

**PART TWO**

# **TIME FOR ACTION**

**TRANSFORMATION  
PATHWAYS**

# BUSINESS ACTION CAN DRIVE THE KEY TRANSFORMATIONS NEEDED TO BUILD A WORLD IN WHICH 9+ BILLION PEOPLE LIVE WELL, WITHIN PLANETARY BOUNDARIES, BY 2050.

To achieve Vision 2050, business, government and civil society must change the systems that have created the challenges we now face – and change them so profoundly that we can legitimately call it transformation.

Enabling 9+ billion people to live well, within planetary boundaries, will not be about putting scrubbers on smokestacks. It will be about changing what happens in the factory itself – and all that happens outside the factory to influence what goes on inside it, from consumer demand, to investment allocation, to government regulation and the competitive landscape.

Transformation means root cause-level change. It means reinvention, re-creation, and the emergence of completely new ways of thinking and acting based on fundamentally new premises and new sources of value.

Business can lead the process of transformation by doing what business does best: creating and commercializing solutions that people need and want, and engaging governments, investors and the public to make this possible in competitive markets. But this has to take place within the parameters of true value creation, rather than value extraction. True value, a concept developed in the original Vision 2050, is where social and environmental costs and benefits are internalized and reflected in the relative price of goods and services, and in companies' P&L statements, costs of capital and market valuations.

This section outlines a series of nine transformation pathways, highlighting areas where business is uniquely positioned to contribute to getting the world on track to realizing Vision 2050.



# OUR PATHWAYS TO VISION 2050

## AS PART OF OUR EFFORTS TO REVISIT VISION 2050 WE HAVE DEVELOPED A COLLECTION OF NINE TRANSFORMATION PATHWAYS.

These pathways were identified through a comprehensive and human-centric approach. They represent the essential products and services that societies need, and that business exists to provide. Although not exhaustive they cover an extremely broad range of business activity and represent areas that the vast majority of industries should clearly be able to see themselves in.

These pathways are different to the nine critical action areas identified in the original Vision 2050, reflecting key technological, environmental, political and demographic developments that have taken place over the course of the past decade.

### OUR NINE TRANSFORMATION PATHWAYS ARE:

ENERGY

TRANSPORTATION & MOBILITY

LIVING SPACES

PRODUCTS & MATERIALS

FINANCIAL PRODUCTS & SERVICES

CONNECTIVITY

HEALTH & WELLBEING

WATER & SANITATION

FOOD

Each pathway includes a vision of the way that particular societal need will be met in 2050, a series of transitions we consider critical to achieving each vision, and a list of ten action areas for business to focus on over the course of the next decade. These action areas span innovative products, services, technologies and business models, as well as ways that companies can help create the right enabling conditions for change. These lists are not exhaustive; rather, they contain what WBCSD members consider the most urgent and important priorities for companies in the crucial decade ahead, and will help to inform the development of WBCSD's strategic focus areas moving forward.

### OUR PATHWAYS AND THE SDGS

These nine pathways are designed to complement the Sustainable Development Goals by translating their ambitions into clearly actionable areas of business activity. Connections between the SDGs and our Vision 2050 pathways are highlighted in Fig. 9 on the next page and are subsequently explored at an SDG target level as we lay out each transformation pathway in detail over the coming pages.

### RECOGNIZING INTERCONNECTIVITY

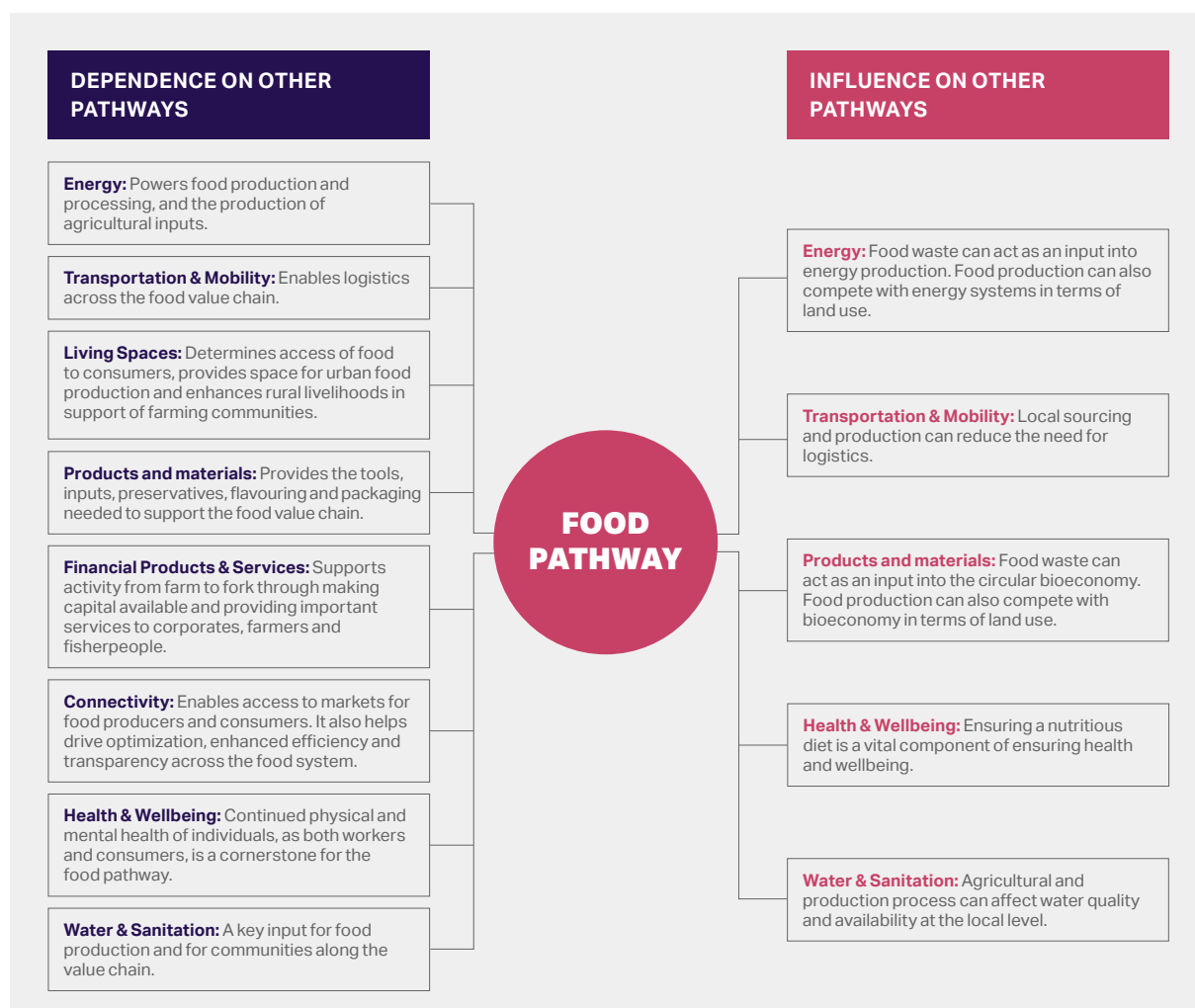
Although we have structured this work around nine pathways, we recognize that the pathways are highly interlinked, and that none can be considered in isolation. Indeed, remaining conscious of these interconnections will be vital to ensuring that progress is made toward Vision 2050. We need to remain constantly aware of broader knock-on effects, positive and negative, and the potential for trade-offs across all of our transformation pathways. This interconnectivity is illustrated in Fig. 10 on the next page, taking our Food pathway as a central point of focus.

Therefore, while certain pathways may hold more relevance for particular industrial sectors than others, it is important that companies explore these pathways holistically, identifying opportunities and responsibilities across the broad range of societal needs that are highlighted.

FIG. 9: VISION 2050 PATHWAYS AND THE SUSTAINABLE DEVELOPMENT GOALS



FIG. 10: EXAMPLE OF VISION 2050 PATHWAY INTERCONNECTIONS WITH A FOCUS ON OUR FOOD PATHWAY





PATHWAY // ENERGY

# **WE CAN POWER A NET- ZERO WORLD**

## ENERGY POWERS THE ECONOMY AND MAKES IT POSSIBLE FOR PEOPLE TO LIVE THE KINDS OF LIVES THEY ASPIRE TO.

It exists in different forms, such as electricity; heat; and solid, liquid or gaseous fuels. The energy system is defined as everything involved in the production, conversion, storage, delivery and use of energy. On the energy supply side, the system includes the extraction and refining of oil and gas, coal and uranium mining, and thermal and renewable generation plants. The system also includes modes of delivery including oil and gas pipelines, shipping, and electricity transmission and distribution networks. On the demand side, key components of the system include energy use in industry, transport and buildings.

### EXPLORE THE ENERGY PATHWAY BUSINESS ACTION AREAS

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## OUR 2050 VISION FOR ENERGY

### A SUSTAINABLE ENERGY SYSTEM PROVIDING RELIABLE AND AFFORDABLE NET-ZERO CARBON ENERGY FOR ALL

#### RELIABLE AND AFFORDABLE ENERGY FOR ALL

All individuals, communities and organizations have access to the reliable and affordable energy they need to live well. This energy fuels our transport, provides comfortable home and working environments, and powers our industrial and innovation processes. Resilient infrastructure produces and delivers this energy worldwide.

#### DEMAND FOR AND DELIVERY OF NET-ZERO CARBON ENERGY

Total global greenhouse gas emissions from the energy system are consistent with limiting global warming to a 1.5°C temperature increase above pre-industrial levels. Businesses and consumers demand net-zero carbon energy

as standard. Radical innovations – in the generation, conversion, transmission, distribution, storage and use of energy – have supported the decarbonization of the global energy system. Where emissions remain unavoidable, carbon removal, sequestration and use solutions are deployed.

#### AN EFFICIENT ELECTRIC ENERGY SYSTEM

The energy system has become largely electric and digitalized. Circularity and energy efficiency have been designed into all manufacturing processes, living spaces, and transport modes worldwide.

#### BUILT ON THE FOUNDATIONS OF A JUST AND FAIR TRANSITION

The energy system transition has happened in a just, equitable and inclusive way, where clean energy is affordable to all. It has created millions of new jobs while contributing to enhanced health and wellbeing through improved air quality. Individuals whose livelihoods were vulnerable to the shift toward a net-zero carbon economy have been successfully upskilled or reskilled and are empowered to prosper. Human rights are protected and respected throughout the energy value chain.

# KEY TRANSITIONS



## ZERO CARBON ELECTRICITY GENERATION TECHNOLOGIES ARE FURTHER INNOVATED AND ADOPTED GLOBALLY AT SPEED

- Unabated fossil fuel generation is phased out, driven by the removal of fossil fuel subsidies, the introduction of incentives for net-zero carbon energy, and carbon pricing.
- Financial institutions shift investments from fossil fuels to zero- and low-carbon energy sources. New business models and financing mechanisms overcome cost barriers, enabling existing and emerging low-carbon technologies to mature and be deployed. Businesses and governments develop robust strategies to minimize and manage the impact of sunk fossil fuel investments and other unrecoverable costs.
- Clean electricity generation technologies are rapidly scaled up around the world. Solar and wind expand exponentially to make up more than 60% of electricity generation by 2050, while other technologies, such as hydro, nuclear and biomass, also play an important role.
- Power grids manage increased supplies of renewable electricity, and respond to mounting demand, through flexible solutions including demand-side management and energy storage technologies such as batteries and hydrogen.

- Policies are developed to ensure that suitable on- and offshore areas are available to meet future demand for renewable energy generation, while simultaneously respecting the rights of local communities, protecting biodiversity and aligning with other essential land uses such as food production.
- Companies capture emerging opportunities to leverage their existing expertise in order to transition to new business models, repurpose buildings and other assets, and restore land.



## NET-ZERO CARBON ENERGY BECOMES AFFORDABLE, RELIABLE AND RESILIENT

- Business works with governments, civil society organizations, consumers and other stakeholders to ensure that reliable, net-zero carbon energy services are accessible and affordable for all.
- Incentive schemes, subsidies and initiatives such as the Task Force on Climate-related Financial Disclosures (TCFD) and green and transition taxonomies help to foster significant investment in the infrastructure needed to provide reliable and resilient net-zero carbon energy across the globe.
- Innovations in grid integration and energy storage help to ensure constant and reliable access to energy for communities around the world.
- Business supports government and municipal leaders in incorporating resilience into new infrastructure planning, and collaborative action is taken to ensure existing energy systems and related public infrastructure are sufficiently protected from future disruptions.



### HEAVY INDUSTRIES AND HEAVY-DUTY TRANSPORT DECARBONIZE

- With policy support, harder-to-abate heavy industry sectors (including cement, steel and chemicals) decarbonize through a combination of materials efficiency and circularity, energy efficiency improvements, and innovative decarbonization technologies.
- Alternative electro-fuels, such as low-carbon hydrogen produced through electrolysis, and sustainable biomass or biogas, replace fossil fuels in industrial high heat-generating processes.
- Heavy road transport, shipping and aviation decarbonize through a combination of electric solutions, electro-fuels and sustainable low-carbon biofuels.
- Where full decarbonization is not achievable, all carbon emissions are effectively captured, reused or stored.

### UNAVOIDABLE EMISSIONS ARE TACKLED VIA NATURAL AND INDUSTRIAL CARBON REMOVAL AND STORAGE SOLUTIONS

- Where technical or economic constraints mean that it remains unfeasible to eliminate residual emissions, carbon neutralization measures supplement, but do not substitute, science-based emissions reduction efforts. Companies follow a mitigation hierarchy that prioritizes eliminating sources of emissions within their value chain.
- Credible and reliable nature-based solutions, including avoided deforestation, reforestation and afforestation projects, are deployed at scale. Nature-based solutions follow robust social and environmental principles, ensuring protection and restoration of naturally occurring ecosystems and biodiversity, while implementing stringent social safeguards.

- Carbon capture, usage and storage technologies achieve scale as solutions for hard-to-abate sectors, supported by public policy and ongoing research and development. Opportunities for industrial symbiosis emerge, further enhancing economic viability.

### ELECTRIFICATION, CIRCULARITY AND DIGITALIZATION MAKE ALL SECTORS HIGHLY ENERGY EFFICIENT

- Energy efficiency improves exponentially across all sectors including transport, buildings and industry, in part driven by a rapid increase in electrification. Electricity becomes the main energy carrier, accounting for over 50% of total final energy consumption by 2050.<sup>40</sup>
- Supply- and demand-side efficiencies are enabled through the digitalization of the power sector through smart grid technologies and other emerging business models. Digitalization also allows for more efficient network management and monitoring, providing power grids with real-time adaptive capabilities to balance variable generation and demand at local levels. Digitalization is accompanied by robust cyber-security.
- Shifts toward circular, sharing and service business models propel efficiencies and help to reduce emissions. The energy sector itself adopts more circular models in terms of the materials and fuels that it uses.



## SHIFTS IN BEHAVIOR AND DEMAND ACCELERATE THE TRANSITION TO NET-ZERO CARBON ENERGY

- Decarbonizing the global energy system moves up the political agenda, driven by widespread public activism. This leads to more ambitious policy action to support zero carbon energy carriers, including carbon pricing and energy taxation. Policies are designed to protect consumer purchasing power.
- Businesses increasingly switch to zero carbon energy. A range of different sectors come to rely on technology that needs clean energy, creating further demand.
- Significant players in the global economy, including the financial sector, continue to divest from fossil fuel-related activity to support the transition to net-zero carbon energy sources.
- Public awareness campaigns, education initiatives and advertising empower people with better information on where their energy comes from, and its impacts. At the same time, technological developments and financial incentives help people to take up more sustainable energy offerings.

## THE ENERGY TRANSITION LEAVES NO ONE BEHIND

- The low-carbon energy transition creates at least 18 million new jobs by 2030.<sup>41</sup> Businesses, governments, labor unions and civil society organizations come together to develop long-term strategic plans to address any adverse impacts the transition may have on vulnerable workers and communities.
- Business proactively engages with workers and empowers them to benefit from emerging technologies and business models. Measures such as near-term employment and wage protections, medium-term upskilling, reskilling and investment in alternative industries, long-term education and innovation, help to ensure worker prosperity.
- In parallel, business, government and multi-stakeholder initiatives continually step up collaborative efforts to eliminate human rights violations along the energy value chain.

## RELEVANT SDGs



- 3.9** By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.
- 7.1** By 2030, ensure universal access to affordable, reliable and modern energy services.
- 7.2** By 2030, increase substantially the share of renewable energy in the global energy mix.
- 7.3** By 2030, double the global rate of improvement in energy efficiency.
- 7.A** By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology.
- 7.B** By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular the least developed countries, small island developing states, and land-locked developing countries, in accordance with their respective programmes of support.
- 8.5** By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.
- 8.7** Take immediate and effective measures to eradicate forced labor, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labor, including recruitment and use of child soldiers, and by 2025 end child labor in all its forms.
- 8.8** Protect labor rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.
- 9.4** By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally-sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.
- 11.6** By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.
- 12.2** By 2030, achieve the sustainable management and efficient use of natural resources.
- 12.5** By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.
- 12.8** By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature.
- 13.1** Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.
- 13.2** Integrate climate change measures into national policies, strategies and planning.
- 13.3** Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.
- 14.2** By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, by strengthening their resilience, and taking action toward their restoration in order to achieve healthy and productive oceans.
- 15.5** Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.

# ENERGY

## ACTION AREAS FOR BUSINESS 2020 – 2030

01

Construct no new coal power plants. Plan and implement a phase-out of all unabated coal power generation by 2040 and reduce the share of coal in total global electricity generation to less than 10% by 2030.

02

Advocate for policies, such as carbon pricing, that will lead to the effective removal of fossil fuel subsidies and will integrate environmental externalities into market prices to an extent that favors low- and zero carbon solutions.

03

Send a strong demand signal by sourcing net-zero carbon energy for all operations while encouraging and supporting supply chains and customers to do the same.

04

Collaborate with peers, cities and governments around the globe to align on common net-zero carbon ambitions, set science-based targets, and drive implementation accordingly.

05

Ramp up investment and accelerate innovation to drive down the cost of existing solutions, commercialize breakthrough technologies, and digitalize the energy system. In particular, invest in the development and deployment of energy storage technologies and robust power grids to cater for increasing demand.

06

Transition to circular designs and business models to reduce energy demand and resource use across the value chain.

07

Electrify energy end-use wherever possible in buildings, mobility and industry, while also scaling up development and deployment of sustainable fuels to provide the high-temperatures required for industry and long-distance transport.

08

Support information-sharing and education initiatives to increase people's understanding and energy-aware behavior.

09

Invest in high quality nature-based solutions to remove emissions from the atmosphere while also enhancing biodiversity and ecosystem services. When fossil fuels cannot be displaced by low-carbon energy carriers, deploy carbon capture and storage technologies.

10

Mobilize coalitions with policymakers and other stakeholders to develop comprehensive strategies that ensure respect for human rights throughout the energy value chain and support a just and fair energy transition while phasing out fossil fuels.

**PATHWAY // TRANSPORTATION & MOBILITY**

**WE CAN  
KEEP ON  
MOVING,  
SMARTER**



## TRANSPORTATION AND MOBILITY HELP DEFINE THE RANGE OF PRODUCTS, SERVICES AND EXPERIENCES THAT PEOPLE HAVE THE OPPORTUNITY TO ACCESS AND ENJOY.

Transportation involves the movement of people, animals and goods from one place to another across land, water or air. The concept of mobility centers around providing people with safe access to the people, places, goods and services they need to live a healthy, happy and fulfilled life. The transportation and mobility system includes the vehicles, services and infrastructure needed for a range of transport modalities – from walking and biking, to driving, flying and shipping.

### EXPLORE THE TRANSPORTATION & MOBILITY PATHWAY BUSINESS ACTION AREAS

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## OUR 2050 VISION FOR TRANSPORTATION & MOBILITY

### SAFE, ACCESSIBLE, CLEAN AND EFFICIENT TRANSPORTATION OF PEOPLE AND GOODS

#### MOBILITY ENABLES OPPORTUNITY FOR ALL

Accessible, affordable, high-quality transportation options allow both urban and rural populations to access social and economic opportunities. People's mobility needs – including access to other people, places, goods and services – are met regardless of gender, age, ability, socio-economic status or geography. Global transportation infrastructure is connected, optimized and resilient, and forms the foundation of dynamic local, regional and global economies and communities.

#### HEALTH AND SAFETY ARE PARAMOUNT

The number of transport-related fatalities is close to zero. Transportation systems are designed and operated to protect the health and safety of all people and enhance quality of life in communities. Autonomous capabilities and connectivity across vehicles and transportation infrastructure help to maximize road safety and reduce risk of injury. Air and noise pollution and their impact on health has been widely eliminated through collective action in cities around the world, and more active mobility choices foster enhanced health and wellbeing.

#### TRANSPORTATION IS CLEAN AND EFFICIENT

The transportation of people and goods respects planetary boundaries and safeguards the regenerative capacities of the environment. Innovation in battery- and fuel cell-powered electric vehicles, renewable fuels, and highly fuel-efficient and hybrid engines have made net-zero transportation with no associated air pollutants a reality – including in heavy freight, shipping and aviation. Infrastructure and vehicles are connected and operate as part of an optimized mobility system. Circular and sharing economy approaches have helped to reduce demand for assets, materials, energy and water. People are aware of the environmental impacts of transportation and make sustainable mobility choices.

#### TRANSPORTATION SYSTEMS RESPECT PEOPLE AND COMMUNITIES

Human rights are protected and respected throughout transportation and mobility value chains. Infrastructure and urban planning processes protect the rights and foster the wellbeing of local communities. The transition to new transport modes has been just, fair and inclusive, accompanied by the reskilling and upskilling of workers globally. Legal and policy frameworks have been reimagined to support the rights of workers in the transportation and mobility areas of the gig economy.

# KEY TRANSITIONS



## BATTERY, LOW-CARBON FUEL AND EFFICIENCY INNOVATIONS DECARBONIZE TRANSPORTATION

- By 2050 all vehicles have zero carbon electric drivetrains as technology improves, costs decline and the policy landscape shifts. Passenger battery electric vehicle (BEV) sales rise exponentially, while sales of internal combustion passenger vehicles peak and decline well in advance of 2050.
- Hydrogen-powered fuel cell electric vehicles (FCEVs) complement BEVs, particularly for heavier vehicles and long-distance transportation.
- Heavy-duty land transport transitions to zero-emission drivetrains.
- The decarbonization of fuels and a focus on engine efficiency lead emissions in shipping to drop.
- Hydrogen, electric and low-carbon fuel replaces petroleum-based fuel consumption across the aviation industry, spurred on by new industry regulations. These efforts are supported by innovations in new lightweight materials.
- Efforts to restructure global value chains and optimize patterns of freight movement enable drastic reductions in the carbon intensity of logistics.

## INFRASTRUCTURE DEVELOPMENT AND PLANNING PAVE THE WAY FOR SUSTAINABLE, RESILIENT AND INCLUSIVE MOBILITY

- Efficient inclusive transportation infrastructure connecting urban and rural areas is expanded and upgraded globally, supported by the emergence of new funding models.
- Public authorities focus on maintaining and enhancing the quality, viability and resilience of urban public transit infrastructure.
- Urban development centers around lower-impact modes of transport. Pedestrian and cycle paths provide efficient, safe and healthy alternatives to cars. Urban planning also integrates dedicated spaces and infrastructure for non-motorized vehicles, personal electric micro vehicles and ride-hailing and car-sharing accessibility.
- All new transport infrastructure is designed and built with a focus on long-term resilience to natural, social and health-related shocks. Existing infrastructure is assessed for resilience and upgraded or retrofitted as needed.
- Urban planners and builders adopt and standardize vehicle-powering technologies such as electric charging infrastructure, hydrogen and other low-carbon fuels. Electricity grids are upgraded to meet escalating charging demand from net-zero energy sources.
- Innovations in infrastructure and traffic management systems enhance road safety and help reduce road traffic injuries and deaths to close to zero.
- Science-based methods for assessing potential environmental and social impacts of the design, construction and operation of transport infrastructure are mandated and widely deployed, supporting the regeneration of natural and social systems.





#### **MOBILITY SOLUTIONS DIVERSIFY, SHIFTING MOBILITY HABITS WHILE INCREASING SAFETY, CONVENIENCE AND EFFICIENCY**

- Walking, cycling and personal micro-mobility become the norm for travelling short distances (in cities that are redesigned to ensure essential services are available within close proximity). A range of complementary low-impact vehicles and shared mobility options are available for longer journeys.
- Sustainability-proven, convenient and comfortable mobility service providers such as taxi, ride-hailing and car-sharing companies become a central part of the mobility ecosystem. Technology helps to merge them with public transit into integrated mobility-as-a-service service offerings.
- Individuals become more aware of the environmental and social impact of their mobility and transportation behaviors and choices, while policymakers ensure that the price of different mobility options reflects environmental and social externalities.
- Employers and employees embrace teleworking, reducing global demand for travel as well as easing rush hour congestion and overcrowded public transport, and decreasing the amount of time people spend commuting. Companies continually challenge themselves on the need, frequency and mode of business travel.
- Employers also widely adopt sustainable corporate transportation and mobility policies such as electric fleets, vehicle sharing and incentives for walking, biking and using public transport.



#### **CIRCULAR OPPORTUNITIES ARE UNLOCKED AND SCALED ACROSS THE TRANSPORTATION AND MOBILITY SECTOR**

- Circularity is incorporated into all phases of design, sourcing, production and operations in relation to transportation and mobility.
- Markets for recycled automotive, aviation and shipping materials are scaled rapidly, and end-of-life segregation and upcycling is made possible at low cost, fostering new economic opportunities.
- As automotive supply chains transition to more circular models, vehicle distribution and maintenance networks diversify to become re-manufacturing hubs.
- A thriving market for recycled batteries emerges that recovers nearly 100% of battery materials.

#### **SELECTIVE DEPLOYMENT OF AUTONOMOUS VEHICLES ENHANCES EFFICIENCY, SAFETY AND ACCESS**

- Zero-emission autonomous passenger vehicles are deployed in shared fleets in urban areas where traffic is controlled and predictable, enhancing road safety and efficiency.
- Autonomous goods management in warehouses – as well as autonomous, electric last-mile delivery – increase efficiency and resilience, while reducing emissions.
- Long-distance freight truck platooning increases fuel efficiency and road safety.
- Light-freight electric delivery drones enhance access to essential goods and services for remote populations.
- Autonomous vehicles and their inbuilt software are designed and enhanced to ensure that errors and unanticipated behaviors do not result in death or injury.



## DATA-SHARING IMPROVES URBAN MOBILITY SYSTEMS

- Information and communications technology innovations and new standards for data acquisition, sharing and analysis allow for more connected urban mobility and logistics.
- Connected vehicles and infrastructure enable more efficient, effective intermodal logistics, urban planning, infrastructure and air quality management.
- Regional data-sharing models proliferate and transform the way mobility systems are conceived and managed, ultimately making mobility safer, cleaner, more efficient and accessible.
- Governments adopt policies that encourage ethical, cyber-secure and privacy-bound data aggregation and sharing in the context of transportation and mobility.
- Data-sharing allows cities to identify the solutions that best support sustainable development and to develop performance-based taxation and subsidy programs.

## MULTI-STAKEHOLDER EFFORTS ENSURE THE TRANSITION TO A SUSTAINABLE MOBILITY SYSTEM LEAVES NO ONE BEHIND

- Social equity and justice are incorporated as central tenets in infrastructure and mobility planning. Fair user fees are employed across all transport modes and shared transport services are designed to be affordable and accessible for all.
- Consistent due diligence, disclosure and remediation in line with the UN Guiding Principles on Business and Human Rights help to address adverse human rights impacts in the mobility and transportation value chains.
- In the face of rapidly expanding demand, stakeholders across the battery value chain come together to eliminate human rights violations and ensure safe working conditions.
- The rise of autonomous vehicles, the transition to electric vehicles, and the emergence of mobility-as-a-service models are accompanied by extensive, proactive and collaborative efforts to address the potential impacts on jobs. Companies take a people-centric approach and engage with and empower workers to benefit from emerging technologies.
- Business works with governments to advance legal and policy frameworks that ensure that the rights of workers in the gig economy are recognized and protected.



## RELEVANT SDGs



- 3.6** By 2020, halve the number of global deaths and injuries from road traffic accidents.
- 3.9** By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.
- 8.5** By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.
- 8.7** Take immediate and effective measures to eradicate forced labor, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labor, including recruitment and use of child soldiers, and by 2025 end child labor in all its forms.
- 8.8** By 2030, protect labor rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.
- 9.1** Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human wellbeing, with a focus on affordable and equitable access for all.
- 11.2** By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.
- 11.6** By 2030, reduce the adverse per capita environmental impact of cities, by paying special attention to air quality and municipal and other waste management.
- 12.2** By 2030, achieve the sustainable management and efficient use of natural resources.
- 12.5** By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.
- 12.8** By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature.
- 13.1** Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.
- 13.2** Integrate climate change measures into national policies, strategies and planning.
- 13.3** Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.
- 15.5** Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.

# **TRANSPORTATION & MOBILITY**

## **ACTION AREAS FOR BUSINESS**

### **2020 – 2030**

**01**

Develop and adopt ambitious sustainable corporate mobility policies that foster the electrification of corporate fleets, the highest possible vehicle safety standards, vehicle sharing, active mobility and teleworking.

**02**

Continue to invest in the development of innovative electric charging and energy storage technologies that can be deployed across mobility platforms, and help to bring passenger battery electric vehicles to market at all price points and segments.

**03**

Collaborate with governments, cities, industry peers and across sectors on the deployment of connected and interoperable charging infrastructure.

**04**

Scale the use of low-carbon fuels for long range and heavy-duty transportation.

**05**

Work with local and national organizations to agree and operationalize responsible data-sharing initiatives related to transportation that create public and private value.

**06**

Engage in dialogues with policymakers, operators and labor unions to explore potential impacts on employment associated with the roll-out of mobility-as-a-service models, automated and electric vehicles, and innovations in production-line technology. Ensure that workers are engaged and empowered as new technologies emerge.

**07**

Ensure human rights are respected across transportation and mobility value chains, developing and improving internal policies and systems for human rights due diligence as set out by the UN Guiding Principles on Business and Human Rights.

**08**

Develop, test and scale economically viable business models for mobility-as-a-service, connected urban logistics and vehicle-to-city connectivity.

**09**

Develop, test and scale opportunities surrounding circularity in the automotive industry and across the whole transport and mobility system.

**10**

Develop and adopt guidelines and standards for the roll-out of sustainable transport infrastructure that contributes to the regeneration of natural and social ecosystems.



PATHWAY // LIVING SPACES

**WE CAN  
MAKE  
THE  
WORLD  
FEEL AT  
HOME**

## **LIVING SPACES ARE THE AREAS WHERE PEOPLE RESIDE, WORK AND SPEND THEIR LEISURE TIME.**

People's living spaces play important roles in their physical and psychological health, their relationships and the quality of their work. This transformation pathway considers the needs of both urban and rural communities, and the combined efforts of public and private sector actors to create a built environment that provides adequate housing, workplaces, and spaces for leisure and community engagement. The urban planning, architecture, construction, maintenance, real estate, retail, hospitality and leisure industries all have roles to play.

### **EXPLORE THE LIVING SPACES PATHWAY BUSINESS ACTION AREAS**

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## **OUR 2050 VISION FOR LIVING SPACES**

### **HEALTHY AND INCLUSIVE LIVING SPACES, THRIVING IN HARMONY WITH NATURE**

#### **LIVING SPACES PROMOTE HEALTH AND WELLBEING**

The way we think about and engage with the spaces in which we live and work has shifted radically. We recognize the influence of our living and working spaces on almost every aspect of our lives – from how we sleep to how we socialize, from how productive we are to how safe and secure we feel. By 2050, built environments facilitate the health and wellbeing of individuals and communities alike and have adapted to meet the needs of growing and increasingly urban populations.

#### **AFFORDABLE HOUSING AND COMMUNITIES THAT WORK FOR ALL**

Adequate, safe, resilient and affordable housing is available to all. Infrastructure provides inclusive access to fundamental services, economic opportunities and education.

Urban environments integrate green and public spaces and ensure universal access to clean air, food, water and sanitation. Urban and rural planning respects and safeguards cultural identity and heritage. Human rights are protected and respected throughout the construction value chain.

#### **A NET-ZERO CARBON, RESILIENT, ADAPTABLE AND REGENERATIVE BUILT ENVIRONMENT**

All buildings have net-zero operational carbon emissions. The carbon footprint of buildings (embodied carbon) has also been reduced to zero. Climate resilience is a key consideration in infrastructure planning. Cities depend on, value and maintain strong links to the environment and strive for restoration of the natural world.

#### **LIVING SPACES THAT HARNESS THE POTENTIAL OF RECYCLED AND RENEWABLE MATERIALS**

Buildings are designed to minimize material use and maximize suitability for renovation and adaptation. Recycled and renewable materials that are regeneratively managed sit at the core of construction.



# KEY TRANSITIONS



## BUILDING AND INFRASTRUCTURE DESIGN SHIFTS TO FOCUS ON USERS' HEALTH

- Occupants' health and wellbeing play an increasingly central role in building design and construction. Buildings are designed to be comfortable, safe and secure spaces that foster positive social interaction, healthy and active lifestyles, focused work, creative expression, relaxation and rest.
- Strict regulations reduce the use of hazardous materials in the built environment across design, construction, operation and deconstruction. Only materials that pose no health risk are used.
- Exposure to ambient and household air pollution declines as policies and investments support clean mobility and transportation, clean household energy and other innovations.
- Enhanced waste management, noise management, optimal temperature management and access to daylight all help people live and work free of risks to their health.

## **INFRASTRUCTURE AND BUILDINGS INCREASINGLY INTEGRATE AND RESPECT BIODIVERSITY**

- The environmental footprints of buildings and infrastructure are minimized. Buildings generate their own energy onsite using renewable sources, and capture and treat their own water. All buildings are constructed from non-toxic and sustainably-sourced materials.
- Biodiversity becomes a key component of urban planning. Natural systems such as forests, mangroves and wetlands are increasingly valued for providing core infrastructure and ecosystem services. Green infrastructure helps solve an array of challenges from managing stormwater to improving air quality.
- Nature's value to cities and communities starts to be accounted for. This leads to stronger political and commercial efforts to protect nature effectively.
- Urban areas are designed to ensure universal accessibility to green spaces, connecting people with nature and the physical and psychological benefits it brings.

## **CITIES AND BUILDINGS PAVE THE WAY TOWARD NET-ZERO CARBON**

- Cities, in partnership with national regulators, implement strong policies and programs to reduce GHG emissions in existing building stocks and ensure that new buildings are constructed with the lowest possible footprint. By 2030, all new buildings operate at net-zero carbon and there has been a reduction in embodied carbon of at least 40% from 2020 levels. This reaches 100% by 2050.
- Electricity grids are upgraded to meet escalating demand from net-zero energy sources.
- New and refurbished buildings are highly energy efficient and come to include renewable energy production capacity and/or energy storage capabilities by default.
- The agreement and adoption of common metrics along the building and construction value chain help to establish clear decarbonization pathways, facilitating the transition to net-zero.
- Fast-growing cities discourage urban sprawl and steer infrastructure investments toward more compact and efficient growth.

## **THE EMERGENCE OF RESILIENT URBAN AND RURAL COMMUNITIES**

- Long-term resilience is integrated into urban and rural infrastructure and planning, with planners enhancing their capacities to adapt, learn and transform.
- Cities and local authorities lead societies in adapting to major climatological changes and embracing resilience. This includes resilience to extreme weather events, changing sea levels, water scarcity, increased temperature, lower agricultural harvests and fewer material resources.
- Buildings' capacity to manage storm-surge flooding and heat waves is enhanced. Water is collected and diverted to new uses, green spaces are used to reduce drought, and technological advancements support heat regulation and healthy indoor climates.
- Cities and communities foster resilience to other potential environmental and social shocks, including pandemics.
- Universally accessible early warning systems and emergency planning are put in place globally. Urban and rural inhabitants are well-prepared to roll out emergency protocols.

## **A SHIFT TOWARD CIRCULAR LIVING SPACES THAT MINIMIZE CONSUMPTION AND WASTE**

- Circular thinking is increasingly adopted across built environment business models, ownership structures, construction practices and management, creating a range of market and employment opportunities.
- Incentives and innovations support a drastic reduction in material use in buildings. Building standards are developed and enforced to ensure new buildings are designed to increase their suitability for renovation and recycling. Older buildings are preserved, rather than demolished, and serve new functions.
- Policies stimulate the widespread application of secondary and renewable bio-based construction materials that are modular and deconstructable.
- Accurate sustainability performance information becomes available for all building materials, enabling the development of reliable life cycle assessments. The use of building passports is mainstreamed and scaled.
- Service-based models grow substantially. Many companies expand their product offerings to include construction and maintenance services, enhancing efficiency and enabling closed product loops. Reuse, repair and refurbishment markets also grow, generating significant employment.



## CITIES ARE MADE TO WORK FOR ALL

- Government and business partner to ensure high-quality, affordable, accessible and adaptable housing is available for people at all socio-economic levels.
- Neighborhoods are designed and redesigned to be accessible, inclusive, safe and secure. They provide access to opportunities for employment, food, culture, healthcare, mobility, education, and healthy and active lifestyles.
- Cities are developed in a way that safeguards cultural and natural heritage.
- Consulting with local stakeholders, planners and architects design inclusive, green and bio-diverse community spaces, and create multifunctional buildings that support a range of interactive recreational activities.
- Infrastructure adapts to meet the needs of ageing populations, with accessible, connected and inclusive housing.

## RESPECT FOR HUMAN RIGHTS IS EMBEDDED ACROSS THE CONSTRUCTION AND MATERIALS SECTORS GLOBALLY

- Urban and rural areas are developed in a manner that respects the rights and needs of local communities and displaces no one.
- Construction projects ensure fair living wages for workers and strive to attain the highest possible standards of health and safety.
- Governments, cities and businesses come together to ensure that modern slavery, forced labor and child labor are eliminated from the construction sector and the value chains of the materials upon which it relies.
- As construction practices evolve, workers are continually upskilled, reskilled and empowered to prosper.

## RELEVANT SDGs



- 1.5** By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.
- 3.4** By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and wellbeing.
- 3.9** By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.
- 6.4** By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity. Substantially reduce the number of people suffering from water scarcity.
- 7.3** By 2030, double the global rate of improvement in energy efficiency.
- 8.5** By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.
- 8.7** Take immediate and effective measures to eradicate forced labor, end modern slavery and human trafficking and secure the prohibition and elimination of child labor.
- 8.8** By 2030, protect labor rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.
- 9.1** Develop quality, reliable, sustainable and resilient infrastructure to support economic development and human wellbeing, with a focus on affordable and equitable access for all.
- 9.4** By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally-sound technologies.
- 11.1** By 2030, ensure access for all to adequate, safe and affordable housing and basic services, and upgrade slums.
- 11.3** By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries.
- 11.5** By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the economic losses relative to gross domestic product caused by disasters, with a focus on protecting the poor and people in vulnerable situations.
- 11.6** By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.
- 11.7** By 2030, provide universal access to safe, inclusive and accessible green and public spaces, in particular for women and children, older persons and persons with disabilities.
- 12.2** By 2030, achieve the sustainable management and efficient use of natural resources.
- 12.5** By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.
- 12.8** By 2030, ensure that everyone has relevant information and awareness for sustainable development and lifestyles in harmony with nature.
- 13.1** Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.
- 13.2** Integrate climate change measures into national policies, strategies and planning.
- 13.3** Improve education, awareness-raising and capacity on climate change mitigation, adaptation, impact reduction and early warning
- 15.5** Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.

# LIVING SPACES

## ACTION AREAS FOR BUSINESS 2020 – 2030

01

Implement short-, medium- and long-term science-based targets to reduce the whole life carbon footprint of built structures toward net-zero emissions. Collaborate with clients, suppliers and all actors across the built environment to ensure targets are met and to drive net-zero construction and renovation measures.

02

Contribute to the development of national and sectoral decarbonization roadmaps, and engage with authorities at the regional, national and local levels to advocate for the targets, building codes and planning, permitting and procurement processes needed for a sustainable built environment.

03

Unlock the potential of digitalization to facilitate data recording and transfer among stakeholders and across life cycle stages to promote more holistic urban planning, greater transparency and enhanced efficiency across the built environment sector.

04

Create ways for occupants to play a role in minimizing the environmental impacts of their living and working spaces.

05

Develop circular business models to maintain the value of materials and resources throughout the lifetime of built structures. Innovate to make circular options more cost-competitive, convenient and dependable.

06

Future-proof buildings and infrastructure to withstand environmental, social and health-related shocks through urban planning, performance standards and construction practices.

07

Develop and adopt science-based targets for nature, which factor in impacts from material extraction to construction to building end-use. Integrate nature-based solutions into design and construction efforts.

08

Innovate and collaborate on new techniques and models to ensure the delivery of quality affordable housing that promotes health and wellbeing, in both existing and new developments.

09

Conduct and enhance due diligence in line with the UN Guiding Principles on Business and Human Rights with a view to respecting human rights and ensuring decent working conditions throughout the construction value chain, including in the informal economy.

10

Develop comprehensive strategies to support a just transition for workers that may be affected by emerging construction methods, materials and technologies.

**PATHWAY // PRODUCTS & MATERIALS**

**WE CAN  
MAKE  
THINGS,  
BETTER**



**THIS PATHWAY IS ABOUT "THINGS":  
THE GOODS PEOPLE USE TO FULFILL THEIR  
NEEDS AND ASPIRATIONS, AND THE ASSETS  
AND MATERIALS BUSINESSES NEED TO  
OPERATE AND GROW.**

It spans the entire product life cycle, from extraction and processing of raw materials to product manufacturing, distribution and sale, to end-of-life processing and recovery.

**EXPLORE THE  
PRODUCTS &  
MATERIALS PATHWAY  
BUSINESS ACTION  
AREAS**

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## **OUR 2050 VISION FOR PRODUCTS & MATERIALS**

**RESOURCE USE IS  
OPTIMIZED TO MEET  
SOCIETY'S NEEDS  
WHILE ALLOWING  
THE SYSTEMS THAT  
PROVIDE RESOURCES  
TO REGENERATE**

### **THE ECONOMY IS CIRCULAR**

The circular economy principles of reduce, reuse, repair, refurbish and recycle have been embraced by individuals, businesses and governments. Goods and services are made universally available in a manner that neither exceeds the planet's capacity to renew resources nor pollutes the natural environment. New policies, business models, industrial ecosystems and diversified materials have arisen to support the circular economy, generating significant market value as well as a wealth of skills development and employment opportunities across both developed and emerging economies.

### **PRODUCTS ARE CIRCULAR BY DESIGN**

Companies have designed out waste and made closed loops a reality across value chains. Virgin, non-renewable materials consumption has dramatically declined. Products are

developed without harmful substances and are designed to maximize utility whether through extensive reuse, repair or repurposing, before finally being recycled or biodegraded. Across all sectors, traceable, renewable and recycled materials are key inputs into manufacturing and re-manufacturing processes.

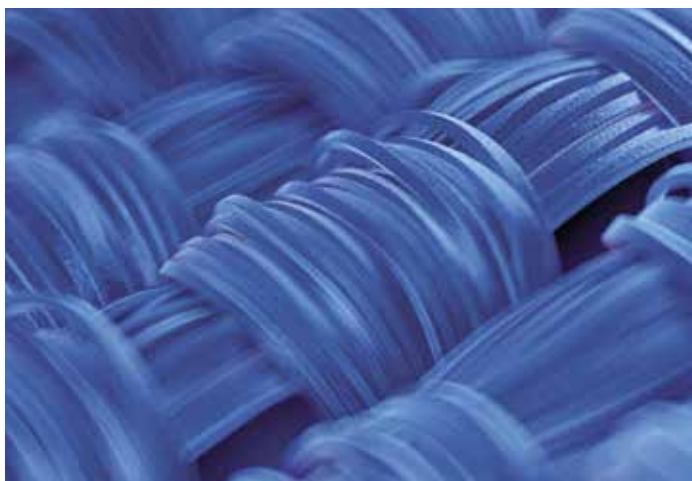
### **PRODUCT LIFE CYCLES MAXIMIZE VALUE AND PROTECT NATURE**

All materials are recognized as valuable resources and are carefully managed to ensure that their full economic potential is maximized before being returned safely to biological and technical cycles. An effective and consistent global recycling infrastructure ensures that all products can be efficiently collected and transformed back into valuable raw materials at the end of their life, without leaking into the natural environment. Historic waste has been cleaned up and natural environments restored wherever possible.

### **THE CIRCULAR ECONOMY LEAVES NO ONE BEHIND**

Sharing, service and product life extension business models have contributed to greatly improved access to essential products and materials at affordable prices all over the world. Companies take a people-centric approach to the integration of new business models and production technologies, ensuring that they engage with workers and communities, and empower them to benefit from emerging developments, while continued opportunities for livelihoods and entrepreneurship are available. Business and governments continually work to ensure that human rights are protected and respected and companies support the health, safety and wellbeing of workers everywhere.

# KEY TRANSITIONS



## CIRCULAR BUSINESS MODELS BECOME THE NORM, CREATING ECONOMIC, SOCIAL AND ENVIRONMENTAL OPPORTUNITIES

- Governments work with businesses and other stakeholders to develop regulatory structures that maximize long-term value. This is done through a combination of frameworks that encourage recycled and renewable materials, maximizing product lifespans and recycling. This creates a market that prefers secondary materials and only turns to non-renewable, primary materials when no alternatives are available, in turn, prompting the widespread normalization of circular models.
- Companies innovate and bring to scale new technologies and business models, creating substantial new markets that spring from and enhance the circular economy.
- Investment enables developing countries to make significant advances in digital and materials innovation, and to embed sustainable production and consumption at the heart of their economies.
- The emergence of a more circular and service-based economy creates a wide range of jobs across industrial sectors globally. Job losses that result from the circular transition are managed in an inclusive and responsible manner with workers being reskilled and upskilled accordingly.
- A thriving circular economy provides workers and businesses with greater opportunity to transition from the informal to the formal economy, while respecting workers' rights and ensuring lasting opportunities for income security, livelihoods and entrepreneurship.

## A CIRCULAR BIOECONOMY PLAYS AN INCREASINGLY CENTRAL ROLE IN GLOBAL ECONOMIC ACTIVITY

- A circular bioeconomy plays an important role in reinforcing a circular, low-carbon economy, contributing to efforts to mitigate climate change while also providing materials to satisfy society's needs for food, feed products and energy.
- All industries (including construction, chemicals and textile sectors) seize opportunities to complement or substitute non-renewable and fossil-based materials with bio-based resources that are renewable and sustainably managed.
- Biological resources are recovered and reused wherever possible. At the point where these resources can no longer be reintroduced into the economy, they are safely returned to nature as nutrients.
- Wood and fiber products are sourced from healthy, working forests that also provide multiple benefits such as carbon storage, clean air and water, natural habitats and rural livelihoods.

## GOODS AND SERVICES MEET THE NEEDS OF COMMUNITIES AROUND THE WORLD WHILE LEAVING NO ONE BEHIND

- Circular models of production along value chains ensure that the needs of a growing global population are met at the drastically lower rates of per capita primary resource use needed if our activities are to remain within planetary boundaries.
- Everyday products are made more accessible and affordable through resale, renting and service models, breaking down traditional barriers to ownership and allowing the shared use of idle assets. This allows people to improve their quality of life, sustainably.
- Businesses, governments and multi-stakeholder platforms work to ensure that human rights are protected and respected throughout global supply chains, collaborating to eradicate forced and child labor, modern slavery and human trafficking.
- The shift to a more circular economy and the widespread adoption of emerging business models and technologies occur in a people-centric fashion, ensuring that rights are respected and that workers are engaged and empowered to benefit from transformation.



## **MATERIAL COLLECTION AND RECOVERY IMPROVES EXPONENTIALLY**

- Laws against pollution and waste in the environment, and taxes on landfills, become routinely and consistently enforced, strengthening the case for reuse, recycling and composting.
- The food, feed, natural materials and energy products that make up the bioeconomy are produced to be reintroduced into a circular system through cascading uses, reprocessing, and eventually composting and anaerobic digestion. These cycles are also designed to regenerate living systems, such as soil.
- Solutions such as take-back schemes and reverse logistics become business as usual. A range of stakeholders including manufacturers, retailers, government agencies and local municipalities support the collection of used products, materials and packaging, and their reintroduction into the manufacturing cycle. The volume of materials collected versus sold reaches near parity.
- Recycling is made easier for consumers. Consistent information on how to deal with different products and materials at the end-of-use is made universally available.
- Strong collaboration develops among end-of-use logistics and material processing firms. Processing and manufacturing companies work increasingly closely with recovery companies to secure competitive advantage through high-quality supply security and reduced production costs.

## **THE FLOW OF WASTE INTO THE ENVIRONMENT IS ENDED AND NATURE IS RESTORED**

- Waste systems transform at national, regional and local levels. Cross-sector collaboration, investment and standardization drive enhanced stewardship of materials and products – such as plastics, electronics, textiles, construction materials, automotive components and household goods – at different stages of their life cycle and value chain.
- Innovations emerge that help to advance and bring to scale technologies that make recycling and recovering materials easier. Consistently designed infrastructure is established to collect, sort, manage and recycle household and municipal waste, especially in rapidly developing parts of the world. This significantly reduces and eventually ends the flow of waste into the natural environment.
- Products that contain plastics and other materials that cannot be collected and recycled are designed to completely biodegrade without harmful materials, as a last resort.
- Large-scale global clean-up efforts mobilize to remove plastic and other waste that has found its way into the environment. Waste that is collected from the environment re-enters the economy.

## **PEOPLE EMBRACE CONSUMPTION THAT IS CIRCULAR, REGENERATIVE AND SOCIALLY RESPONSIBLE**

- Society reassesses its relationship with consumption. Responsible consumption and return behaviors are increasingly valued and rewarded through policy-driven incentives and pricing models.
- Consumer behavior shifts toward circular models of consumption as awareness grows of increasing resource scarcity and the environmental impacts of waste. Circular and sharing models become more available, affordable, practical and desirable across a broad range of products and services. Consumers come to value access more than ownership and increasingly accept repaired, refurbished and second-hand products.
- Business plays a significant role in educating and driving consumer appetite for circular economy products and responsible consumption patterns. Companies invest in innovation to make sustainable lifestyles possible, aspirational, affordable and accessible.
- Relevant information about the provenance and sustainability performance of products across supply chains becomes both widely available and comparable, enabling more sustainable purchasing decisions.
- Enhanced consumer awareness of the environmental impacts of packaging waste leakage informs behavior change, while business continually explores innovative sustainable packaging solutions.





## TECHNOLOGY ADVANCES ARE DEPLOYED RESPONSIBLY AND DRIVE IMPROVED EFFICIENCY AND TRANSPARENCY ACROSS VALUE CHAINS

- Advances in robotics, artificial intelligence and machine learning make it possible for machines to work alongside humans, driving economic and resource efficiency gains and creating value at each stage of the manufacturing process.
- Technological advances make recycling, repair, remanufacturing and collection processes safer and more automated, leading to more efficient recycling yields and enabling recovery of previously unrecovered materials.
- Technology solutions also transform supply chain transparency. Materials, products and packaging are tracked across value chains using cloud-based, distributed ledgers and other digital technologies. These enable the monitoring and management of supply chain risks and potential adverse human rights impacts, promoting responsibility and resilience, and supporting the recycling and re-use of materials. Technology supports enhanced transparency and accountability for the environmental and social impact of products throughout their life cycles.

## RELEVANT SDGs



- 6.3** By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.
- 6.4** By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.
- 7.3** By 2030, double the global rate of improvement in energy efficiency.
- 8.4** Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-Year Framework of Programmes on Sustainable Consumption and Production, with developed countries taking the lead.
- 8.5** By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.
- 8.7** Take immediate and effective measures to eradicate forced labor, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labor, including recruitment and use of child soldiers, and by 2025 end child labor in all its forms.
- 8.8** Protect labor rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.
- 9.4** By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally-sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.
- 12.2** By 2030, achieve the sustainable management and efficient use of natural resources.
- 12.3** By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.
- 12.4** By 2020, achieve the environmentally-sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.
- 12.5** By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.
- 12.8** By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature.
- 13.1** Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.
- 13.2** Integrate climate change measures into national policies, strategies and planning.
- 13.3** Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning
- 14.1** By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.
- 15.2** By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.
- 15.5** Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.

# PRODUCTS & MATERIALS

## ACTION AREAS FOR BUSINESS 2020 – 2030

01

Develop new business models to ensure product life cycles are extended for as long as possible, prioritizing maintenance and refurbishment where appropriate.

02

Integrate circularity and next-life use into all aspects of business strategy from product design to go-to-market, after-sales service and end-of-life collection. Map and identify value chain gaps in capabilities related to closing circular loops, and work to address them internally and together with partners.

03

Invest in the innovation and adoption of sustainable and circular biological products that store carbon and substitute non-renewable and fossil-based materials, while also setting ambitious, science-informed goals that contribute to nature recovery.

04

Account for the true value of products and materials by factoring in natural, social and human capital costs. Update accounting principles to encourage longer life.

05

Establish consensus on and uptake of a common set of definitions and metrics to enhance decision-making, collaboration and disclosure of circular performance and linear risk.

06

Employ a people-centric approach to innovation, investing in the continual upskilling, reskilling and empowerment of workers in the face of emerging business models and new technologies.

07

Engage in positive advocacy with policymakers to create a playing field that ultimately favors secondary materials.

08

Develop and improve internal policies and systems for human rights due diligence as set out by the UN Guiding Principles on Business and Human Rights and **ensure human rights are respected** across all global value chains.

09

Drive collaborative efforts that cut across value chains to invest in improved local capacity and infrastructure for the collection and processing of materials necessary to support circular business models, particularly in developing countries.

10

Collaborate on campaigns to drive global consumer behavior change, targeting enhanced acceptance and preference for durability and serviceability as well as refurbished and recycled products while also making recycling as easy and convenient as possible.

PATHWAY // FINANCIAL PRODUCTS & SERVICES

**WE CAN**  
**ALL**  
**INVEST**  
**IN OUR**  
**FUTURE**

**FINANCIAL SERVICES AND INVESTMENT ARE AT THE HEART OF ALL ECONOMIC ACTIVITY. THEY UNDERPIN, UNDERWRITE AND DRIVE ACTION AND OUTCOMES ACROSS ALL INDUSTRIAL AND SERVICE SECTORS.**

They are vital to ongoing social and economic stability and resilience. Financial products include corporate and personal financial mechanisms and transactions which provide the means to give or receive investment and loans and obtain security through insurance. Financial services are the means by which financial products are delivered and monitored, such as investment and payment services, retirement planning, mortgage broking and accountancy. The extent to which these products and services are oriented toward supporting and driving sustainable development outcomes is critical for the achievement of Vision 2050.

**EXPLORE THE  
FINANCIAL PRODUCTS  
& SERVICES PATHWAY  
BUSINESS ACTION  
AREAS**

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## **OUR 2050 VISION FOR FINANCIAL PRODUCTS & SERVICES**

### **ALL FINANCIAL CAPITAL AND FINANCIAL PRODUCTS AND SERVICES ARE MOBILIZED TO SUPPORT SUSTAINABLE DEVELOPMENT**

#### **THE FINANCIAL SYSTEM RECOGNIZES THE VALUE OF SOCIAL AND ENVIRONMENTAL OUTCOMES ALONGSIDE FINANCIAL PERFORMANCE**

All financial institutions, finance professionals and economic agents understand and apply a multi-capital approach to value, connecting societal and environmental capacity, thresholds and outcomes with enterprise and market value. Accounting systems, processes and principles help to ensure that this value is recognized and understood.

#### **FINANCIAL CAPITAL ALLOCATION ENABLES SUSTAINABLE DEVELOPMENT**

Capital allocation decisions across the investment chain recognize and prioritize sustainable development outcomes. Capital markets properly value inclusive, impactful,

sustainable business practices, rewarding the most sustainable companies. Failure to manage environmental, social and governance (ESG) risks and opportunities is a major barrier to commercial success. Within financial markets, instruments provide a variety of different mechanisms for capital market actors to contribute to sustainable solutions and outcomes.

#### **THE FINANCIAL SYSTEM HAS ACCESS TO COMPREHENSIVE AND COMPARABLE DATA ON CORPORATE SUSTAINABILITY PERFORMANCE**

Material, decision-useful, forward-looking ESG information is communicated by all companies on a timely basis and informs the decision-making of actors throughout the investment chain. The quality of disclosure continually evolves and improves in line with sustainable development priorities.

#### **THE FINANCIAL SYSTEM WORKS FOR EVERYONE**

Financial products and services are universally accessible. Financial literacy is widespread and individuals appreciate their influence on the global financial system. The financial system in turn reflects the preferences and values of the beneficiaries and savers that it serves.



# KEY TRANSITIONS



## MARKETS AND FINANCIAL INSTITUTIONS EMBRACE A BROADER CONCEPT OF VALUE

- Widespread recognition emerges across the financial system that, in addition to financial capital, there are other categories of value that society – and institutions within society – benefit from. These include natural, social and relationship, human, intellectual and manufactured capital. Companies and capital markets recognize the importance of internalizing negative and positive externalities and understand them as sources of risk and opportunity that can affect business and investment performance.
- Approaches to categorizing and recognizing wider concepts of true value are further developed and mainstreamed. Accounting and valuation practices evolve to fully support the integration of these multiple sources of capital in support of public interests.
- Professional education for financial analysts, treasury, risk management, insurance and investment management increasingly integrate a multi-capital approach.



## CULTURE AND BEHAVIOR SHIFT

- Governments, regulators, capital market actors and companies work together to enable a cultural and behavioral shift that helps to reduce instances of short-termism, excessive speculation and leverage and foster long-term resilience and value creation in support of a financial system that contributes to sustainable development.
- Policymakers strengthen regulatory guidance around the need for ESG considerations to be integrated into investor practice as a key component of fiduciary duty. Discussions around fiduciary duty also move beyond investors to include other actors along the investment chain.
- Incentive structures are reviewed to position sustainability performance outcomes as key components of short- and long-term remuneration across the financial system.
- ESG's importance in investment decision-making is incorporated into professional codes of ethics and qualifications to provide the necessary culture, tools and knowledge to encourage and require investment professionals to act.
- Actors across the financial system signal the importance of sustainability issues through their interactions with peers and wider networks along the investment chain. Asset owners and managers use engagement to encourage more sustainable corporate behavior.

## **CAPITAL IS MOBILIZED IN SUPPORT OF SUSTAINABLE DEVELOPMENT**

- The entire financial system reinforces the mobilization of assets to finance sustainable business practices. Funds are allocated toward sustainable products, and ESG considerations are integrated across all aspects of financing and investment decision-making. The cost of capital decreases for sustainable business activities, while increasing for those that are unsustainable.
- Asset owners put increasing pressure on asset managers to integrate ESG considerations into all financial investments, making the consideration of long-term sustainability risks and opportunities an explicit part of the investment mandate and asset manager selection process. Asset managers, in turn, pressure issuers to manage and report on ESG risks and opportunities.
- Investment consultants and banks enhance efforts to provide advice and sell-side research that helps to ensure asset owners and managers are aware of the long-term sustainability risks and opportunities within their clients' portfolios. Credit rating agencies also improve the integration of sustainability issues into their assessments of credit risk.
- Banks take action to align their customer financing activities with the Paris Agreement and sustainable development.

## **ROBUST MARKET INFRASTRUCTURE FOR FINANCIAL PRODUCTS IN SUPPORT OF SUSTAINABLE DEVELOPMENT EMERGES**

- Meaningful and rigorous dialogue between companies and investors provides impetus for the development of critical system architecture that supports institutional and technical efforts to mobilize capital in support of sustainable development.
- A clear, globally recognized definition of sustainable investing is developed, including standardized terms and products. Consistent terminology, definitions and clear product labeling, backed by standards and verification, emerge to ensure the impact of sustainable investment products and to prevent mis-selling.
- Financial instruments, services and products (including insurance, securities, derivatives, bonds, structured products, etc.) that contribute to inclusive, impactful, sustainable and resilient outcomes, emerge and achieve scale.
- Convergence of standards enables the development of integrated indices and benchmarks, which provide users with comprehensive information on risk, returns, impacts and outcomes.

## **COMPANIES ENHANCE THE STRATEGIC INTEGRATION AND REPORTING OF ESG TO FACILITATE SUSTAINABLE CAPITAL ALLOCATION BY FINANCIAL INSTITUTIONS**

- More and more businesses place sustainability at the core of corporate decision-making, with ESG signals becoming key considerations for CFO, treasury, corporate secretary and investor relations functions. ESG becomes a fundamental aspect of strategic analysis, enterprise risk management, equity performance and corporate resilience.
- Material, decision-useful and forward-looking ESG information is communicated by more and more companies on a timely basis, allowing investors to leverage it for assessments and responsive valuation. Financial institutions encourage companies to adopt best practice ESG disclosure guidelines, aligning with initiatives such as the Task Force on Climate-related Financial Disclosure (TCFD). Asset owners and managers drive companies to disclose sustainability information of increasingly better quality.
- Collaborative platforms bring companies and investors together to improve the specification, consistency and exchange of ESG information and communication, facilitating the emergence of more comprehensive, robust and comparable data on corporate sustainability performance.
- Regulators work to increase the consistency, timeliness and adoption rates of the disclosure of ESG information. Stock exchanges globally start to mandate ESG disclosure for listing requirements.

## **PEOPLE'S VALUES ARE RESTORED TO THE HEART OF THE FINANCIAL SYSTEM**

- Enhanced global financial literacy makes individuals more aware of their role in the financial system and empowers them to take action to align the system better with their sustainability and ethical preferences.
- Individuals start to demand that their investments are aligned with sustainable development outcomes and build sustainability factors into the mandates they give to those who manage their money. Investors work to incorporate beneficiaries' and savers' sustainability-related preferences, regardless of whether these preferences are financially material.
- Retail banks provide customers with appropriate advice and incentives on how to support sustainable development through their personal savings, investments and pension products.
- Companies ensure that their corporate retirement plans integrate ESG considerations and are aligned with sustainable development, in line with growing employee demand.





## FINANCIAL SERVICES SUPPORT INCLUSION AND EQUITABLE ACCESS AT SCALE

- Perspectives in the financial sector shift to support the development of products and services that enable universal financial participation. Large-scale and infrastructural product availability is balanced with micro-level product design and delivery.
- Organizations focus on supporting personal and social resilience and security in all corners of society. Financial products and services providers work to facilitate universal access to an increasingly diverse set of services for individuals including savings, insurance and credit.
- Access to sustainable finance for low-income communities, as well as micro-, small- and medium-sized enterprises, improves exponentially.
- Digital and mobile technologies are leveraged to overcome barriers to accessing financial services including geography, cost and disenfranchisement.
- Multi-stakeholder collaborations mobilize efforts to enhance financial literacy levels globally.

## RELEVANT SDGs



- 1.4** By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.
- 5.A** Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws.
- 8.10** Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all.
- 9.3** Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets.
- 10.5** Improve the regulation and monitoring of global financial markets and institutions and strengthen the implementation of such regulations.
- 12.6** Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.
- 12.8** By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature.
- 13.1** Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.
- 13.2** Integrate climate change measures into national policies, strategies and planning.
- 13.3** Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.
- 15.5** Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.
- 17.3** Mobilize additional financial resources for developing countries from multiple sources.

# FINANCIAL PRODUCTS & SERVICES

## ACTION AREAS FOR BUSINESS

2020 – 2030

01

Advocate for an enabling a sustainable finance policy environment that supports transparency, evolution of concepts of fiduciary duty, and strategic approaches to valuing externalities.

02

Companies incorporate ESG-related risks and opportunities and natural, social and human capital impacts and dependencies into accounting processes and valuation assumptions.

03

Asset owners build clear and consistent ESG requirements and performance metrics into the instructions given to investment consultants and asset managers.

04

Retail and investment banks embed sustainability throughout their business models, developing a range of sustainable finance instruments, ensuring their own loans and investments are sustainable, and developing robust analysis of ESG factors on the sell side.

05

Corporates and investors come together with standard-setters and regulators to develop clear guidance on the specification, consistency and comparability of decision-useful sustainability-related information and communication.

06

Identify and address incentives that reward and give rise to short-term financial performance outcomes at the expense of sustainable development.

07

Credit ratings agencies enhance their analysis of the ESG risk exposure of sectors and companies across a range of issues including climate change, human rights, nature loss and water scarcity.

08

Support professional development standards and codes of ethics that foster sustainable finance capabilities and behaviors.

09

Develop investment allocation transparency for beneficiaries, pension holders and other retail investors, so that they can see where and how their money is invested, as well as associated sustainability-related impacts.

10

Facilitate access at scale to financial products and services, using accessibility as a fundamental design principle to support equity and financial inclusion while also exploring new partnerships and initiatives to enhance financial literacy globally.

**PATHWAY // CONNECTIVITY**

# ***WE CAN CONNECT PEOPLE***



**THIS TRANSFORMATION PATHWAY  
FOCUSES ON THE DIGITAL TECHNOLOGIES  
AND PLATFORMS THAT CONNECT PEOPLE  
TO OTHER PEOPLE, TO INFORMATION,  
AND TO AN EVER-EXPANDING RANGE OF  
PRODUCTS AND SERVICES.**

It also covers solutions that connect and communicate with objects via the internet (the Internet of Things). By extension, this pathway also covers the infrastructure, equipment and devices – from smartphones to computers to satellites – that these solutions depend on.

**EXPLORE THE  
CONNECTIVITY  
PATHWAY  
BUSINESS ACTION  
AREAS**

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## **OUR 2050 VISION FOR CONNECTIVITY**

### **RESPONSIBLE CONNECTIVITY BRINGS PEOPLE TOGETHER, ENHANCES TRANSPARENCY AND EFFICIENCY, AND DRIVES ACCESS TO OPPORTUNITY**

#### **CONNECTIVITY EMPOWERS EVERYONE**

Digital and communication technologies provide universal connectivity, allowing all people to connect with each other and to critical information and basic services including finance, education and healthcare. This, in turn, contributes to fair, prosperous and inclusive societies with radically reduced inequality around the world. People also have access to the skills needed to flourish in a digital world.

#### **DATA OPTIMIZES PERFORMANCE AND EFFICIENCY**

The Internet of Things has reached its full potential. Widespread use of connected devices enables vast amounts of information to be collected and analyzed, driving the optimization of processes and procedures across a wide range of industries. This facilitates enhanced performance and efficiency, reduced emissions, improved water stewardship and dematerialization.

#### **SUSTAINABLE DEVELOPMENT CAN BE TRACKED AND MANAGED**

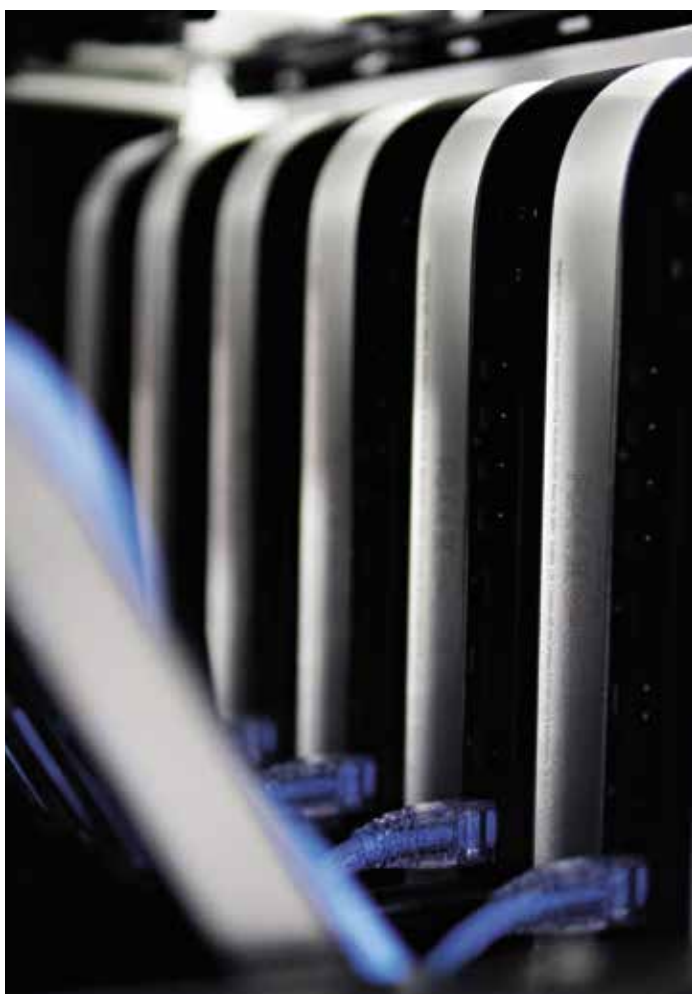
Digital advances allow real-time tracking and observation of the world and its key natural and man-made systems. This ensures transparency with regard to emerging environmental and social challenges, and enables targeted interventions to be made in a timely and coordinated manner.

#### **CONNECTIVITY RESPECTS PEOPLE AND THE ENVIRONMENT**

Environmental and social impacts along the digital supply chain have been mitigated. Raw materials are sourced responsibly, data centers are powered by clean energy, and circular and sustainable end-of-life practices are widespread. International collaboration and global standards have enabled secure networks and effective governance mechanisms, ensuring that data integrity and privacy is protected. The boundaries between freedom of expression and hate speech are clearly defined and upheld, protecting the former and eradicating the latter.



# KEY TRANSITIONS



## UNIVERSAL ACCESS TO BROADBAND AND DIGITAL SERVICES LEAVES NO ONE BEHIND

- High-quality, reliable digital infrastructure is put in place globally. Business and government collaborate to make affordable broadband and mobile access a reality for all. Connected devices become readily available, at affordable prices, irrespective of location.
- Governments and business align to address low levels of digital literacy, focusing on building skills and enhancing collaboration with the education sector.
- Connectivity and digital literacy enable individuals to use the internet responsibly and to harness its full potential for employment, communication, information and entertainment purposes. Critical services such as finance, healthcare and education are increasingly delivered through online and mobile technology solutions, driving greater social and financial empowerment, poverty reduction, improved health outcomes and reduced inequality.



### **DIGITAL PLATFORMS ENRICH SOCIAL INTERACTION AND CIVIC ENGAGEMENT**

- People leverage platforms to build and strengthen relationships with family, friends, customers and colleagues alike. The global nature of the digital environment fosters rich cultural and normative diversity.
- Governance structures emerge to address challenges such as cyber-bullying, hate speech, violent extremism and discrimination online.
- Digital tools empower individuals to participate in civil society actions and to contribute to democratic processes more broadly.
- Platforms and content providers adopt stringent policies and practices that prioritize transparency and truth, and mitigate the risk of undermining democratic processes, including by addressing the spread of disinformation leading to misinformation.
- Checks are put in place to protect against the emergence of digital monopolies and ensure that individual platforms do not possess undue levels of influence.

### **CONNECTIVITY ENABLES COLLABORATION, INNOVATION AND THE EMERGENCE OF NEW BUSINESS MODELS AND WAYS OF WORKING**

- Digital platforms and technologies enable collaborative networks within and across industries, driving new partnerships and opportunities for innovation.
- In many areas, digitalization enables a shift from traditional business models to platforms and networks that form the heart of a new digital economy, enhancing product and service offerings and creating a host of new economic and employment opportunities.
- New ways of remote working, learning and collaborating, which became mainstream during the COVID-19 pandemic, continue to be embraced by employers and employees.

### **CONNECTED DEVICES LEAD TO IMPROVED PERFORMANCE AND EFFICIENCY**

- Companies benefit from maturing technologies which make the Internet of Things (IoT) easier to implement across a variety of environments. Sensor technologies become cheaper, more advanced and more widely available. Computing power increases and applications shift toward cloud and edge computing solutions.
- As connectivity between things and organizations improves, vast amounts of data are collected and analyzed, enhancing productivity and efficiency, and optimizing energy, material and water use across a broad range of sectors.
- New standards emerge to tackle data privacy issues around connected devices.

### **THE HEALTH OF NATURAL AND SOCIAL SYSTEMS IS CONTINUOUSLY TRACKED**

- Connectivity takes on a critical role in enhancing global capacity to monitor the status of the natural world, and emerging impacts upon it. Partnerships between governments, businesses and civil society emerge to track the conditions of global forests, watersheds, fisheries and other critical natural systems in real time.
- Continuous monitoring also enables negative impacts and illegal or harmful practices to be identified early, empowering people everywhere to take timely action to protect the natural environment.
- The processing of complex datasets facilitates more targeted and impactful support for poverty and hunger alleviation, healthcare, education and disaster recovery efforts in the communities that need them most urgently.
- Companies leverage new levels of data quantity, quality and sharing, as well as blockchain technology, in order to monitor and manage supply chain risks and ensure responsible, sustainable sourcing.



### GOVERNMENTS AND BUSINESS STRENGTHEN DIGITAL SECURITY, RESPONSIBILITY AND TRUST

- Recognition of the importance of data privacy and security grows exponentially throughout society, and organizations are increasingly held accountable.
- International guidelines that enable the flow of data and services while protecting the right to privacy are widely adopted. Businesses take the lead in ensuring the right to privacy is upheld.
- Companies partner with government, civil society and innovators to develop norms and practices that enhance trust in the digital economy.

### IMPACTS OF DIGITAL GROWTH ARE MITIGATED THROUGH RESPONSIBLE MODELS OF PRODUCTION AND CONSUMPTION

- Technological innovation and decarbonization significantly reduce the environmental impact of both digital infrastructure and hardware.
- Electronic products are designed to be repaired, recovered, recycled and reused. Cross-sector collaboration, investment and standardization drive massive reduction, and enhanced stewardship, of electronic waste.
- Regulators, companies and civil society groups align to ensure that human rights are protected and respected throughout connectivity value chains, from minerals and metals sourcing to content oversight.
- Multi-stakeholder initiatives are convened to monitor and address the impacts of digital disruption on job markets. Companies empower workers to benefit from new technologies and provide appropriate learning, training and support.
- Consumers are made increasingly aware of the environmental and social impacts of their digital behaviors.

## RELEVANT SDGs



- 1.4** By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.
- 3.8** Achieve universal health coverage, including financial risk protection, access to quality essential healthcare services and access to safe, effective, quality and affordable essential medicines and vaccines for all.
- 4.3** By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university.
- 5.B** Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women.
- 8.5** By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.
- 8.7** Take immediate and effective measures to eradicate forced labor, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labor, including recruitment and use of child soldiers and, by 2025, end child labor in all its forms.
- 8.8** Protect labor rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.
- 9.C** Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020.
- 10.2** By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.
- 12.5** By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.
- 12.8** By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature.
- 13.1** Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.
- 13.2** Integrate climate change measures into national policies, strategies and planning.
- 13.3** Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.
- 16.7** Ensure responsive, inclusive, participatory and representative decision-making at all levels.
- 16.10** Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements.
- 17.8** Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology.

# CONNECTIVITY

## ACTION AREAS FOR BUSINESS 2020 – 2030

01

Collaborate with governments, sector peers and financial institutions to deliver the infrastructure and service offerings needed to ensure affordable, reliable internet connectivity for all.

02

Collaborate with governments on wider initiatives to expand digital literacy and address the digital skills gap, particularly for underrepresented groups.

03

Collaborate across the ICT sector, and with civil society and governments, to build transparent and impartial infrastructure for monitoring the state of the natural world and understanding impacts in real time.

04

Harness the power of emerging digital technologies to advance supply chain transparency and traceability mechanisms, and drive open access to data.

05

Implement and help shape emerging best practices to ensure that data is safeguarded throughout connectivity value chains and that people's right to privacy is protected.

06

Convert all data centers to 100% net-zero energy.

07

Continue to implement and enhance efforts to conduct human rights due diligence throughout connectivity value chains in line with the UN Guiding Principles for Business and Human Rights.

08

Embrace circular economy principles to prevent exponential growth in e-waste and depletion of natural resources.

09

Engage with workers in the process of designing, adopting and working with new digital technologies, and equip them with the skills they need to benefit from these technologies.

10

Adopt stringent policies and practices to stem the spread of disinformation and take concrete steps to protect users from online crime, extremism, hate speech, discrimination and cyber-bullying.





PATHWAY // HEALTH & WELLBEING

**WE CAN  
HELP  
PEOPLE  
FEEL  
BETTER**

## HEALTH AND WELLBEING ARE FUNDAMENTAL TO PEOPLE'S ABILITY TO LIVE WELL.

This transformation pathway captures the full spectrum of activities to enhance people's physical and mental health – from preventing and curing communicable and non-communicable diseases, to ensuring robust global healthcare systems and encouraging healthy lifestyles. While the healthcare and pharmaceutical industries clearly have strong roles to play, so do companies in a wide range of other sectors, from food to the built environment.

**EXPLORE THE  
HEALTH & WELLBEING  
PATHWAY BUSINESS  
ACTION AREAS**

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# OUR 2050 VISION FOR HEALTH & WELLBEING

## THE HIGHEST ATTAINABLE STANDARD OF HEALTH & WELLBEING FOR EVERYONE

### PEOPLE LIVE HEALTHY LIVES

By 2050, everyone enjoys the highest possible standard of health and wellbeing, living healthy and fulfilled lives.

### HEALTH IS PROMOTED AND PROTECTED

The healthcare system focuses strongly on disease prevention. Governments support efforts to empower individuals to take more control over and improve their health through their lifestyles and diets. Businesses have rebalanced product portfolios and services in favor of healthier lifestyles, and marketing activities focus on encouraging healthy choices and behaviors. The spread of disease is prevented through immunization, early detection and treatment, and robust global systems of epidemiological surveillance and response. Wildlife habitats are conserved and protected with a view to eradicating the emergence of zoonotic diseases.

### EVERYONE HAS ACCESS TO ROBUST, RESILIENT AND SUSTAINABLE HEALTHCARE SERVICES

All people have access to affordable essential healthcare services in their communities, including preventive, promotive, protective, curative, rehabilitative and palliative care throughout their lives. As a result, incidence of diseases declines and many more people survive infectious and non-communicable diseases. Health systems are resilient to shocks and prepared for pandemics. They are well-governed, well-coordinated, well-equipped, efficient, sustainable and operated by a skilled workforce.

### WORKPLACES PROMOTE WELLBEING

Businesses work to promote strong cultures of health and wellbeing throughout their operations and supply chains. Educational programs help to promote workers' physical and mental health, and all companies take measures to ensure the health and safety of their staff at all times.

# KEY TRANSITIONS



## BUSINESSES EVOLVE PRODUCTS AND SERVICES TO PROMOTE HEALTHY LIFESTYLES

- Governments, businesses and civil society groups collaborate to promote and enable healthier lifestyles for people from all socio-economic groups, helping to prevent and reduce the impact of non-communicable diseases.
- Businesses, supported by government policy and civil society groups, re-balance and innovate product portfolios to support healthy diets and lifestyles.
- Reliable health information, personal health management software, healthy and nutritious foods, and better fitness and sports infrastructure enable people to change their lifestyles.
- All products are made safe and free from harmful ingredients or materials. Regulations and voluntary measures lead to the eradication of unhealthy or addictive products and services. Efforts are also made to combat the negative mental health impacts of products and services, including social media.
- Responsible marketing promotes healthy choices, behaviors and lifestyles. Business refrains from marketing unhealthy products, particularly to children and adolescents.

## HEALTH LITERACY IS PROMOTED GLOBALLY AND TRUST IN SCIENCE IS RESTORED

- Governments, businesses and civil society groups collaborate to drive education across the world on hygiene, health, mental wellbeing, scientific literacy, sexual and reproductive health, and family planning.
- Companies promote education and awareness around physical and mental health throughout their workforces, supply chains and in the communities in which they operate.
- Social media platforms address the uncontrolled dissemination of health-related misinformation.

## INVESTMENT BUILDS CAPACITY TO PREVENT THE EMERGENCE AND SPREAD OF COMMUNICABLE DISEASES

- Emerging technology makes health systems more proactive, allowing a greater focus on prevention, earlier diagnosis of disease, and more continuous monitoring of patient health.
- Funding for essential health services in low- and middle-income countries is increased, strengthening routine immunization and improving the quality and availability of data to inform planning.
- Health systems take action to build resilience and prepare for pandemics through partnerships, improved logistics and stockpiling of essential equipment.
- Governments and businesses invest in building systems for rapid development, approval and delivery of safe and effective vaccines and treatments to tackle fast-moving pathogens.
- Governments and businesses invest significantly in disease surveillance and the establishment of global databases, while simultaneously upholding efforts to ensure data privacy is protected.
- System-wide measures are taken to address the threat of antimicrobial resistance and ensure the continued effectiveness of antibiotics.



### **POLICY, INVESTMENT AND INNOVATION ENSURE UNIVERSAL ACCESS TO HEALTHCARE**

- Governments adopt policies and partner with businesses, where appropriate, to provide individuals with access to essential healthcare services in their communities throughout their lives.
- Reliable telehealth technologies and systems are scaled up to help ensure universal access to healthcare.
- Healthcare companies develop, scale and replicate inclusive business models that address more diseases in more countries, and explicitly include people with low incomes in the customer base. They support international trade agreements designed to ensure the poorest can benefit from innovation, while also developing equitable pricing and access-oriented licensing strategies.
- A range of efficient health insurance systems are established to meet the needs of all patients, from national health insurance to microinsurance.
- Healthcare companies increase research and development for communicable and non-communicable diseases associated with poverty.

### **HEALTHCARE SYSTEMS EMBRACE NEW TECHNOLOGIES RESPONSIBLY**

- Technologies, such as synthetic biology and digital health, revolutionize capacity to prevent, diagnose and treat many diseases, enabling a step change in efficiency and outcomes.
- As new technologies are introduced, regulators implement rules informed by a range of stakeholders to protect patients' health, safety and privacy.

### **BUSINESSES SAFEGUARD HEALTH AND WELLBEING IN THEIR OPERATIONS AND SUPPLY CHAINS**

- Businesses cultivate a culture of health and wellbeing in their operations and supply chains, promoting the highest attainable standards of physical and mental health for everyone, and creating an environment in which employees are encouraged to prioritize self-care.
- All employers adopt and evolve the highest standards of occupational health and safety, enabling and empowering employees to remain free from injury, harm and disease.
- Companies foster mental health by promoting a healthy work-life balance, creating peer-based wellbeing networks, and conducting specialist stress management training.
- Businesses champion human and labor rights throughout their operations and supply chains. They implement the United Nations Guiding Principles on Business and Human Rights and other appropriate international frameworks, and ensure effective remedial actions are taken promptly and transparently when necessary.

### **THE CLIMATE AND NATURE CRISES ARE RECOGNIZED AS HEALTH CRISES**

- Stakeholders increasingly recognize the risks to human health that the climate and nature crises pose. These risks include respiratory stress due to poor air quality, the impacts of heatwaves, the emergence of zoonotic disease, and the mental health impacts of life in a more turbulent world.
- Businesses advocate for effective policies that promote healthy environments. They lead by example by dramatically reducing emissions of greenhouse gases and other air pollutants, and by drastically curbing use of substances that harm health.
- Businesses collaborate with governments to enhance the capacity of national health systems and international networks to handle health risks and shocks while supporting the most vulnerable.



## RELEVANT SDGs



- 2.1** By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round.
- 2.2** By 2030, end all forms of malnutrition. By 2025, achieve the internationally agreed targets set to reduce stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons.
- 3.1** By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births.
- 3.2** By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births.
- 3.3** By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.
- 3.4** By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and wellbeing.
- 3.5** Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol.
- 3.7** By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes.
- 3.8** Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.
- 3.9** By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.
- 3.B** Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all.
- 3.C** Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States.
- 5.6** Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences.
- 6.1** By 2030, achieve universal and equitable access to safe and affordable drinking water for all.
- 6.2** By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.
- 8.5** By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.
- 8.7** Take immediate and effective measures to eradicate forced labor, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labor, including recruitment and use of child soldiers and, by 2025, end child labor in all its forms.
- 8.8** Protect labor rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.
- 13.1** Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.
- 13.2** Integrate climate change measures into national policies, strategies and planning.
- 13.3** Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.
- 15.5** Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.

# HEALTH & WELLBEING

## ACTION AREAS FOR BUSINESS 2020 – 2030

01

Innovate and re-balance product portfolios to support healthy diets and lifestyles, while moving away from addictive and harmful offerings.

02

Influence consumer behavior toward more healthy diets and lifestyles via marketing activities, information campaigns and collaborative education platforms. Refrain from marketing harmful products.

03

Scale business models to address indoor and outdoor air pollution, particularly in highly industrialized and densely populated urban environments.

04

Implement programs that ensure the highest standards of health, safety and wellbeing for employees throughout global operations and value chains, while expanding access to basic preventive services at places of employment.

05

Support efforts to safeguard biodiversity and eradicate the conversion of wildlife habitats to prevent the future spread of zoonotic diseases.

06

Collaborate with governments and inter-governmental organizations to invest in systems that build international health systems' resilience to respond to pandemics and other health risks.

07

Collaborate with policymakers to establish clear standards and guidelines to uphold data privacy in the context of an evolving digital healthcare system.

08

Develop new technologies that enhance capacity to prevent, diagnose and treat diseases, with a focus on ensuring access to healthcare in low- and middle-income markets.

09

Collaborate with governments and other stakeholders to eradicate antimicrobial resistance due to the misuse of antibiotic treatments and invest in new antibiotics to ensure their continued effectiveness in treating infection.

10

Fundamentally reshape perceptions of the boundaries of the healthcare system, underlining the importance of healthy lifestyles and cross-sector collaboration. Work to understand and account for the true value of health-related externalities.



PATHWAY // WATER & SANITATION

**WE CAN  
KEEP  
WATER  
FLOWING  
FOR ALL**

**WATER IS ESSENTIAL TO ALL LIFE AND SITS AT THE HEART OF OUR EFFORTS TO FEED AND POWER OUR SOCIETIES AND ECONOMIES GLOBALLY.**

Access to water around the world relies on natural cycles as well as built infrastructure that enables water to be extracted, treated, distributed, collected, and recycled for domestic, industrial and agricultural use. This pathway also focuses on sanitation, where water and health intersect – for example through good hygiene and proper disposal and treatment of human waste.

**EXPLORE THE  
WATER PATHWAY  
BUSINESS ACTION  
AREAS**

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## **OUR 2050 VISION FOR WATER & SANITATION**

### **THRIVING AQUATIC ECOSYSTEMS THAT SUPPORT FOOD, ENERGY AND PUBLIC HEALTH FOR ALL**

#### **WATER AND SANITATION ARE AVAILABLE FOR ALL**

Safe, reliable drinking water and adequate sanitation and hygiene services are universally available and play an important role in protecting health and wellbeing. Open defecation has been eliminated and robust waste management systems are in place for all.

#### **WATER IS APPROPRIATELY VALUED**

Water is recognized, and appropriately valued, as being critical for socio-economic development, and as playing a key role in strengthening the resilience of social, economic and environmental systems. Recognizing the true value of water, users adopt highly water-efficient behaviors and solutions, and they actively contribute to minimizing and addressing water pollution.

#### **WATER AND SANITATION RESOURCES ARE MANAGED IN A CIRCULAR FASHION**

Water is managed efficiently and equitably. It is used, reused and recycled in efficient, fit-for-purpose ways across industries, cities and rural areas. International cooperation and capacity-building programs have been expanded to support water harvesting, efficiency, treatment, recycling and reuse worldwide. Sanitation resources (including wastewater and sewage) are used, reused and upcycled efficiently and safely into renewable resources such as energy, power, nutrients, proteins and high-value chemicals.

#### **WATER QUALITY AND ECOSYSTEMS ARE PROTECTED**

All wastewater is treated and upcycled for reuse. Pollution has declined to minimal levels while the dumping and release of hazardous chemicals and materials have been eliminated. Environmental flows of water are maintained, and water-related ecosystems are thriving and conserved. The quality of water bodies is closely monitored globally.



# KEY TRANSITIONS

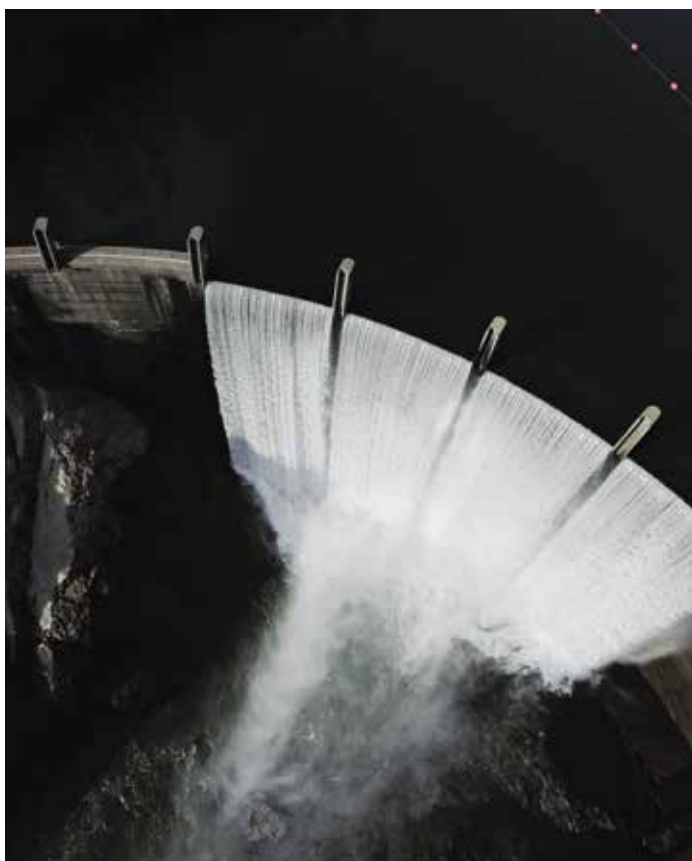
## INFRASTRUCTURE AND TECHNOLOGY ARE DEPLOYED FASTER TO ENSURE UNIVERSAL ACCESS TO WATER

- Sufficient clean and safe drinking water is made accessible and affordable for all, including previously under-served and vulnerable groups.
- Strong governance systems and international public-private collaborations drive improvements in water-related infrastructure facilitating the supply, conveyance and storage of water globally.
- Sustainable technological solutions scale up to increase water availability where it is needed by tapping non-traditional water resources and making water infrastructure smarter.
- Water reuse and recycling help to meet water demand without increasing water stress, especially in urban areas relying on more distant water sources. Wastewater is treated to a stricter and globally harmonized quality standard that is safe and adequate to users' needs.



## THE TRUE VALUE OF WATER IS RECOGNIZED BY ALL

- The social, cultural, aesthetic, environmental, economic, recreational and educational value of freshwater and water-related ecosystems is universally recognized and accounted for, ensuring a high level of engagement in preservation and restoration efforts from a range of stakeholders.
- Water valuation becomes a key driver of corporate behavior, informing water allocation to the most productive purposes and minimizing water-related negative externalities.
- Water-related challenges and risks attract widespread attention among institutional investors and are integrated into portfolio management practices.
- Supportive policies and advancements in technology and product design align to shift domestic water usage toward much higher efficiency, especially in areas with lower water availability. Water-efficient household appliances and water-saving behaviors receive significant investment and innovation, and become commonplace.
- Consumers become increasingly aware of the value of water and embrace less water-intensive products and practices.





### INTEGRATED WATER RESOURCE MANAGEMENT APPROACHES ARE WIDELY IMPLEMENTED

- Integrated water resource management approaches ensure water withdrawals respect basin-level thresholds, including through transboundary cooperation where relevant. This helps to limit water stress levels across the globe.
- Businesses transition from water and wastewater management to water stewardship. They embrace new stakeholder-inclusive processes that include both site- and catchment-based actions.
- Water, land and related resources are managed in a coordinated way in the context of food and agriculture. This maximizes economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.
- Solutions are adapted to local hydrologic, geopolitical, social and environmental contexts. They take into account local institutional and infrastructure legacies, financial and other resource constraints, and social impacts.

### TARGET-SETTING, MEASUREMENT AND DISCLOSURE DRIVE WATER STEWARDSHIP ACROSS SECTORS

- Science-based targets for water are embraced as key to meeting or exceeding sustainable freshwater quantity and quality thresholds in the catchments in which companies operate, source or sell.
- Businesses implement standardized processes for measuring, managing and disclosing their dependencies and impacts on water, and actively engage with value chain partners and investors to improve performance.



### CIRCULAR WATER MANAGEMENT BECOMES THE NORM

- All sectors embrace strategies, initiatives and emerging technologies to reduce, reuse and recycle water, while also recovering resources and replenishing watersheds.
- Innovation in resource recovery from wastewater scales rapidly. The recovery of resources such as energy, chemical nutrients and metals generates important inputs into the wider circular economy.
- Companies leverage opportunities for collaboration. They use treated wastewater to help meet water demand from other industries, as well as their own operations.

## RELIABLE SANITATION AND HYGIENE SERVICES BECOME AVAILABLE FOR ALL AS THE SANITATION ECONOMY THRIVES

- Safely managed, physically accessible and culturally acceptable sanitation services reach the entirety of the population, helping to eliminate open defecation.
- All companies ensure their employees have access to water and sanitation, and promote safe hygiene practices at work and beyond.
- Businesses collaborate with governments on new sanitation systems that recover costs for governments and generate revenues for the private sector. New product categories and service models help to deliver sanitation at scale for all contexts and incomes.
- Circular economy approaches are increasingly applied to sanitation as new technologies enable resource recovery and reuse. Biological waste becomes a valuable resource as it is processed to recover nutrients and water, and to create value-added products such as renewable energy, organic fertilizers and proteins.
- Digitalized sanitation systems help to optimize data for operating efficiencies and maintenance, while also providing insights into consumer and public health. Dissemination of digital and genomic technologies throughout the sanitation system, from toilets to treatment, contribute to substantial improvements in personal and public health surveillance and infectious disease monitoring.

## COLLABORATIVE EFFORTS REGENERATE WATER-BASED ECOSYSTEMS AND MINIMIZE WATER POLLUTION

- International cooperation and capacity-building efforts ensure that water-related ecosystems are protected and restored.
- Uncontrolled point source pollution ceases, ensuring discharges do not reduce the quality of water bodies or the health of associated ecosystems and people.
- Non-point source pollution from diffuse sources, such as agriculture, is abated. Actions are taken to limit fertilizer and agrochemical runoff through adequate field application technologies, improved land management practices and water source protection. Water pollutants are eliminated through concerted efforts across value chains.
- Stakeholders along global value chains come together to tackle the issue of marine plastics, cleaning up areas where plastic waste is concentrated and stemming the flow of waste at source.

## RELEVANT SDGs



- 2.4** By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters, and that progressively improve land and soil quality.
- 3.2** By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births.
- 3.9** By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.
- 6.1** By 2030, achieve universal and equitable access to safe and affordable drinking water for all.
- 6.2** By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.
- 6.3** By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.
- 6.4** By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity, and substantially reduce the number of people suffering from water scarcity.
- 6.5** By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate.
- 6.6** By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.
- 12.2** By 2030, achieve the sustainable management and efficient use of natural resources.
- 12.4** By 2020, achieve the environmentally-sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.
- 12.8** By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature.
- 14.1** By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.
- 14.2** By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience. Take action for their restoration in order to achieve healthy and productive oceans.
- 15.1** By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.

# **WATER & SANITATION**

## **ACTION AREAS FOR BUSINESS** **2020 – 2030**

**01**

Establish appropriate water targets at the corporate level that are informed by science and help to drive context-specific watershed actions.

**02**

Strengthen corporate disclosure of water-related dependencies and impacts, referring to the true value of water.

**03**

Implement water stewardship approaches that drive socially and culturally equitable, environmentally sustainable and economically productive water use.

**04**

Safely treat all wastewater and increase water recycling and reuse while reducing pollution and eliminating the release of hazardous chemicals and materials.

**05**

Enhance consumer awareness of appropriate water behaviors and innovate around products that help reduce water use in day-to-day activities.

**06**

Advance water-smart agriculture solutions to support production in the context of growing water scarcity.

**07**

Take action to ensure access to safe drinking water and adequate sanitation, while also raising awareness about hygiene practices, throughout company operations and supply chains.

**08**

Collaborate with governments to advance the policies, safety standards and blended finance solutions needed to build water and sanitation-related infrastructure in under-served regions and stimulate a thriving sanitation economy.

**09**

Come together with peers and wider stakeholder groups to consolidate and enhance water and sanitation-related data availability.

**10**

Collaborate on, and invest in, efforts to clean up, restore and monitor water-related ecosystems.



PATHWAY // FOOD

# WE CAN PROVIDE HEALTHY DIETS FOR ALL

## FOOD FUELS OUR BODIES AND PLAYS A POWERFUL ROLE IN HUMAN HEALTH, PRODUCTIVITY, CULTURE AND POTENTIAL.

At the same time, food is an opportunity for enjoyment, creativity and connection with other people. The food system includes everything involved in feeding people and animals, from farming and fishing to processing, trading, marketing, distribution, consumption and disposal. It is deeply connected with agriculture, land use and working forests for non-food purposes, such as timber and fiber, as competition increases for fertile land.

### EXPLORE THE FOOD PATHWAY BUSINESS ACTION AREAS

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## OUR 2050 VISION FOR FOOD

### A REGENERATIVE AND EQUITABLE FOOD SYSTEM PRODUCING HEALTHY, SAFE AND NUTRITIOUS FOOD FOR ALL

#### EVERYONE HAS ACCESS TO NUTRITIOUS AND AFFORDABLE FOOD

By 2050 everyone has access to enough nutritious and affordable food to thrive. The food system delivers tasty diets that contribute to healthy lifestyles, while consumers are empowered to make purchasing decisions that support their health. Undernutrition, overnutrition, and rates of obesity and diet-related non-communicable diseases have drastically decreased.

#### SUSTAINABLE PRODUCTION RESTORES AND SAFEGUARDS NATURE

Food production operates within planetary boundaries. The global food system is resilient, carbon neutral and regenerative. It supports biodiversity, and protects and nourishes ecosystems on land and below water.

#### FOOD IS CONSUMED SUSTAINABLY

People understand the importance of diets that respect planetary boundaries, and are able to eat sustainably while preserving and celebrating their food culture. Consumers value food and treat it with respect, changing their behaviors to minimize waste.

#### VALUE CHAINS ARE PROSPEROUS, EQUITABLE AND FREE FROM HUMAN RIGHTS ABUSES

Value is distributed fairly along food value chains. Rural economies are revitalized and thriving; farmers, fisherpeople and workers throughout all food value chains earn fair and resilient incomes, and enjoy good and safe working conditions. Child labor, forced labor, modern slavery and human trafficking have all been eradicated throughout the food system on a global scale.

# KEY TRANSITIONS



## AGRICULTURE BECOMES MORE PRODUCTIVE, REGENERATIVE AND RESILIENT

- Farmers combine traditional techniques with advanced precision farming technologies and inputs such as soil monitoring, drip irrigation, seeds, feeds, fertilizers and crop protection products.
- Climate-smart agricultural practices are scaled up, with agriculture increasingly functioning as a net carbon sink instead of a source of greenhouse gas emissions.
- Food production is confined to existing farmland, and companies establish supply chains that are free from deforestation and land conversion, effectively halting the conversion of forests and other natural spaces to agricultural use. Degraded areas are transformed back into productive land and agri-business invests in restoring biodiversity and landscapes.
- The human and environmental risk from inputs in agriculture is continuously reduced and the use of inputs is optimized, minimizing environmental impacts.
- Agricultural subsidies are reoriented to incentivize sustainable farming practices and halt deforestation. These efforts are supported by local community engagement and by effective regulation and oversight.
- Animal husbandry operates within planetary boundaries and regenerative capacities. Bans on cage farming and long-haul transportation of live animals, together with mandates on the humane slaughter of all farmed species, advance animal welfare.

## THE FOOD SYSTEM SUPPORTS HEALTHY, PRODUCTIVE AND WELL-GOVERNED OCEANS

- As fishing and aquaculture deliver an increasing proportion of the global protein mix, business plays a leading role in multi-stakeholder initiatives to guarantee that the world's oceans are effectively managed, and endangered populations are protected and restored.
- Overfishing is halted. Action is taken to ensure that fish populations reach or remain at sustainable levels, that fisheries are well-managed, and that fishing and aquaculture respect other species and wider habitats. Essential habitats – including estuaries, wetlands, mangrove forests and coral reefs – are protected and restored through multi-stakeholder collaboration.
- Business innovates new sources of nutrients and protein for fish feed, allowing the fish farming industry to grow sustainably and preventing overfishing of forage fish species.
- Emerging technologies enable seafood traceability at scale.
- Cross-sector collaboration and investment enhance product and material stewardship and large-scale clean-up efforts to tackle the issue of marine plastic.

## DIETS BECOME HEALTHY AND SUSTAINABLE

- Diets shift to become more balanced and optimized for health and environmental outcomes. These shifts account for regional outcomes with a significant share of fruit & vegetable and wholegrain, a reasonable balance of plant-based and animal-based proteins, and a minimal share of red meat, processed meat, added fats, sugar and salt, and refined grains.
- Companies adjust their product portfolios to make it easy and attractive for consumers to make healthy dietary choices. Businesses significantly redesign product formulations and distribution systems to encourage a global shift toward healthy diets from sustainable food systems, offering affordable, seasonal, culturally appropriate, highly nutritious and diverse ingredients.
- Business innovation helps to develop and scale an array of new, healthy and sustainable protein sources, including those based on plants, insects, fungi, aquatic organisms and lab-cultured meat.
- Businesses adopt responsible marketing strategies that support the transition to healthy and sustainable diets globally and move away from promoting unhealthy options. Policy instruments supporting healthier dietary choices also emerge.



## THE WORLD MOVES TOWARD A CIRCULAR FOOD SYSTEM WITH ZERO LOSS AND WASTE

- Businesses across the food system, including producers, restaurants and retailers, lead the way in reducing food loss and waste from farm to fork by developing metrics, setting targets, and implementing new policies and practices.
- Business develops a range of innovative approaches to minimize food waste, including extending the shelf life of perishable food, optimizing storage and supply chain infrastructure and efficiency, and improving demand forecasting.
- Public awareness and advertising campaigns stimulate a large and rapid shift in social norms that makes wasting food unacceptable. Improvements in date labeling and portion size help consumers change their behavior.
- Unavoidable waste along the food value chain is redistributed or harnessed for applications in materials or energy as part of an increasingly thriving circular bioeconomy. New legislation and emerging technologies help to close the food system loop.

## EQUITABLE DISTRIBUTION OF VALUE THROUGHOUT THE FOOD VALUE CHAIN

- Companies along the food value chain collaborate to ensure that value is shared fairly with farmers and fisherpeople, helping to eradicate poverty and drive rural development.
- Companies also help build capacity on both small- and large-scale farms to adopt locally-appropriate new practices and technologies that are more productive, resilient and regenerative.
- Businesses, governments and civil society work together to ensure a just transition, building resilience and creating new jobs in the rural economy, while supporting and reskilling workers affected by market shifts.
- Businesses, governments and multi-stakeholder platforms work to ensure that human rights are protected and respected throughout the food value chain, collaborating to eradicate forced and child labor, modern slavery and human trafficking, and ensure workers' health, safety and wellbeing.

## END-TO-END TRANSPARENCY IS BUILT FROM FARM TO FORK

- Businesses, civil society groups, policymakers and investors collaborate to achieve end-to-end traceability and track comprehensive and consistent data across food supply chains.
- New levels of data quantity, quality and sharing help ensure responsible and sustainable sourcing, increased farmer income, decreased food fraud, and reduced food loss and waste.
- Data enhances companies' capacity to account for the true value of natural, social and human capital used in their food supply chains and to reduce their externalities. This data also supports governments in their efforts to implement appropriate incentives and regulations.

- Consumers benefit from more information on where and how their food is produced, which enables a shift toward more healthy and sustainable dietary choices, and brings consumers closer to farmers.

## THE TRUE VALUE AND COST OF FOOD IS ACKNOWLEDGED AND ACCOUNTED FOR

- Momentum grows behind new approaches that assess the true value and cost of food, factoring in links with ecosystem services and human health.
- Companies throughout the food value chain scale efforts to measure and value their dependencies on natural, social and human capital as well as the positive and negative impacts of their operations and supply chains.
- Businesses use this information to make decisions and mitigate long-term risks to their business, people, society and the environment. This information also increasingly attracts attention from institutional investors who integrate it into portfolio management practices. Appreciation of the true value and cost of food also motivates policy reform.





**RELEVANT SDGs**

- 2.1** By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round.
- 2.2** By 2030, end all forms of malnutrition. By 2025, achieve the internationally agreed targets set to reduce stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons.
- 2.3** By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fisherpeople, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.
- 2.4** By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.
- 2.A** Increase investment – including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technological development and plant and livestock gene banks – in order to enhance agricultural productive capacity in developing countries, in particular the least developed countries.
- 3.4** By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and wellbeing.
- 6.3** By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.
- 6.4** By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity. Substantially reduce the number of people suffering from water scarcity.
- 6.5** By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate.
- 6.6** By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.
- 8.5** By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.
- 8.7** Take immediate and effective measures to eradicate forced labor, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labor, including recruitment and use of child soldiers and, by 2025, end child labor in all its forms.
- 8.8** Protect labor rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.
- 12.2** By 2030, achieve the sustainable management and efficient use of natural resources.
- 12.3** By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.
- 12.8** By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature.
- 13.1** Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.
- 13.2** Integrate climate change measures into national policies, strategies and planning.
- 13.3** Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.
- 14.1** By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.
- 14.4** By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics.
- 15.1** By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.
- 15.2** By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.
- 15.3** By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world.
- 15.5** Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.

# FOOD

## ACTION AREAS FOR BUSINESS 2020 – 2030

01

Adopt and disseminate agricultural and aquaculture practices that are resilient, regenerative, circular, and that produce higher yields with higher levels of nutrition.

02

Evolve and invest in redesigned food product portfolios to reduce environmental externalities, provide healthier options, and maximize positive impacts on people and planet. In particular, drive R&D around protein substitution with a focus on disruptive technologies and re-imagined animal feed sources.

03

Through marketing and education campaigns, shift consumer and employee behavior toward more healthy and sustainable food choices, and reduced food waste. Refrain from marketing unhealthy foods.

04

Establish deforestation and land conversion-free food supply chains while also forming and joining global coalitions to invest in restoration efforts.

05

Set targets, develop metrics, and implement practices and programs to minimize food waste across the supply chain. Reimagine food distribution systems that are built upon principles of circularity and reduce the level of packaging required to maintain quality and safety.

06

Set science-based targets for reducing emissions from agricultural production and related land use change to establish a clear, accountable pathway to hold temperature rises to 1.5°C. Turn agriculture into a carbon sink.

07

Engage with policymakers to reorient subsidies and regulations to incentivize sustainable agricultural practices, healthier consumption patterns and reduced food loss and waste.

08

Develop and improve internal policies and systems to perform human rights due diligence as set out in the UN Guiding Principles on Business and Human Rights and ensure human rights are respected across all food value chains globally.

09

Account for the true value of food by factoring in natural, social and human capital costs. At the same time collaborate to advance transparency and traceability mechanisms throughout the food value chain and drive open access to data.

10

Ensure that value is shared equitably throughout the value chain, with farmers and fisherpeople receiving their fair share.

PART THREE

# TIME FOR A MINDSET SHIFT

TIME FOR A MINDSET SHIFT

PART THREE

# PROFOUND SYSTEMS TRANSFORMATION WILL NOT BE BROUGHT ABOUT BY STICKING TO OUR EXISTING IDEAS AND PRIORITIES.

A number of our current mindsets stand in the way of the transformations that are required to realize a world in which 9+ billion people can live well, within planetary boundaries. Over the next decade we need to unlock change in a way – and at a rate – that has so far eluded us.

It is not enough to know what needs to be done. We need to accept that radical shifts in all parts of society will be required, including business.

Critically, the required transformations will depend on three shifts in strategic business mindsets: reinventing capitalism to reward true value creation, not value extraction; building long-term resilience; and taking a regenerative approach to business sustainability.

Business mindsets in these three areas will guide the way in which decisions are made over the next decade – they are foundational to the transitions and actions required across our Vision 2050 transformation pathways. Ultimately, these mindsets are critical to long-term business success.

## MINDSET SHIFT // 01

# REINVENTION

Reinvention means recognizing that our current system of capitalism is producing outcomes that are unsustainable. Generating long-term returns requires a transformed model of capitalism that rewards true value creation, rather than value extraction.

## MINDSET SHIFT // 02

# RESILIENCE

Resilience means enhancing business' capacity to anticipate, embrace, and adapt to changes and disruptions in order to safeguard its long-term success.

## MINDSET SHIFT // 03

# REGENERATION

Regeneration means moving beyond a "doing no harm" mindset to one in which we build the capacity of our social and environmental systems to heal and thrive.

## MINDSET SHIFT // 01

# REINVENTION

Reinvention means recognizing that our current system of capitalism is producing outcomes that are unsustainable. Generating long-term returns requires a transformed model of capitalism that rewards true value creation, rather than value extraction.

**Reinvention involves a fundamental shift in the purpose of business and the global economy as a whole – from the pursuit of financial profits for their own sake, to the pursuit of true value.**

### WHY THE REINVENTION OF CAPITALISM IS NECESSARY

Capitalism is the main operating system for today's global economy. Most production is guided and most income is distributed through markets on a for-profit basis. This is true across all major economies, albeit with significant differences between countries in terms of culture, regulation and degree of state involvement.

Capitalism's combination of for-profit enterprise and competitive markets has contributed to innovation, wealth creation and rising living standards. However, it is also generating outcomes that are unsustainable – socially, environmentally and economically. At the same time, its innovative power and tremendous reach are essential if we are to tackle our toughest challenges.

The core problem is that capitalism as we know it today does not distinguish between value creation and value extraction. By privileging returns on financial capital over the preservation (let alone accumulation) of other forms of capital, our current version of capitalism has dangerously depleted the natural, social and human capital that underpins economic value creation. In addition, risks are socialized while rewards are privatized, and decades of market concentration is threatening competition, a critical and core feature of capitalism.

We see failures at three levels – the way we think about and measure economic and business performance; market structures and dynamics that favor financial value extraction; and weak institutions that are not able to regulate markets

effectively enough to ensure they function efficiently, fairly and sustainably. Together, these failures lead to negative societal outcomes and stand in the way of companies' ability to fully pursue the transformations that are required to bring about Vision 2050.

Ten years ago, Vision 2050 included an "Economy" pathway that made it clear that a radical shift in the way companies do business was required if the overall vision was to be achieved. It advocated that we move toward economies that reward true value creation, not value extraction. We still stand by this vision. Capitalism needs to be reinvented to reward value creation that internalizes all social and environmental costs and benefits. This needs to be reflected in the relative price of goods and services, and in companies' P&L statements, costs of capital and market valuations.

Today, asking questions about the kind of capitalism we need has gone from niche to mainstream. Society is increasingly aware of the negative outcomes our operating system creates; COVID-19 has underscored problems with the status quo and further propelled the capitalism debate into the mainstream. Even avowed capitalists are among those now calling for a fundamental reset. Not simply because the status quo is unsustainable, but because the ideological backlash being triggered threatens to make things worse. Klaus Schwab of the World Economic Forum has warned that, without meaningful change to the way capitalism works and the outcomes it generates, "the ideological pendulum – already in motion – could swing back toward full-scale protectionism and other lose-lose economic strategies".<sup>42</sup>

Reinventing capitalism is, therefore, not simply a social and environmental agenda: it is about creating the conditions for long-term business success. A liveable planet, cohesive societies, free and fair markets overseen by robust, inclusive institutions – these things are essential for any business to thrive in the long run. Ensuring that markets reward behaviors that strengthen the environmental and social systems underpinning economic prosperity is squarely in the private sector's best interest.

A reinvented capitalism that generates true value will ensure that we see:

- 1 More well-run companies, making better decisions, delivering the necessary product, service and business model innovations that generate true value and contribute to a flourishing society.
- 2 Capital markets that properly value inclusive, sustainable business practices, rewarding the companies with the greatest positive social and environmental impact.
- 3 More capital being mobilized toward businesses, assets and solutions that deliver more sustainable outcomes and create true value for society.



## WHAT DOES A REINVENTION MINDSET LOOK LIKE?

Companies cannot reinvent capitalism on their own. But they can recognize that the system they are part of is undermining the social and environmental systems that underpin economic prosperity and work to ensure markets do not reward further decline. Companies, especially big multinational ones, can play a role in addressing the negative outcomes from our current approach, and corporate mindsets must shift to reflect that fact: they have the ability, the influence and the incentives to push for change. Markets – and the outcomes they deliver – are shaped both by those participating in them, such as businesses and investors, and those overseeing them, such as governments and regulators. For that reason, business can and must both walk the talk through its actions, and advocate for changes to the “rules of the game”.

There have been many high-profile proposals for a reinvented, reimagined or reset capitalism in recent years, and all share characteristics.

### UNDERSTANDING TRUE VALUE

True value, a concept developed in the original Vision 2050, is where social and environmental costs and benefits are internalized and reflected in the relative price of goods and services, and in companies’ P&L statements, costs of capital and market valuations.

## A CAPITALISM THAT REWARDS TRUE VALUE CREATION WILL BE CHARACTERIZED BY FIVE FEATURES:

1

### STAKEHOLDER-ORIENTED

Rather than shareholder-value-maximizing.

2

### IMPACT-INTERNALIZING

Rather than impact-externalizing.

3

### LONG TERM

Rather than short term.

4

### REGENERATIVE

Rather than degenerative.

5

### ACCOUNTABLE

Rather than unaccountable.

Together, these features will shift the purpose of business so that it generates long-term true value for all: employees, customers, suppliers, communities, the natural environment and, of course, shareholders.

Capitalism has been reinvented before – generally in response to periods of profound crisis, as happened following the Great Depression and World War Two, and again following the “stagflation” era of the 1970s. It is likely that we are living through another period in which a series of rolling shocks to the system – resulting from rapid technological change, mounting inequality, and the intensifying impacts of ecological overshoot, compounded by trade wars and a potential COVID-19 Domino Effect<sup>43</sup> – are creating conditions conducive to reinvention.

Our challenge now is to move from talk to action – from tinkering to transformation – and that will depend on a mindset of reinvention. It is vital that business leaders, investors, regulators, governments and civil society actors work together to address the root causes of contemporary capitalism’s negative outcomes and reinvent it to deliver true value to society.

We explore this mindset shift in more detail in our Vision 2050 issue brief [ah ok](#)

The issue brief includes specific guidance on the actions that business, and the CFO community in particular, can drive, alongside aligned asks for policymakers.

## MINDSET SHIFT // 02

## RESILIENCE

Resilience means enhancing business' capacity to anticipate, embrace, and adapt to changes and disruptions in order to safeguard its long-term success.

**Resilience is not about having strong defenses and being resistant to change. It is about anticipating, embracing and adapting to changes and disruptions. Companies must shift their mindsets to recognize that they are only as resilient as the systems they are a part of.**

**WHY LONG-TERM RESILIENCE IS NECESSARY**

Resilience is increasingly being adopted in management and sustainability thinking, but, as a relatively new concept for business, a common definition or approach is yet to be agreed. COVID-19's arrival revealed a wide range of systemic vulnerabilities (economic, social and environmental): it has demonstrated how major disruptions can snowball through interconnected systems. Around the world, we realized that our societies were nowhere near as resilient as we believed, let alone as they needed to be.

We have stripped much of the slack out of our systems. The post-1970s period of globalization saw companies become ever more devoted to efficiency, and guided by "just-in-time" thinking. Over a similar period, fiscally-stretched governments have had to cut operating budgets and defer investment in public goods such as infrastructure, health and education. In addition, our societies push further and further into the natural world, and the demands we place on the natural resources we rely on have increased fourfold, with global material use exceeding 100 billion tonnes in 2020.<sup>44</sup>

Slack, it turns out, is necessary insurance and essential to our ability to react to disruptions, let alone adapt to them. And with political, cultural, environmental and economic volatility all set to remain high over the next 10 years, it is safe to assume that there are more shocks and disruptions in store. Resilience is something we are going to need more of, especially if we are to support the scale of systems transformation that Vision 2050 requires.

An expanded understanding of resilience sits at the core of long-term success. Companies are only as resilient as the ecosystems, communities, economies and societies they operate in. True resilience is not about withstanding change: it is about embracing it. It is not only about access to raw materials and operational efficiency, but also recognizing and protecting the enormous investments and value found in skilled and healthy workforces and vibrant communities. It is about protecting and enhancing vital ecosystems, and ensuring that strong institutions, transparent rule of law, and healthy national and local budgets can support the resilience of the system overall. True resilience prioritizes the transformational role of innovation in finding ways to create value in the face of challenges and disruptions.

When businesses recognize that they are part of a wider system, their understanding of resilience shifts from making themselves robust and able to resist change, toward a mindset of adaptation and evolution that is required if they are to continue to exist as employers, as value-generators for shareholders, and as members of communities around the world.

**WHAT DOES A RESILIENCE MINDSET LOOK LIKE?**

Resilience is what will provide companies with both the impetus and confidence to drive the kinds of transformations that Vision 2050 demands. WBCSD has defined resilience as a business's ability to anticipate and prepare for change, then adapt to circumstances in the manner that provides the greatest chance of thriving over the long term. It is dynamic and consciously transformational.

# RESILIENT COMPANIES

## EXHIBIT **FOUR KEY CHARACTERISTICS:**

1

### DIVERSITY

The variety among the components of a system. This characteristic includes redundancy or having slack in a system. It encompasses diversity in a people sense – for example in skills, opinions and backgrounds. Diversity also means having multiple options for achieving certain goals.

2

### MODULARITY

The ability to separate and recombine a business system's components. A major benefit of modularity is that it enables flexibility and a variety of operation and response modes. Both the connectivity and openness of a system are key to achieving modularity. A practical example of modularity is the seamless connectivity and just-in-time qualities that make a supply chain efficient, coupled with enough supply chain diversity or redundancy to ensure that a single interruption or issue does not halt supply altogether.

3

### COHESION

The way in which a resilient system is likely to be founded on social togetherness and trust. Cohesive organizations are inclusive, have strong leadership and a vision of value for the full range of stakeholders, especially the most vulnerable.

4

### ADAPTABILITY

The ability to respond to changing conditions to make a business enduring. Adaptability is rooted in planning for multiple inherently uncertain scenarios, and draws on diversity, modularity and cohesion to change or transform in response to system conditions. It requires feedback loops, triggered when thresholds are breached. It also involves learning from past experiences to adjust approaches going forward.

These four characteristics need to be considered across a range of different corporate functions that are critical to the resilience of the organization as a whole, such as supply chain management, procurement, treasury, corporate governance, risk management, human resources and strategy. Applying a resilience mindset in these areas will enable companies to better anticipate, embrace and adapt to changing conditions, and recognize the role they play in strengthening the resilience of the stakeholders in their value chains and the communities and societies in which they operate.

Every CEO needs to anticipate at least one major shock in their tenure and prepare to lead accordingly. To be truly resilient in the long term, companies will need to put plans in place for inevitable disruptions while also driving and thriving in the process of transformation at the heart of Vision 2050. We have identified a number of ways companies can leverage the key characteristics of resilience to do this. These include:

- Leading with purpose and values, offering employees a clear and inspirational direction during times of profound change, allowing a company to be more agile and decisive.
- Putting people first, from the C-suite to the contractor.
- Engaging stakeholders in strong, mutually dependent and beneficial relationships.
- Re-examining supply chains to strike the right balance between efficiency and resilience and revisiting responsibility for social and environmental impacts.
- Embedding long-term thinking and risk management into strategic planning.
- Accelerating the transition to sustainable business models and systems, since companies that work proactively are most likely to survive the profound changes that are coming – and thrive.

We explore this mindset shift in more detail in our Vision 2050 issue brief: [Building Long-term Business Resilience](#)



## MINDSET SHIFT // 03

# REGENERATION

Regeneration means moving beyond a “doing no harm” mindset to one in which we build the capacity of our social and environmental systems to heal and thrive.

In the face of spiraling social tensions and ecosystem tipping points, we have to stop just trying to sustain the status quo and take on a regenerative mindset.

### WHY IS A REGENERATIVE MINDSET NECESSARY?

Human society is part of – and completely dependent on – the living world around us. Science tells us that we are in a downward spiral, at risk of triggering key ecological tipping points. Yet nature, including humanity, has an in-built capacity to grow, evolve and thrive, which could catalyze a positive wave of regeneration even in the face of very challenging conditions.

Adjusting to the reality of a depleted environment and rising social tensions, many businesses have embraced the need to operate more sustainably. In recent years, these activities have mostly focused on taking action to mitigate negative environmental and social impacts – on doing less harm.

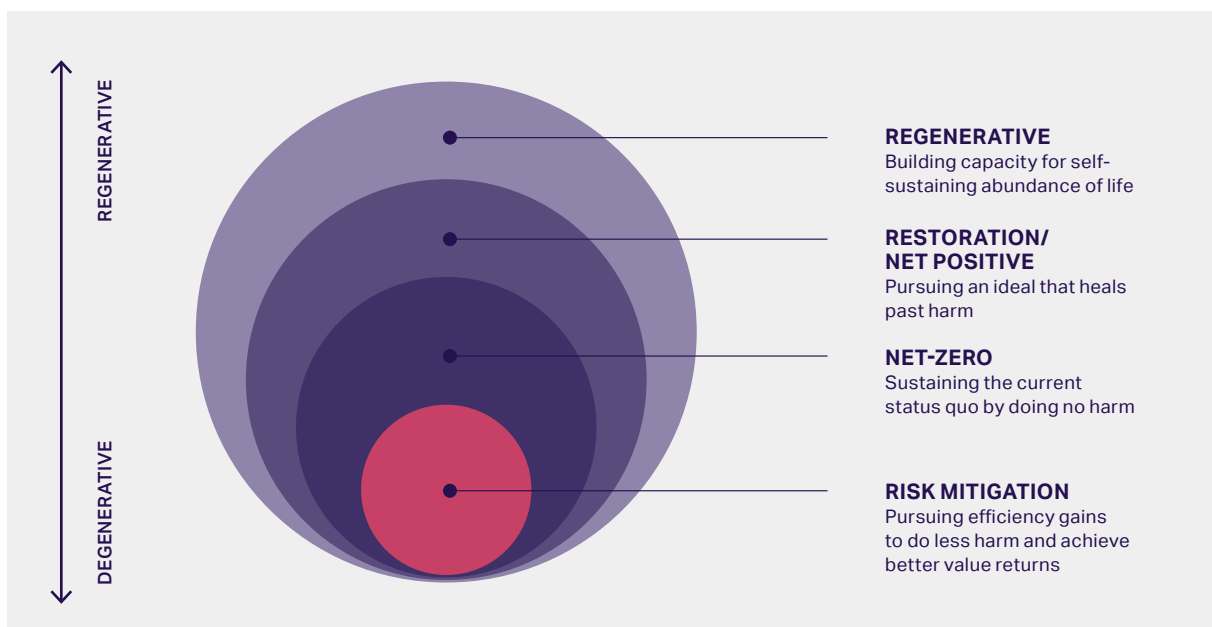
Some action has been ambitious, for instance corporate commitments and science-based targets to achieve net-zero carbon emissions. But unfortunately, even pursuing “net-zero” impact – while critical – is ultimately insufficient. We urgently need to put more back than we take out, in order to repair the harm that has already been done and restore critical global systems that are in decline.

Yet continuous restoration alone cannot be our ultimate goal. Restoring nature and society whilst operating with the same extractive mindset and practices will not create the long-term shift that we need to see toward self-sustaining abundance. To lay the foundations for a truly prosperous world by 2050, in which 9+ billion people are living well, within planetary boundaries, we need to stretch our ambitions and mindset toward creating a positive, self-perpetuating wave of regeneration that builds the capacity for all life to grow, evolve and thrive.

### WHAT DOES A REGENERATIVE MINDSET LOOK LIKE?

Within industrialized economies, our way of looking at the world has been heavily shaped by metaphors of machines and production lines. A regenerative mindset helps us to reconnect to the particular characteristics of being “alive”. Unlike mechanical systems or the products they produce, living beings are each unique, and ecosystems don’t degrade over time or have a maximum capacity – instead, they have the potential to heal, grow, evolve and create new conditions for more prosperity and wealth. They are resilient as they react and adapt to change.

FIG. 11: EVOLVING TOWARD A REGENERATIVE MINDSET



Many of our sustainable innovations in recent years have naturally embraced and enabled these unique attributes to some extent, through industrial ecology, circular economy approaches and a growing recognition of the importance of diversity to business success.

At present, regenerative thinking and practice are advancing most visibly in agriculture. Instead of the more extractive and efficiency-driven mindset that has defined much of modern industrialized agriculture, we are seeing producers adopt practices that inherently rehabilitate and strengthen the health and vitality of ecosystems that crop, livestock and forest production depend on. Regenerative approaches focus on increasing biodiversity, enriching soil health, improving watersheds and capturing carbon. They are also building capacity for equality and prosperity for all individuals along the supply chain – recognizing that human communities are also an integral part of our living world and our agricultural system.

The conversation about regenerative thinking and practice now needs to broaden from agriculture. We urgently need to apply the creative capacity of business to explore how we can operate regeneratively across all systems and sectors. Our transformation pathways include a selection of regenerative actions that business can take. A shift toward more regenerative mindsets across the global business community will help to both implement known actions and identify many more.

Understanding of how to apply regenerative thinking in a business context is still at a relatively early stage.

## HOWEVER, AT THE CORE OF THIS MINDSET ARE **THREE** KEY CONCEPTS:

1

### EMBRACING SPECIFICITY

No two living beings, communities or ecosystems are the same. Taking a regenerative approach involves recognizing that every place in which a business operates (and each of the communities that it is a part of and sells to) is unique, and is accompanied by its own set of opportunities and challenges. It is important for business to take an approach that is context-specific and customized to particular operating environments, rather than a model built on “scaling best practice”.

2

### SUPPORTING THE CAPACITY TO GROW, DEVELOP AND EVOLVE

Although business cannot control the behavior of the communities and ecosystems that it is a part of, it can work to replenish their underlying capacity.

This is about going beyond problem-solving for existing challenges and recognizing the future potential these social and ecological systems have. It is about enabling them to evolve and grow in their unique circumstances, instead of imposing a pre-defined set of interventions. A regenerative mindset is not about trying to restore “back” to a point in history; a self-sustaining system that builds its own abundance will not necessarily look like anything that has come before.

3

### THINKING SYSTEMICALLY

A business cannot be regenerative without understanding the complex web of interconnections that make up the system that it is a part of. The health of every business is intrinsically linked to the health of the system as a whole, and every action has ripple effects that can be felt across each system. It is critical to redefine business purpose beyond inward-facing targets for growth or shareholder returns, and to focus on the contributions that business can make to value chains that work toward the long-term health and prosperity of people and planet.

These concepts are applicable at every level of business operation. From valuing diversity and creating a nurturing environment for employees, to how business perceives its role within a wider ecosystem of organizations, and informing how it can contribute to large-scale efforts to revitalize ecosystems.

Regeneration is a topic that will only increase in importance over the next 10 years. WBCSD will work with its members to ensure that developing a regenerative mindset and business practices becomes standard for forward-thinking companies all around the world.