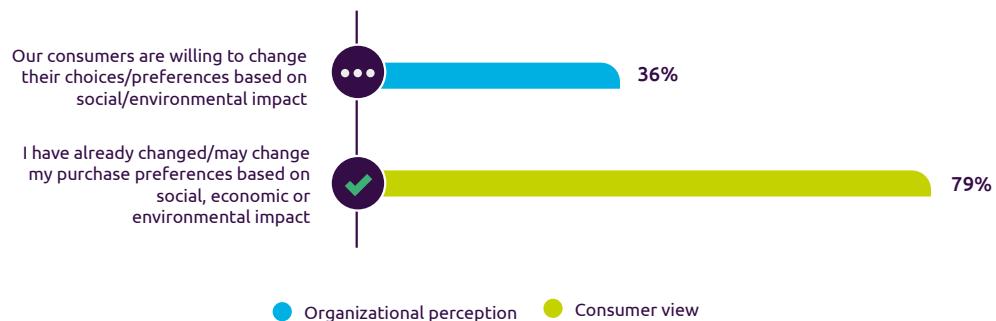
Source: Capgemini Research Institute survey of automotive executives (N=503) and sustainability experts (N=317), November-December 2019.

Consumer products and retail: significant perception gap between organizations and consumers

→ Consumers are putting sustainability at the heart of how they buy, but organizations are under-estimating this determination:

- 79% of consumers say they would change purchase preferences based on social or environmental impact (42% having already changed and 37% may do so)
- But only 36% of organizations say that consumers are willing to change their choices/preferences based on social or environmental impact.

Figure 8: Consumer product and retail organizations are yet to fully understand the changing perception of consumers based on sustainability

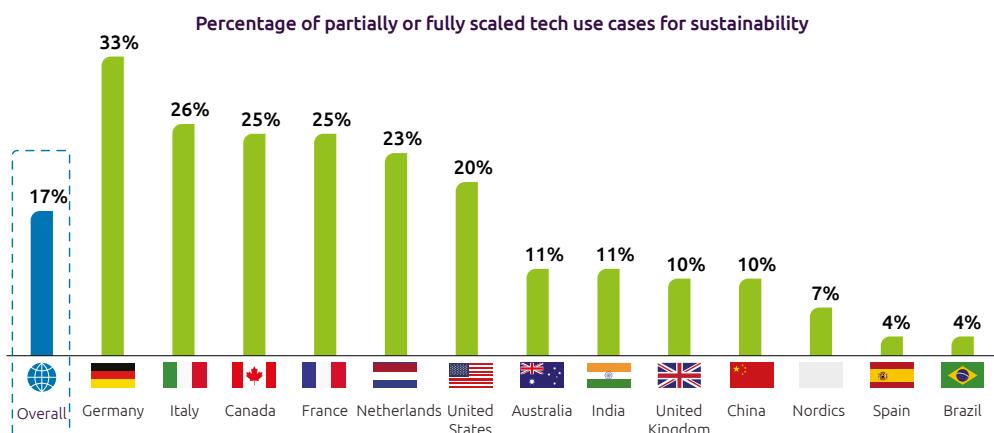


Source: Capgemini Research Institute, Sustainability in Consumer Products and Retail Survey, April-May 2020, N=750 consumer products and retail organizations.

Energy and utilities: firms lag in utilizing technology use cases

Technology is key to achieving the world's sustainability goals, from carbon-capture technologies to energy-efficiency solutions and storage. Yet, only a minority of organizations around the world have achieved scale with tech-related use cases (17%). Even in the best-performing country, Germany, scaled implementation only reaches 33%.

Figure 9: Fewer than one in five energy and utilities organizations have partially or fully scaled tech use cases for sustainability



Source: Capgemini Research Institute, Sustainability in Energy and Utilities survey, July–August 2020, N=300 business executives.

4. Recommendations

Based on our research – as well as our experience working with organizations in these sectors – we believe there are four priority areas when it comes to accelerating sustainability initiatives (see Figure 10).

Figure 10: Framework for accelerating sustainability initiatives



Source: Capgemini Research Institute analysis.

Build a transformative roadmap

- **Pursue sustainability as an organization-wide mission.** Organizations should make sustainability a central part of their corporate purpose or reason for being – and position it as key to attracting talent and meeting the increased expectations of multiple stakeholders: investors, customers, employees, and society.
- **Pivot to new business models.** Leading companies are already taking steps in this direction. BP, for instance, is pivoting from being an international oil company to an integrated energy company, not just targeting net zero carbon emissions but ceasing all oil exploration in new countries.⁶ Likewise, a range of companies – Unilever, Procter & Gamble, Nestlé, Coca-Cola, and PepsiCo – offer subscriptions to common products like shampoo, detergent and ice-cream in reusable packaging.⁷
- **Companies should not hesitate to take the leap of faith.** DONG Energy (now Orsted), a Danish energy company, exited the oil and gas business in 2017 to fully focus on renewable energy, more than doubling of its market valuation as a result.⁸

Strengthen governance

- **Ensure top leadership is committed to sustainability.** Having sustainability champions in the C-suite is essential to scale. In PepsiCo, for instance, the senior leadership team – including chairman and CEO – assume direct oversight of the sustainability agenda.⁹
- **Establish accountability for sustainability.** Our research also showcases that having a dedicated head of sustainability, who works in collaboration with other business units, helps to ensure focus on driving sustainability strategy and advancing the company's program. General Motors appointed its first chief sustainability officer to spearhead the company's efforts to be a global advocate for climate-sensitive manufacturing and mobility operations and direct the design and implementation of infrastructure for EVs.¹⁰
- **Align KPIs with established frameworks and conduct audits.** Align KPIs with established frameworks – such as the UN Sustainable Development Goals and the Paris Agreement goals – to set specific organizational goals. Monitoring progress against these goals will be crucial, but more needs to be done to produce

⁶ BP Company presentation, August 5, 2020.

⁷ Inc., "The containers for your most basic household products are about to look a lot different, thanks to this company," March 2019.

⁸ Google Finance, accessed September 29, 2020.

⁹ PepsiCo, "Sustainability Governance," accessed May 2020.

¹⁰ Automotive News, "GM appoints first chief sustainability officer," January 2020

credible, consistent and comparable performance data. For instance, our research shows that when it comes to KPIs – such as food wastage or supply-chain miles¹¹ – very few ensure their reporting receives third-party assurance.

Use technology to accelerate the sustainability journey

→ **Invest:** Automation, AR/VR, 3D printing, data analytics and AI/ML are some of the top ranked technologies that organizations are planning to invest in according to our research. For instance, 63% of CPR organizations are planning to invest in AR/VR to promote sustainability. Leading automotive organizations are also introducing technologies to promote sustainability and employee welfare. To promote worker safety, Ford introduced a wearable technology, EksoVest, at its 15 plants.¹²

Collaboration – internal and external

→ **Circular economy:** Work with partners to implement circular economy approaches. For instance, Nestlé collaborated with McDonald's to turn the latter's used cooking oil into renewable diesel across its more than 250 outlets in the Netherlands.

→ **Empower employees:** Encourage employees to be champions of sustainability. P&G, for instance, is working with employees to engage, equip and reward them for building sustainability thinking and practices into their everyday work. This effort is part of the company's environmental sustainability goals for 2030.¹³

¹¹ Supply chain miles is a measure of the distance traveled by goods or services across the supply chain of a business; Bernard Marr & Co. (n.d.) Supply Chain Miles. Retrieved from <https://www.bernardmarr.com/default.aspx?contentID=936>

¹² Ford sustainability report 2018/19

¹³ Businesswire, "P&G announces new environmental sustainability goals focused on enabling and inspiring positive impact in the world," April 2018.

For details on the research methodology and to read the full reports, please visit:

<https://www.capgemini.com/research/the-sustainability-advantage/>

<https://www.capgemini.com/research/sustainability-in-automotive/>

<https://www.capgemini.com/research/how-sustainability-is-fundamentally-changing-consumer-preferences/>

THE GREAT DIGITAL DIVIDE: WHY BRINGING THE DIGITALLY EXCLUDED ONLINE SHOULD BE A GLOBAL PRIORITY

The ubiquity of digital technologies and internet access have been instrumental in transforming how people interact and work, and how companies operate and compete. However, not everyone has access to this connected world – there is still a very high percentage of people who are offline. In 2018, over half of the world's population was finally using the internet. However, around 3.7 billion people remained offline.¹

The situation for these sizeable offline populations is becoming more difficult as jobs increasingly require digital skills and public services move online. Moreover, the COVID-19 pandemic – and the overwhelming shift of work and play to online mediums – has laid bare the challenges of underserved communities that live on the margins or outside of the digital world. While a lot of the attention paid to digital inequality focuses on developing countries, around 13% of the population in developed countries remains offline.²

To better understand this situation, and to explore the factors that keep people offline, we launched an integrated global research study in five developed countries (France, Germany, Sweden, the United Kingdom, and the United States), and one developing country (India). In this research, we looked at three dimensions:

- The offline population: We surveyed more than 1,300 people who are currently not online, using phone and face-to-face discussions.
- The online population: We surveyed more than 3,700 people via an online survey.
- The expert view: We conducted interviews with executives at 22 non-profits, charities, NGOs, and private companies working in the digital inclusion space.

¹ The International Telecoms Union, "ITU releases 2018 global and regional ICT estimates," December 2018.

² The International Telecoms Union, "Most of the offline population lives in least developed countries."

This report explores four key themes:

- Why are people offline?
- The consequences of being offline.
- Why the offline population is keen to access the internet.
- How organizations can support greater digital inclusion.

Who are the offline populations?

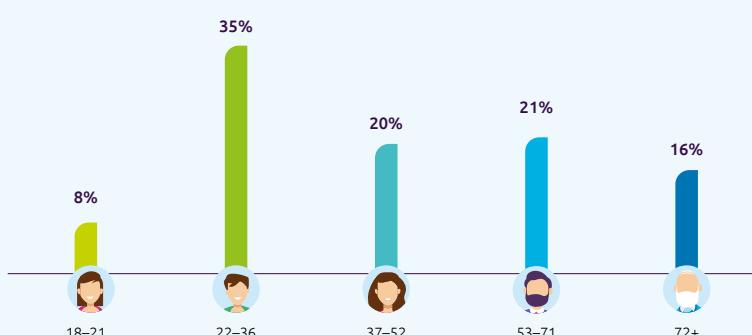
We define the offline population as two primary groups:

- Those who last used the internet over a year ago and do not use the internet currently through either personal or shared devices
- Those who have never used the internet or gone online.

Younger people constitute the largest share of the offline population

In our research, 43% of the offline population is below the age of 36.

Figure 1: Percentage of the offline population by age group



Source: Capgemini Research Institute, Digital Divide Research, Offline Population Survey, December 2019–February 2020, N=1,304 offline respondents.

Most offline people have not always been offline

- Overall, 59% of offline respondents have previously used the internet – this percentage increases to 68% among offline people aged 22 to 36.
- Among the offline population aged 72 or older, 70% have never used the internet.

The number of offline respondents who have previous internet experience is, in one sense, positive news. It means that they are likely to already possess the digital skills needed to use the internet.

Source: Capgemini Research Institute, Digital Divide Research, Offline Population Survey, December 2019–February 2020, N=1,304 offline respondents.

Cost, complexity, and “lack of interest” are three major factors why people are offline

In this research, we investigated what keeps offline populations away from the internet. We found that there is not one single universal cause – the reasons differ by specific segment:

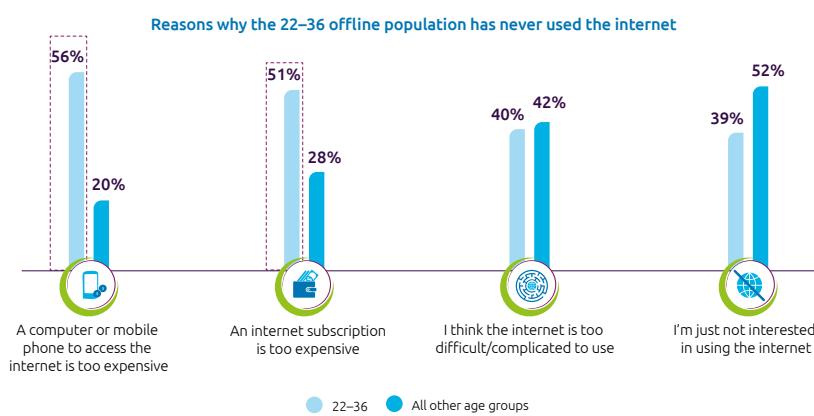
- **Cost** is a key reason for being offline for younger people aged 22 to 36 and those living in rural areas.
- **Excessive complexity or difficulty to use** are key reasons people with long-term health conditions or disabilities remain offline.
- A perceived “**lack of interest**” in using the internet emerged as a key reason why respondents aged 60+ and females are offline.

1. Cost

The 22 to 36 age group is not online primarily due to cost

Cost is a significant impediment for the 22 to 36 age group – 56% point to the cost of a device to access the internet and 51% point to the expense of an internet subscription (see Figure 2).

Figure 2: Over one in two offline people aged 22 to 36 say the expense of an internet device or subscription is the reason why they have never gone online



Source: Capgemini Research Institute, Digital Divide Research, Offline Population Survey, December 2019–February 2020, N=1,304 offline respondents.

The cost challenge is exacerbated in rural areas

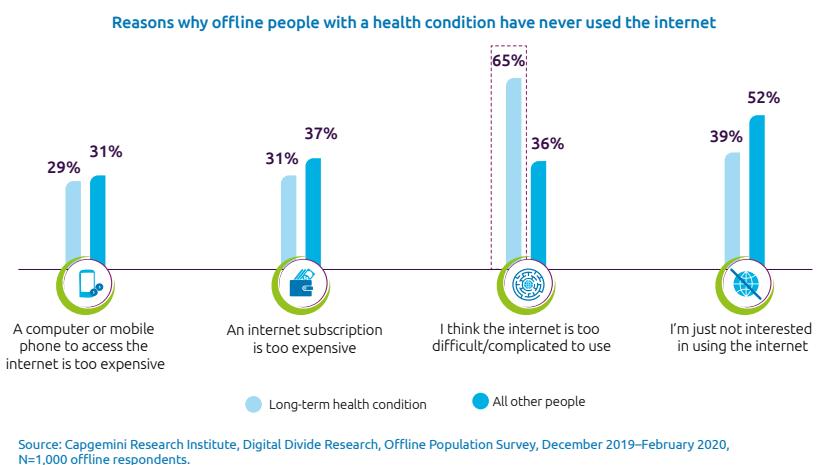
Nearly half (47%) of offline people living in rural areas say they have never used the internet because an internet subscription is too expensive and 44% say the device is too expensive.

2. Complexity and difficulty of use

Respondents with a long-term health condition believe the internet is too difficult to use

In our survey, we compared those who have a long-term health condition (they have suffered from a range of ailments – from trouble walking to migraines – and who have had the condition for more than six months) with the rest of the sample. We found that 65% of respondents with a long-term health condition – and who have never used the internet – felt that it was too complicated to use, but this drops to 36% for the rest of the sample (see Figure 3).

Figure 3: 65% of offline people with a health condition believe the internet is too difficult



Offline people with disabilities also believe the internet is too difficult to use

Sixty-one percent of offline people with disabilities say the internet is too difficult or complex to use. This could be due to their inability to see the screen, use various hardware devices, or the fact that they are forced to engage with disability-unfriendly interfaces. These are people who experience a range of disabilities, from sight problems to limited use of arms or fingers.

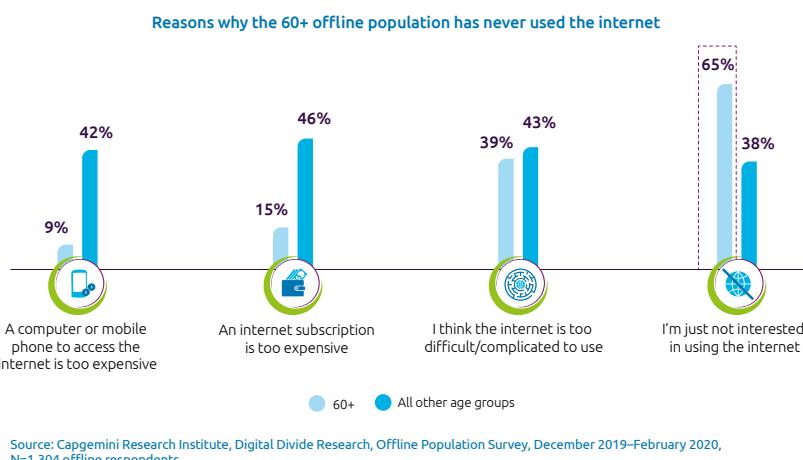
3. A perceived “lack of interest” stemming from fear or a lack of confidence, skills, or experience

The 60+ age group are staying away because of a “lack of interest”

As Figure 4 shows, close to two-thirds (65%) of the 60+ offline population say they have never used the internet because they are not interested in doing so (this drops to 38% for the rest of the sample).

Given that most of the offline 60+ age group have never used the internet (57%), this “lack of interest” could also be explained by lack of exposure to digital technologies. They may not understand what they could potentially do on the internet, are not convinced of the value of the internet, or are afraid of making a mistake.

Figure 4: More than three in five offline people aged 60+ report “no interest” in using the internet



For offline females, a “lack of interest” is a key driver

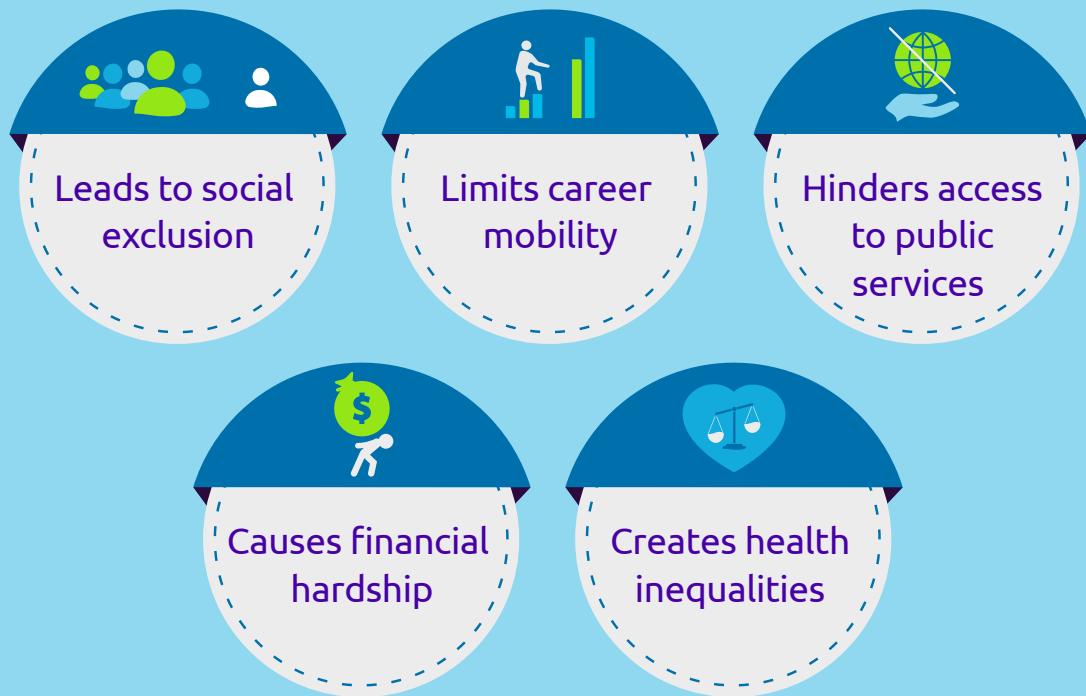
Over half (54%) of offline female respondents also say they have never used the internet because they are not interested in using it, compared to 43% of males offline. As with the older population, this lack of interest could stem in turn from a lack of skills and confidence or a fear of making mistakes.

Being offline now impacts all aspects of life

A lack of digital skills and access to technologies can negatively impact all aspects of a person’s everyday life. It can lead to social exclusion and limit career mobility. It can mean people are unable to access public services, as governments increasingly move services online. It can also cause financial hardship and create health inequalities. A lack of access to digital tools and the internet is particularly painful during the COVID-19 pandemic, where digital technology becomes a critical medium to remain connected. Figure 5 displays the key consequences for those offline.

Figure 5: Being offline can compromise everything from taking advantage of career opportunities to accessing public services

Being offline now impacts all aspects of life



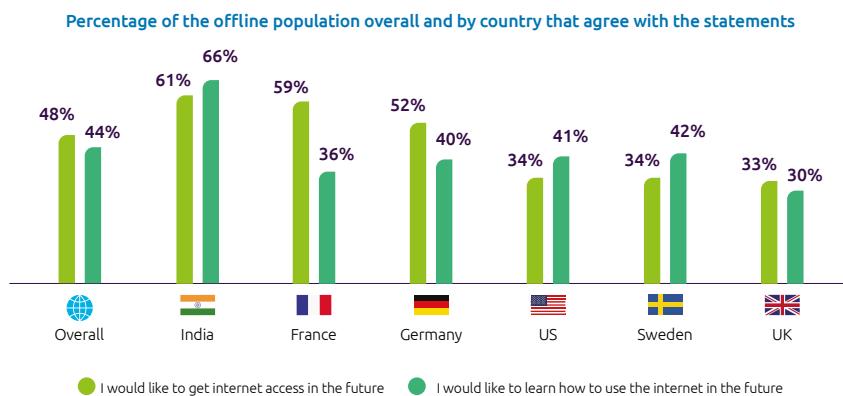
Please refer to the full report to learn more in-depth insights on how being offline compromises these areas.

Source: Capgemini Research Institute analysis.

The offline population is keen to take advantage of the internet

Nearly half (48%) of the offline population say that they would like to get internet access in the future and 44% say they would like to learn how to use the internet in the future (see Figure 6).

Figure 6: Nearly one in two respondents would like to get internet access in the future, globally



Source: Capgemini Research Institute, Digital Divide Research, Offline Population Survey, December 2019–February 2020,
N=1,304 offline respondents

How to support greater digital inclusion and bridge the digital divide

Responsibility for digital inclusion and universal access to the internet cannot fall to one group – it requires the contribution of a variety of stakeholders. Private organizations, policy makers, and governments – in collaboration with NGOs, think tanks, and educational institutions – are well-positioned to help reduce the digital divide. If the private and public sectors do not work effectively together, the digital divide will continue to create inequalities across the world. We offer recommendations for the role that the three groups can play:

For private organizations

- Invest in digital inclusion as part of the corporate social responsibility agenda
- Educate people on how to stay safe online
- Recruit candidates from marginalized communities with digital skills into the workforce.

For policy makers and governments

- Make devices and the internet more accessible to marginalized communities
- Create greater accessibility for online public services.

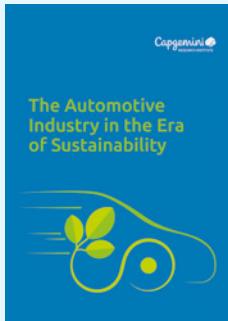
For private organizations and policy makers

- Focus on public-private partnerships
- Educate and bring awareness to disadvantaged offline populations on the value of the internet.

To read the full report, please visit:

<https://www.capgemini.com/research/the-great-digital-divide/>

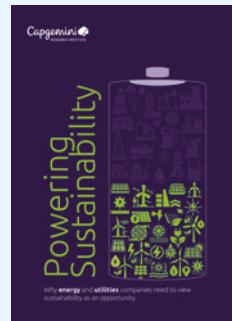
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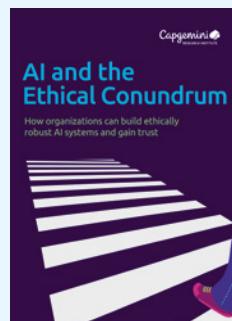
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[Sustainability in energy and utilities](#)



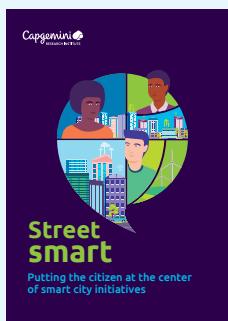
[Climate AI: How artificial intelligence can power your climate strategy](#)



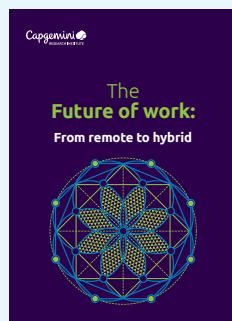
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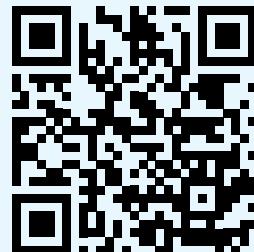
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