



# Unlocking systems transformation.

Vision 2050 issue brief







## Contents

- ① **Introduction** | 4
- ② **What is a system?** | 7
- ③ **What is systems transformation?** | 8
- ④ **How does systems transformation happen?** | 9
- ⑤ **What are the barriers to transformation?** | 15
- ⑥ **How can systems transformation be encouraged and accelerated?** | 17
- ⑦ **What is the role of business in driving systems transformation in support of sustainable development?** | 19
- ⑧ **Conclusions** | 21

# ① Introduction

**In 2010, the World Business Council for Sustainable Development (WBCSD) released Vision 2050, a landmark piece of work that laid out a pathway to a world in which nine billion people are able to live well, within planetary boundaries, by mid-century.**

Vision 2050 declared that business-as-usual was not sustainable. Recognizing that business cannot succeed in societies that fail, it explored what a sustainable world would look like by mid-century, how such a world could be realized, and the role that business has to play in making that vision a reality.

It also identified that delivering this vision would require the extensive transformation of societies' systems of consumption and production, as well as the way economies value the natural and social systems on which they are built. It predicted that the approach to this "transformation time" would be turbulent, but that by 2020, the turbulence would recede, and more consistent knowledge,

behavior and solutions would take hold as consensus in support of sustainable development grew.


At the start of 2020, it was already clear that this prediction was overly optimistic and that a path to bringing about transformation at the rate or scale required to deliver upon our Vision was not yet in sight. Since then, the world has experienced a series of extreme disruptions as the spread and impacts of the COVID-19 pandemic have rapidly escalated.

Like all crises, the COVID-19 pandemic will result in change. It has already revealed how quickly and decisively governments, business and society can act when an emergency is perceived to be real. While our short-term focus is rightly on how to minimize loss of life and mitigate the impact on health, wellbeing and people's livelihoods, our long-term response to this crisis represents a real opportunity to accelerate the emergence of systemic transformations with exponentially positive consequences for people and planet; the transformations that sit at the heart of our work on Vision 2050.

When it comes to transformation, in many instances we have a good idea of what must be done and what science demands, – but how can we ensure that it actually happens? And what is business' role in supporting the wide-reaching systemic changes that need to be catalyzed all over the world? A basic starting point to answering these questions is a common understanding of what systems transformation is, how it happens and the extent to which business can drive, rather than react to it.

**In recent years, more and more stakeholders have begun to use the terms "transformation" and "systems transformation" to describe what is needed to achieve sustainable development – but it isn't always clear what they mean.**

These stakeholders include government policymakers, international organizations, civil society groups, academics, and companies and their associations. For example, The World in 2050 report, co-authored by the International Institute for Applied Systems Analysis (IIASA), highlights "six key transformations needed

 The concept of 'system transformation' is becoming popularized to the point where it is being applied to programs and projects with highly varied approaches and levels of ambition. This points to the need for greater alignment and awareness-building about the definitions and key components of systems transformation.<sup>1</sup>

**Harvard Kennedy School**





to raise living standards, promote jobs, ensure social inclusion and protect the natural environment".<sup>2</sup> Similarly, the World Benchmarking Alliance (WBA) calls for "large-scale and fundamental transformations of the societal systems driving current environmental and social pressures."<sup>3</sup> The UN Sustainable Development Solutions Network (SDSN) asserts that "achieving the SDGs requires major long-term transformations."<sup>4</sup> Some stakeholders have made these terms part of their public rhetoric; some, including WBA, SDSN and WBCSD, have gone further, using the concepts to organize their work.

As widespread as these terms are, there is relatively little clarity around what they mean or how they should be used.

For example, one academic study identified nearly 140 academic journal articles that talked about "transformation" in the context of global environmental challenges. Approximately half of them provided no clear conceptual basis for using the term, and many didn't define it at all.<sup>5</sup>

### What has driven the rise of these concepts in sustainable development circles?

First, stakeholders are realizing that the sustainable development challenges we face are complex, highly interconnected and systemic; no one actor, or even group of actors, can address these challenges on their own. Second, they are beginning to grasp the extent of the change required to achieve a truly sustainable future. For example, IASA refers to "deep structural changes, profound reforms of institutions, shifting mental maps, [and] changing patterns of human behavior and values."<sup>6</sup> WBA calls out "changes in current institutions, practices,

### Different takes on transformation

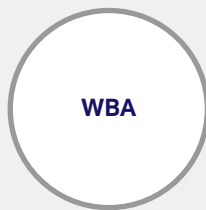
SDSN and WBA each identify sets of transformations needed to achieve the Sustainable Development Goals (SDGs). In late 2019, the United Nations

released a report of independent scientists on progress toward the SDGs – the Global Sustainable Development Report (GSDR) – that also identifies a set of

transformations it calls "entry points." While each organization uses its own categories, there is a high degree of alignment on focus areas for change.



- Education, gender and inequality
- Health, wellbeing and demography
- Energy decarbonization and sustainable industry
- Sustainable food, land, water and oceans
- Sustainable cities and communities
- Digital revolution for sustainable development



- Agriculture and food
- Decarbonization and energy
- Circular
- Digital
- Urban
- Social
- Financial system



- Human well-being and capabilities
- Sustainable and just economies
- Food systems and nutrition patterns
- Energy decarbonization and universal access
- Urban and peri-urban development
- Global environmental commons



technologies, policies, lifestyles and thinking.”<sup>7</sup>

While one can gather what stakeholders are driving at when they use the terms “transformation” and “systems transformation,” tighter definitions and frameworks would support the creation of more effective strategies to deliver the transformations required.

There is often talk of systems being “broken”. But one can also argue that systems are perfectly optimized, often over many years, to deliver the outcomes that we are currently incentivizing. Either way, the question is how can we reconfigure systems to deliver

outcomes that are in support of our Vision 2050: more than nine billion people, living well, within planetary boundaries?

In this paper, we lay out a common framework and vocabulary we can all use to engage around our Vision. This involves answering three questions:

- What is a system?
- What is systems transformation?
- How does systems transformation happen?

We also explore what it takes to foster and accelerate systems transformation, and what role business has to play.

The concepts of systems and systems change have long academic histories and are now widely used in many different domains, from ecological to societal to organizational change. Rather than return to first principles, our approach has been to tap into current thought leadership on the subject, mainly in the context of sustainable development, through a literature review and expert interviews. This paper attempts to synthesize a variety of perspectives for a business audience. We gratefully acknowledge the time and input of the interviewees listed in the Appendix.





## ② What is a system?

**A system is a configuration of interdependent parts connected by a web of relationships.**

A system can be of any size or scale – from a lake to the food system. In a lake, the parts range from tiny amoebas to larger fish, amphibians and reptiles, as well as aquatic and nearby terrestrial plants. Human beings could also play a role, for example by extracting water for irrigation, fishing to feed their families, or dumping waste. In the food system, the parts include companies all along the value chain, from farmers to retailers and restaurants, as well as input providers, tech companies, investors, regulators and others. These diverse actors are connected by the specific purpose of putting food on people's plates.

At any given time, the diverse parts in a system are acting and interacting according to their

incentives, capabilities, and power dynamics. In most modern social and economic systems, the parts, or actors, have at least a degree of autonomy. But the opportunities available to them, and the choices they make, are determined in relation to what others are doing. For example, corporate decision-making reflects government policy choices, the way that capital markets are structured, the strategies and tactics their competitors are using, and the way, for instance, media, civil society and organized religion are shaping consumers' aspirations and values. The actors are always influencing one another, and some actors have a measure of outright authority over others – but no actor has sufficient authority or capacity to control the entire system.

The outcomes of these interdependent actors' actions and interactions can be positive and negative, intended and unintended. Usually it is a combination.

The food system, for example, feeds billions of people around the world, in many places putting a dazzling array of choices at their fingertips. At the same time, malnutrition, including obesity, affects one in three people worldwide and costs an estimated USD \$3.5 trillion a year,<sup>8</sup> and agriculture uses up to 70% of all freshwater abstracted<sup>9</sup> – contributing to a gap in supply and demand for water that is expected to reach 40% by 2030.<sup>10</sup>

Boundaries can be drawn around systems at many levels. At the same time, systems are often nested and interlinked. The national food system in the United States, for example, is an inextricable part of the global food system; the global food system, for its part, reflects the influence of investors and the decisions they make within the global financial system. It is important for companies and other actors intent on driving transformation to be clear about their objectives and which system, or systems, they are focused on as a result.





## ③ What is systems transformation?

**Systems transformation involves a profound change in the way that members of a system act and interact – the way they operate and relate to one another – resulting in dramatically different outcomes and impacts.**

The kinds of outcomes described in Vision 2050 can only be achieved through systems change so profound that we call it transformation. It's not about putting scrubbers on smokestacks, it's about changing what happens in the factory – and all that happens outside the factory to influence what goes on inside it, from consumer demand to investment trends to government regulation and the competitive landscape. This change at the root cause level is what makes systems transformation self-sustaining, reducing the chances of a return to old outcomes – though reversals are possible, and further change will certainly continue in the future.

**Systems are always changing – and there's an important distinction between transformational change and more ordinary, incremental change.**

Incremental change might be considered adaptation, adjustment, fine-tuning. It is easier to “sell,” because it doesn't threaten vested interests too much and stakeholders are familiar with the core concepts already. Transformational change, on the other hand, might be considered re-invention, re-creation, or paradigm shift. It is a completely new way of thinking about and doing things based on fundamentally new premises and tapping new sources of value.

Of course, there's no bright line between incremental change and transformational change. It's a matter of perspective. For Tesla's Elon Musk, for example, electric vehicles are incremental change, distributed solar power generation and storage are more significant, and, finally, human colonization of Mars would be truly transformational.<sup>11</sup>

For WBCSD, the end goal is for more than nine billion people to live well and within the boundaries of this planet, and we believe this task alone will demand bigger and more ambitious transformational thinking than we've ever manifested before.

Incremental change has a role to play in enabling more transformational change – for example, by creating new business models without cannibalizing current ones. But it can also serve to protect the status quo, holding the current system in place while giving the impression that sufficient progress is being made.<sup>12</sup> Take electric vehicles. Currently, the only changes to the existing system are in the powertrain construction and the refueling infrastructure. We could stop here – or we could use these changes to help usher the whole energy system toward cleaner power.



# ④ How does systems transformation happen?

## Theories of systems transformation identify a number of common factors.<sup>13</sup>

**Megatrends:** Every system operates within a broader context or landscape. This landscape can change over time in ways that put pressure on the system. People often use the term “megatrends” to describe changes that are significant and sustained enough to have far-reaching impacts on societies, economies and ecosystems – changes such as aging populations, cyber dependency and the global expansion of the middle class. Sometimes, these megatrends are the outcomes of current systems. Climate change, for example, could be considered an outcome of our current industrialized, fossil fuel-powered systems of production, agriculture, mobility and consumption.

**Innovations:** As actors within the system react to the way the context is evolving, they begin to develop innovations they think will offer improvements within that evolving context. These include new technologies, business models, even ideologies – for instance, the Internet, the sharing economy, and a universal basic income.

**Enablers:** Ultimately, a set of enablers propel innovations into the mainstream and change the way a system works. By enablers, we mean forces that shape the incentives, power dynamics, and capabilities of different actors in a system at scale. These forces can even change the composition of the “cast”, with incumbents fading away and new actors taking on new roles. Different thinkers have articulated and categorized these enablers in different ways. We have summarized them as follows:

- **Mindsets, norms, and values:** Assumptions, habits of thought and behavior, and deeply held beliefs about what is right or important – shaped through education, parenting, peers, religion, the media, advertising and other forces
- **Policy and regulation:** The rules, guidelines, incentives and support services that government provides in line with priorities it has set
- **Information flows:** The nature and quality of information available and accessible to different actors. This includes information about prevailing megatrends and about the innovations, or potential solutions, available

- **Financial flows:** How capital is priced and allocated
- **Technology:** While innovations can be of the technological variety, technology can also serve to enable other forms of innovation – for example by making it possible to do more with less, or to do things that were simply impossible before.

These enablers can be deployed deliberately, as leverage points in a broader systems transformation strategy, or come into play more organically as actors naturally respond to developments in the systems around them. Support for innovation and awareness-raising around megatrends could also be considered leverage points in a systems transformation strategy. In the majority of cases transformation requires these enablers to work in concert rather than in isolation. The diagram below provides a visual representation of the way that megatrends, innovations, and enablers come together to transform systems. Companies should understand what this picture looks like for systems they are a part of, and interested in changing.

**While the theory may be simple enough, the reality is complex, messy and unpredictable; systems transformation is dynamic and non-linear.**

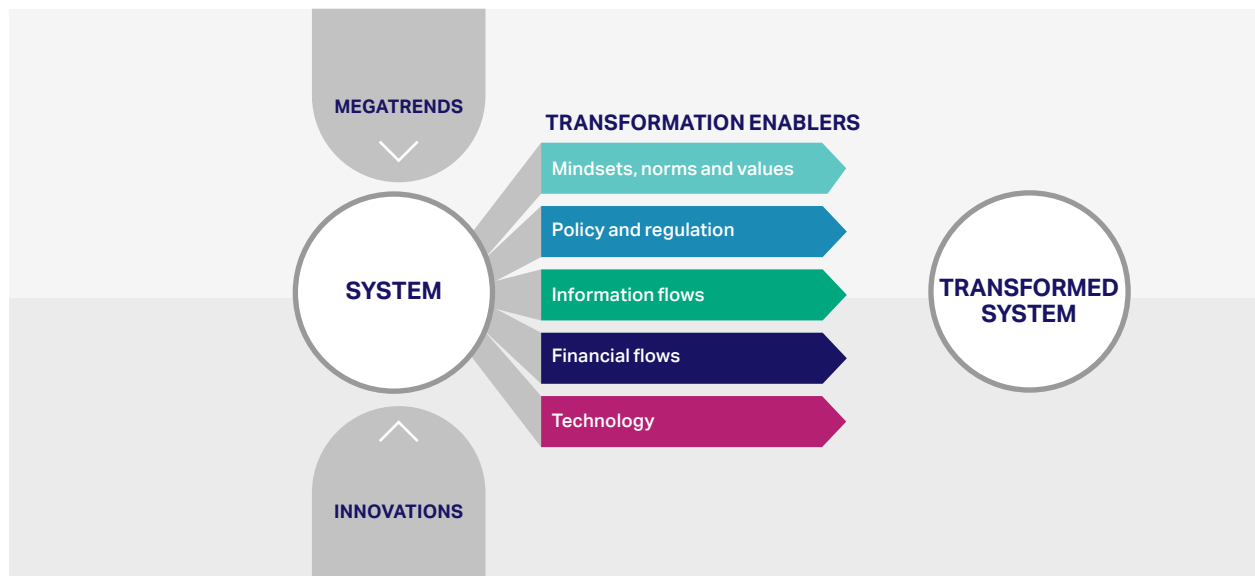
Because systems are made up of so many diverse, yet interconnected and interdependent actors, the process of systems transformation is distributed and adaptive. This means it is the

product of many different actors experimenting, learning, and adapting within parameters that are always changing as a result of one another's efforts.

Over time, they develop new products, technologies, services, business models, public service delivery models, policy and regulatory innovations, voluntary standards, and cultural norms and behaviors that together deliver new results. This process is

organic and non-linear.<sup>14</sup> Systems transformation often resists advance planning and can be very hard even to predict. As Forum for the Future describes it, systems transformation "confounds our expectations with shifts that can be very fast, even abrupt."<sup>15</sup> We can envision the future we want and work to bring it into being, but we also have to expect surprises and be prepared to learn from them.

**Figure 1:** Megatrends, innovations and enablers combine to bring about transformation of systems



Source: Based on the widely used multi-level perspective developed in Kemp and Rip 1998. Enablers adapted from systems change literature and expert interviews.



**The process of systems transformation is often depicted on an S curve, showing how progress unfolds at different rates in different stages.**

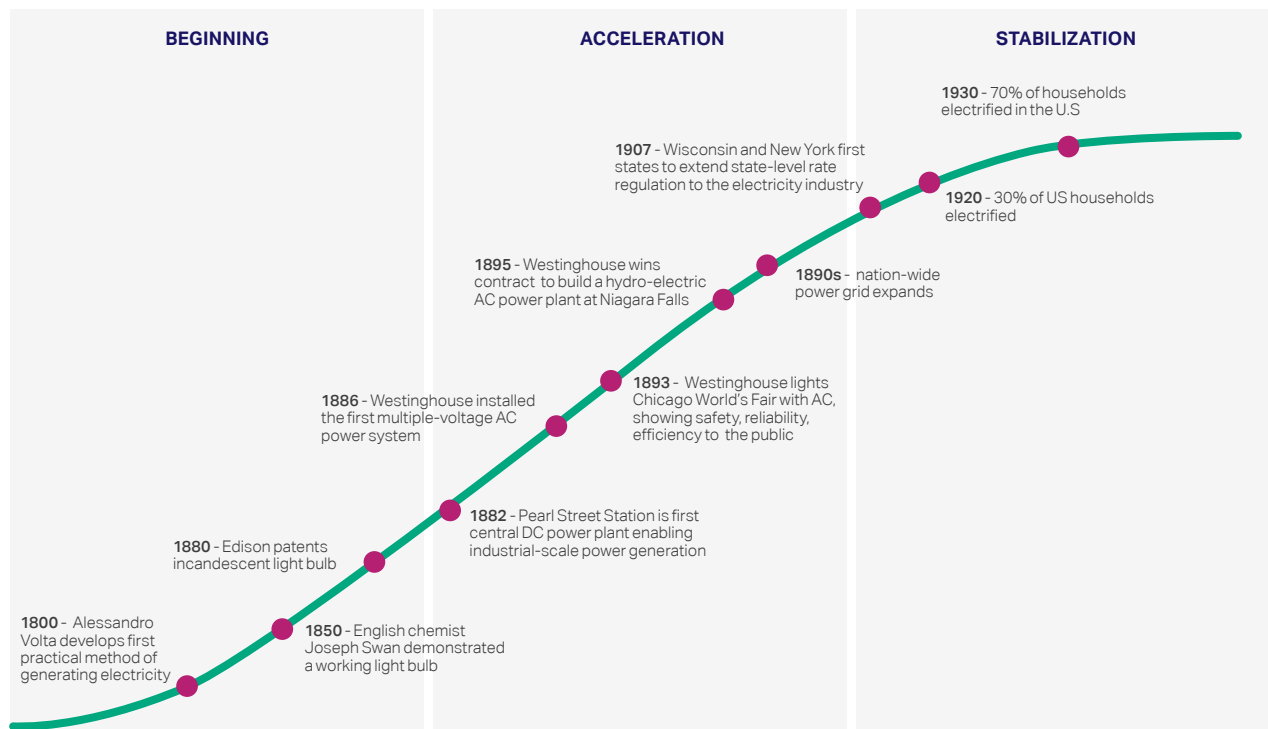
These stages include:

- Beginning: Megatrends are building, and innovation is happening on the fringes, but they have yet to affect the status quo.

- Acceleration: A convergence of pressures on the status quo creates a tipping point and allows change to unfold much more rapidly.
- Stabilization: As the status quo is transformed and a new equilibrium is reached, the speed of change decreases.<sup>16</sup>

For example, the process of electrification in the United States, described in the box below, can be visualized as follows. The risk in using the S curve, though, is that while it captures the non-linear nature of systems transformation, it makes the process look too smooth. Zooming in, one would see fits and starts, steps forward and back, and a highly variable rate of change depending on emerging trends along the way.

**Figure 2: Stages of transformation for the electrification of the United States**



## CASE STUDY: ELECTRIFYING THE UNITED STATES

Electrification was one of the most important and dramatic transformations in US history. In some ways, it is the story of a man with a vision “to reorganize the life of the world” – Thomas Edison, who commercialized the incandescent electric light bulb and electrified the city of New York in the early 1880s – but nation-wide electrification was the result of emerging trends and technological innovations that combined to disrupt the status quo. A rich cast of actors played critical roles, from J.P. Morgan, the legendary financier, to Samuel Insull, who is credited with turning a technological innovation into a business model, to competitors such as Nikola Tesla and George Westinghouse, whose inventions enabled electrification to scale.

As this story unfolded, oil and gas lighting companies gave way to a new set of industries that set about building and financing the expansion of electricity infrastructure and the introduction of equipment that transformed the home and, ultimately, the economy.

**Megatrends:** At the turn of the 19<sup>th</sup> century, industrialization led to rapid growth in urban populations and the emergence of more affluent, aspirational and educated upper and middle classes that sought ways to improve the safety and comfort of their home environments. Traditional forms of home lighting – oil, gas and candles – lacked brightness, created air pollution and were generally unsafe.

**Innovations:** Initially, the invention of the incandescent electric light bulb, powered by direct current, enabled affluent homes in specific locations to adopt electric lighting. Alternating current and AC/DC transformers made electric power transmission and distribution possible at scale.

**Enablers:** Forces that fostered electrification included investment capital that fueled early expansion, policy changes that opened the door to necessary regulatory approvals and public investments in infrastructure, and shifting consumer sentiment in favor of brighter, cleaner, safer and ultimately less expensive light sources.





## CASE STUDY: FROM CASH TO MOBILE PAYMENTS IN KENYA

M-PESA, launched in 2007 by Vodafone and its Kenyan affiliate Safaricom, has created an entirely new market by transforming a formerly complex service – banking – into one that is simple and affordable. M-PESA allows customers to transfer money via SMS to friends, family and customers easily, quickly and cost-effectively. Today, nearly 50% of Kenya's GDP flows through M-PESA on an annual basis, and a 2017 study by the Massachusetts Institute of Technology showed that the service has lifted an estimated 2% of Kenyan households out of extreme poverty. M-PESA is now in use in over 10 countries with close to 30 million customers, and it has inspired a wave of similar services from other mobile network operators, banks, and fintech companies.

**Megatrends:** Before M-PESA, most people in Kenya had no way of accessing a bank account and had to rely largely on insecure

and inefficient cash-based transactions. From the early 2000s, mobile phone penetration across Sub-Saharan Africa grew rapidly even among low-income consumers. It is estimated that there are over 450 million unique mobile subscribers across the region, a figure estimated to grow to over 600 million by 2025, representing around half of the region's population.

**Innovations:** Vodafone's original idea was to use M-PESA as a means for rural farmers to make microfinance loan repayments via their mobile phones. After trials, it became clear that most people were using the service to make person-to-person money transfers via SMS, supported by a network of sales agents. The service has subsequently evolved into a platform for a wide range of financial services such as virtual savings accounts, cross border remittances and even healthcare insurance premium payments.

**Enablers:** Tech-savvy African consumers were happy to adopt the new technology and had a sufficient level of trust in the mobile network operator. An extensive network of airtime sales agents was established nation-wide to initiate and complete transactions for customers, triggering the creation of thousands of new micro-businesses. Initial match-funding by DFID was critical to getting the project off the ground and building proof of concept. In the absence of appropriate financial services regulation governing mobile money, the Central Bank of Kenya greenlighted M-PESA's introduction. Vodafone, Safaricom, financial institutions and the Central Bank subsequently worked together to develop appropriate regulation.



## CASE STUDY: DECARBONIZING POWER GENERATION IN CALIFORNIA

The decarbonization of power generation is one of the most critical transformations taking place in the world today. In 2008, the State Government of California set a goal to reduce the state's greenhouse gas emissions to 1990 levels by 2020 and to 80% below 1990 levels by 2050. So far, power generated from renewable sources makes up more than 40% of the state's electricity mix and the goal is to eliminate all fossil fuels from the state's electric grid entirely by 2045. By 2016, electricity sector emissions had fallen to approximately 38% below 1990 emission levels even as electricity consumption across the state increased.

The transition from fossil fuels to renewables underway in California is being shaped by megatrends and technological innovations and enabled by a series of actions by investors, policymakers, energy utilities, unions and citizens.

**Megatrends:** Climate change and its catastrophic impacts have made decarbonizing energy systems by mid-century a critical priority.

**Innovations:** Phasing out the use of fossil fuels in power generation and replacing them with zero carbon energy sources has been made possible by a series of technological innovations in solar, wind, hydro and geo-thermal, alongside the introduction of smart grids and more efficient long-distance power transmission networks.

**Enablers:** A robust policy and regulatory environment has facilitated California's progress so far: politicians have legislated to reduce carbon emissions and officials have combined rigorous technical analysis with engagement and consultation to gain the buy-in of key stakeholders. Early on, policymakers recognized the importance of identifying and mitigating potential losers from the transition. Other enablers have included a socially liberal and environmentally-conscious population, effective information flows supported by complex modelling technologies, the availability of a range of viable renewable technologies and sufficient public-private financing to support the transition.





## ⑤ What are the barriers to transformation?

**Any enabler of systems transformation, if missing or sufficiently out of alignment, can act as a barrier.**

Many different people and groups have roles to play in putting these enablers in place – or blocking transformation from happening. Systems transformation is a collective action problem, and it only takes a few powerful (well-placed) points of resistance to slow down or derail the process.

Resistance often comes from groups with a vested interest in the status quo: individuals and institutions benefiting now from products and practices that are unsustainable.<sup>17</sup> Those with vested interests could include companies that have learned to flourish within the current system, the workers they employ, the consumers who enjoy the products and services they provide, and the shareholders who enjoy the returns. Important vested interests also include members of the political establishment and civil service who have built their careers advocating particular platforms for particular constituencies. The fiercest resistance to transformation often comes from the groups with the most to lose, whether elites facing the loss of vast amounts of wealth, or low-skilled workers facing the loss of their livelihoods.

While the latter may have less power and influence at their disposal individually, a large uprising of the powerless can be highly influential.<sup>18</sup>

Transformation will invariably mean there are winners and losers in the short-term. In order to realize sustainable systems change we need to make sure that we manage the social costs of this change responsibly and do all we can to bring people along. We must understand who the losers from change will be and help them to envision and realize a pathway to a sustainable future. Particular attention should be paid to those who are most vulnerable so that they don't end up disenfranchised and dispossessed.

Resistance also comes from limited public awareness and understanding of the challenges at hand, and the transformations that need to take place. This can be exacerbated by mistrust of authority, or the facts and scientific data on which decisions are made. We are currently experiencing an increasing rejection of accepted facts and norms of procedure, behavior and decency in the public sphere and in government. Siloed government policy-making, political short-termism and, in extreme cases, constitutional hardball, all throw up obstacles to stability, societal progress and systems transformation.

**Setbacks can also happen when transformation appears to be underway or has already occurred.**

This can be the case, for example, when a new government reverses the reforms of its predecessor. Setbacks can also happen when there is a loss of historical memory over time. For example, systems of intergovernmental cooperation were created in the aftermath of World War II to reduce the risk of future descent into conflict among nations. Current backlash against these systems of cooperation such as the United Nations, International Monetary Fund and the World Trade Organization, is being driven by generations that have not, for the most part, experienced the crushing devastation of war.

## CASE STUDY: DECARBONIZING POWER GENERATION IN GERMANY

California's transition to decarbonized energy generation can be contrasted to Germany's experience. A growing awareness of the climate change threat had already created widely-recognized public renewable energy ambitions. Following the 2011 Fukushima nuclear accident, political consensus in Germany also shifted, agreeing on the need to transform the nation's energy system from nuclear and coal-based generation to clean, renewable energy sources.

In 2011, Germany set itself the ambitious target of generating 80% of its power from renewable sources by 2050. Legislation was passed and funding mobilized, necessary technology was available, an acceptable tariff mechanism identified, and the

public was broadly supportive, but progress since has been slow. A 2018 report by Germany's Federal Audit Office on anticipated progress by 2020, concluded that targets for both reducing greenhouse gas emissions and primary energy consumption, as well as for increasing energy productivity and the share of renewable energy in transport, would be missed.

Several factors have contributed to the lack of progress. Incentives to switch to renewables have been too limited and too complex. Planning and coordination by and between government agencies has been inadequate and has led to inefficient use of public resources. For example, a disproportionate amount of investment has gone into

funding incremental energy efficiency improvements such as the thermal insulation of buildings, which has proved to be significantly more costly than switching to renewables. While a clear commitment was made to phase out nuclear power, no clear commitments were made about coal, largely due to political considerations and the resistance of legacy industries and unions concerned about job losses. The need for mitigation strategies, such as investment in re-skilling workers, was identified too late. There have also been unaddressed community concerns about the impact of necessary infrastructure, for instance wind turbines and new high-voltage transmission lines, on their local landscapes.

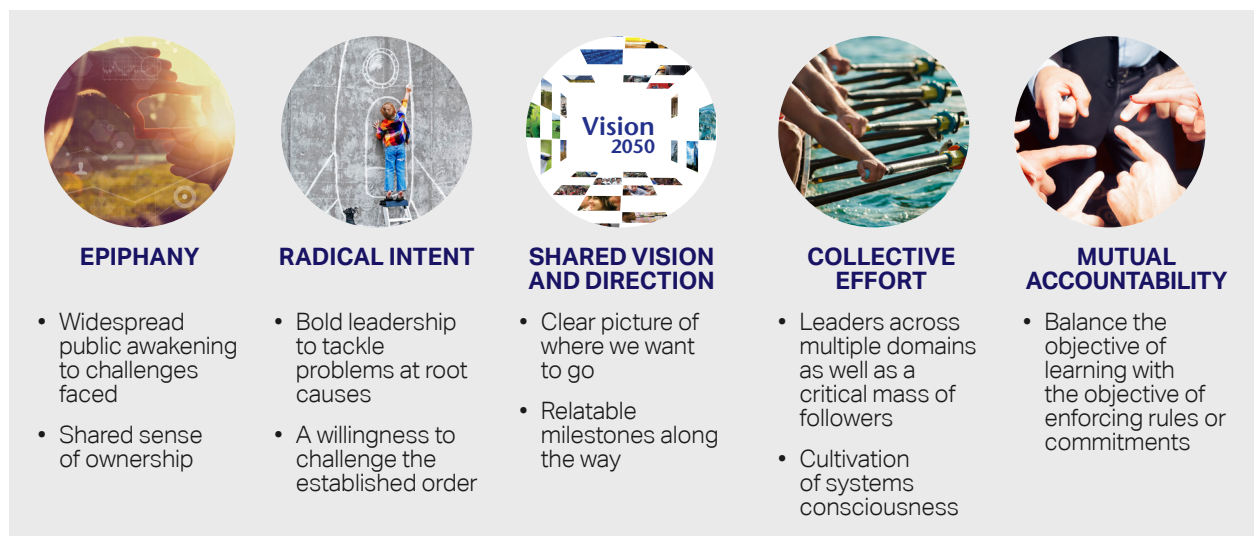




# ⑥ How can systems transformation be encouraged and accelerated?

Complex systems often defy traditional notions of strategy, planning and management based on predictability and control. To foster and accelerate the transformations needed to achieve Vision 2050, we need a different approach, based on influence, empowerment and alignment.

Figure 3: Accelerators of transformation



**Epiphany:** We need a widespread public awakening to the opportunities and challenges we face and to the key leverage points that require our attention, action, championship, and support. We need a shared sense of ownership in the process of addressing these opportunities and challenges, and social and cultural values that support individual action on behalf of the collective. Crises and mass media “moments,” such as the BBC’s Blue Planet II and its focus on plastic waste in the oceans, can help create tipping points. The emotional case can be just as important as the business case.

**Radical intent:** We need bolder leadership from government and business to unlock opportunities and tackle problems at their root causes: a willingness to challenge

the established order and to risk time and money developing innovative new solutions. Big, audacious goals that tap into emotional drivers – like “putting a man on the moon” – can provide the inspiration and motivation required.

**Shared vision and direction:** We need a clear picture of where we want to go, and a path to set out on – even if we can’t see all the twists and turns that lie ahead. This is what Vision 2050 aims to provide for the business community. More broadly, better ways to foster communication across sectors and to engage in public-private “societal strategic planning” are needed. Leading economist Mariana Mazzucato defines this as being mission-oriented, with the public sector, business, and civil society joining forces to develop the

solutions needed to tackle society’s greatest challenges.<sup>19</sup> And relatable milestones – such as “no fossil fuel powered cars sold after 2025” – would help us get out of the starting blocks.

**Collective effort:** Vision 2050 will not be achieved through the innovation and action of a few visionary leaders; we must have leaders across multiple domains as well as a critical mass of followers. We need all actors to step up and play their roles – from the global industry leader developing growth strategies, to the individual consumer making purchasing decisions. For this, we need to cultivate a “systems consciousness,” and we need strong enablers to provide the incentives and capabilities required.

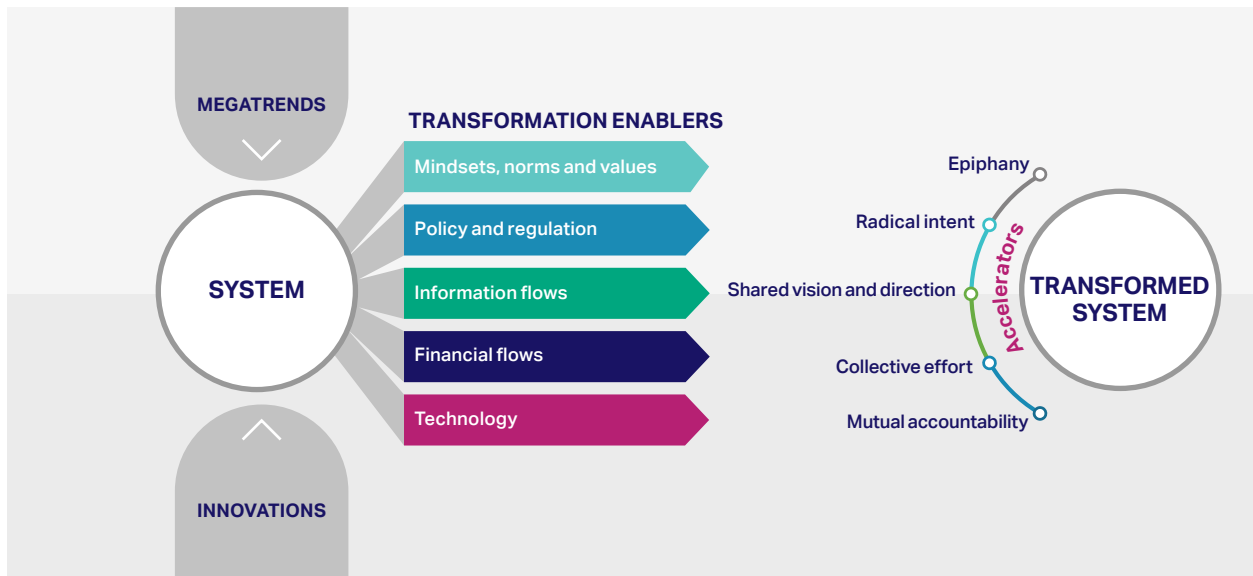
**Mutual accountability:**

Accountability is a powerful incentive for stakeholders to take action in pursuit of a shared vision. At the same time, accountability has the potential to discourage innovation and action by heightening the consequences of failure.<sup>20</sup> We will need to balance the objective of learning with the objective of enforcing rules or commitments.

Visible, visceral measures of progress – like a planetary Plimsoll line<sup>21</sup> – could help show that we are all in this together.

These accelerators can be applied to our visual representation of the way that megatrends, innovations and enablers come together to transform systems (see figure 4).

**Figure 4:** Theory of systems transformation including accelerators





# ⑦ What is the role of business in driving systems transformation in support of sustainable development?

**Transforming systems globally at the scale and speed required to realize sustainable development calls for unprecedented levels of action and coordination across all industries and sectors of society – what one expert has called “a scale of collective effort rarely seen outside wartime.”<sup>22</sup>**

Despite the scale of the task ahead, our efforts are substantially supported by the fact that, when it comes to sustainable development, we have one of our key accelerators – a shared vision – firmly in place. In 2015 with the adoption of the Paris Agreement and the Sustainable Development Goals (SDGs), the world established a clear shared vision of the world we need to work towards.

It now falls upon all actors in society to play their part in fostering and accelerating the transformations needed to help realize the ambitions of the SDGs on the road to 2030 and beyond.

## The role of business

Business has a key role to play in the realization of these endeavors and also stands to unlock potentially historic market opportunities through its efforts to do so.

If we consider the common factors and accelerators identified in our theory of systems transformation, there are a number of clear leverage points where business can take critical action to support transformation across many of the essential systems where it is needed.

These leverage points include:

- Making a robust case for change and shifting mindsets
- Advocating for policy and regulation that enables transformation
- Helping to create the right financial incentives for new business models
- Enhancing flows of information through transparent reporting and disclosure
- Creating and scaling innovation of emerging technologies and business models
- Fostering and mobilizing impactful collaborations
- Developing rules, measures and standards
- Aligning with other players around a shared vision built on radical intent

## The role of Vision 2050

While the SDGs have provided the world with a shared vision around which we are able to focus our collective efforts for the decade ahead, the SDGs themselves are not directly actionable for different groups of stakeholders – they represent a destination rather than the road that will get us there. It is up to the scientific, policy, and business communities to determine how SDG outcomes can be achieved at global, national, and local scales.

WBCSD’s updated Vision 2050 will use this theory of systems change as its foundation and build on it to provide global businesses with a common agenda moving forward. It will highlight the key systemic transformations that the private sector needs to drive to put us on course to realizing a world where over 9 billion people can live well, within planetary boundaries by 2050. In doing so, Vision 2050 will make the SDGs directly actionable for businesses around the world as we enter the next critical decade.







## ⑧ Conclusions

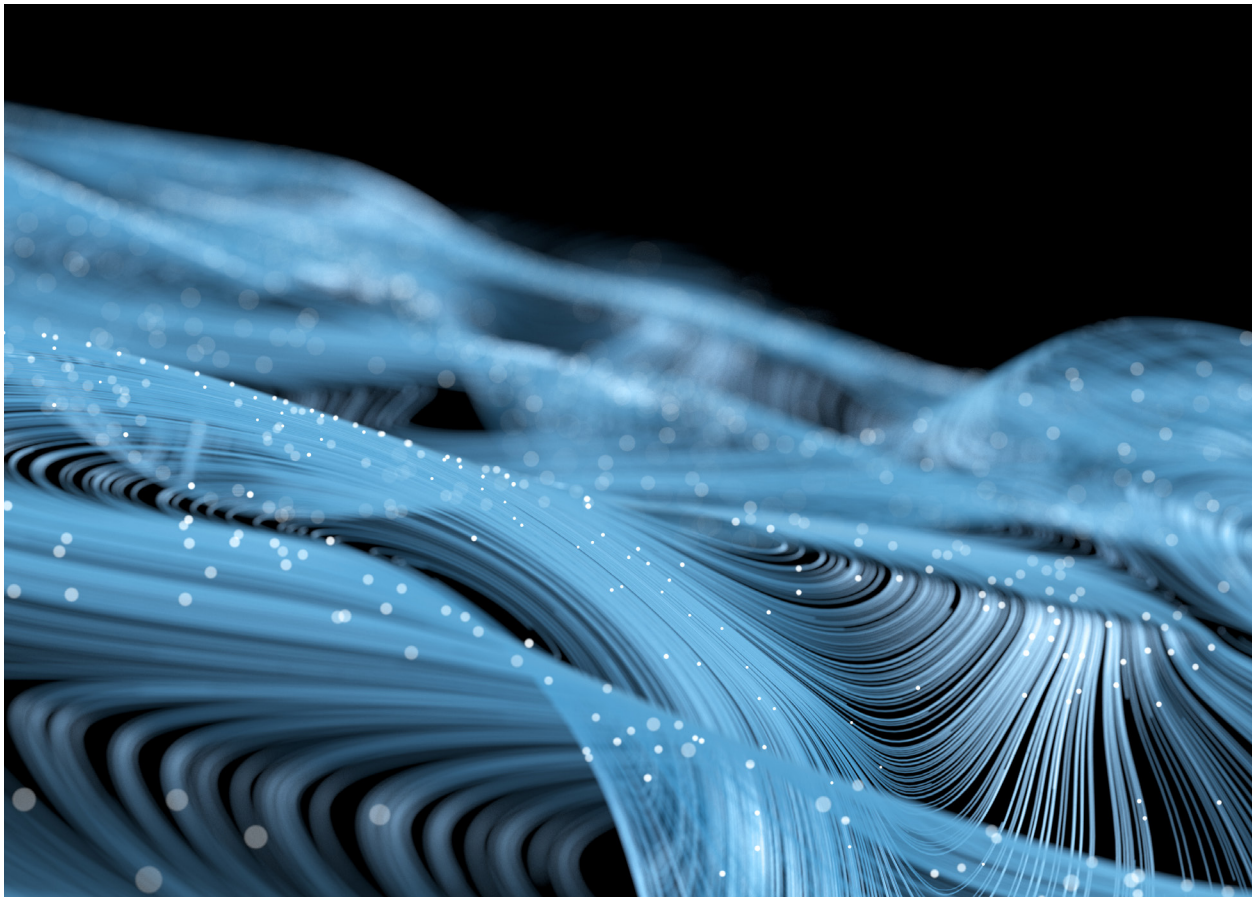
There are significant opportunities for companies willing to work towards the realization of a future world in which more than nine billion people live well, within planetary boundaries. We know that the outcomes we envision require nothing short of systems transformation. Our task now is to successfully usher in "Transformation Time" and to ensure that we emerge from the current COVID-19 crisis with a clear and collective understanding of the changes we need to drive forward to ensure a robust and resilient recovery.

The coming years need to represent a period of growing consensus, but also of wrenching

change in many parts of society. Fundamental shifts are necessary across a variety of areas, from financial markets to our very notions of success, in order to deliver the social and environmental outcomes we seek. We hope this paper provides our stakeholders with a clear understanding of what it takes to successfully bring about truly transformative systems change, and a common vocabulary for the uncommon collaboration we will need to get there.

The COVID-19 pandemic has changed the timeline for the sustainable development agenda. We talked of urgency and transformation, but in many

cases we were happily working incrementally – gradually laying the foundations for change. The decisions that governments, companies and societies make in the coming weeks and months, the recovery strategies that they select, will define the next 10 years and beyond. This issue brief ensures that companies understand how they can actively and purposefully support transformation. The question of what exactly needs to be transformed remains. Ultimately, the Vision 2050 Refresh will outline a comprehensive transformation agenda for business to drive, towards a world in which everyone can live well, within planetary boundaries.



# Endnotes

- <sup>1</sup> Dreier, L., Nabarro, D., and Nelson, J. (2019). *Systems Leadership for Sustainable Development: Strategies for Achieving Systemic Change*. Cambridge, MA: Corporate Responsibility Initiative at the Harvard Kennedy School.
- <sup>2</sup> The World in 2050 Initiative (TWI2050) (2018). *Transformations to Achieve the Sustainable Development Goals*. International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria. Retrieved from <http://pure.iiasa.ac.at/15347>
- <sup>3</sup> World Benchmarking Alliance (WBA) (n.d.). *Systems Transformations*. Retrieved from <https://www.worldbenchmarkingalliance.org/system-transformations/>
- <sup>4</sup> Sachs, J., Schmidt-Traub, G., Kroll, C., Lafortune, G., Fuller, G. (2019). *Sustainable Development Report 2019*. New York: Bertelsmann Stiftung and Sustainable Development Solutions Network (SDSN).
- <sup>5</sup> Feola, G. (2015). Societal transformation in response to global environmental change: A review of emerging concepts. *Ambio* 44(5), 376-390. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4510318/>
- <sup>6</sup> TWI2050 (2018).
- <sup>7</sup> WBA (n.d.).
- <sup>8</sup> Global Alliance for Improved Nutrition (GAIN) (2018). *Investing in SMEs to improve the consumption of nutritious foods in Africa*. Development Finance, April 5. Retrieved from <https://www.devfinance.net/industry/investing-smes-improve-consumption-nutritious-foods-africa/>
- <sup>9</sup> Food and Agriculture Organization of the United Nations (FAO) (2017). *Water for Sustainable Food and Agriculture*. Retrieved from <http://www.fao.org/3/a-i7959e.pdf>
- <sup>10</sup> 2030 Water Resources Group. 2009. "Charting our Water Future: Economic frameworks to inform decision-making." Retrieved from <http://www.2030wrg.org/wp-content/uploads/2014/07/Charting-Our-Water-Future-Final.pdf>
- <sup>11</sup> Musk, E. (2006). *The Secret Tesla Motors Master Plan* (just between you and me). Retrieved from <https://www.tesla.com/blog/secret-tesla-motors-master-plan-just-between-you-and-me>. Also see Musk, E. (2016). *Master Plan, Part Deux*. Retrieved from <https://www.tesla.com/blog/master-plan-part-deux>. Finally, see Musk, E. (2017). *Making Humans an Interplanetary Species*. *New Space* 5(2). <https://doi.org/10.1089/space.2017.29009.emu>
- <sup>12</sup> For more, see the International Futures Forum's work on the Three Horizons model at <http://www.internationalfuturesforum.com/three-horizons>
- <sup>13</sup> Based on the Multi-Level Perspective originally developed in Kemp, R. and Rip, A. (1998). *Technological Change*. In Rayner, S. and Malone, E. L. (Eds.), *Human Choice and Climate Change*, Volume 2 (pp. 327-399), Columbus, Ohio: Battelle Press. The enablers described in this paper come from WBCSD's prior work and a wide variety of sources on systems change, including Donella Meadows' work on leverage points and Peter Senge's recent article with co-authors from FSG, *The Waters of Systems Change*, which summarizes much prior work in this area.
- <sup>14</sup> As described in Nelson, J. and Jenkins, B. (2016). *Tackling Global Challenges: Lessons in System Leadership from the World Economic Forum's New Vision for Agriculture Initiative*. Cambridge, MA: Corporate Responsibility Initiative at the Harvard Kennedy School.
- <sup>15</sup> Uren, S. (n.d.). *Living in non-linear times—why we need a systems approach*. (Unpublished presentation). Forum for the Future, London.
- <sup>16</sup> Bergman, N., Haxeltine, A., Whitmarsh, L., Koumliher, J., Schilperoord, M. and Rotmans, J. (2008). *Modelling Socio-Technical Transition Patterns and Pathways*. *Journal of Artificial Societies and Social Simulation* 11(3)7. <http://jasss.soc.surrey.ac.uk/11/3/7.html>
- <sup>17</sup> TWI2050 (2018).
- <sup>18</sup> <https://www.project-syndicate.org/commentary/explaining-social-protest-in-paris-hong-kong-santiago-by-jeffrey-d-sachs-2019-10>
- <sup>19</sup> Mazzucato, M. (2017) *Mission-oriented Innovation Policy: Challenges and Opportunities*, University College London Institute for Innovation and Public Purpose Working Paper Series, IIPP 2017-01. Retrieved from <https://www.ucl.ac.uk/bartlett/public-purpose/sites/public-purpose/files/moip-challenges-and-opportunities-working-paper-2017-1.pdf>
- <sup>20</sup> Nelson, J. and Jenkins, B. (2016).
- <sup>21</sup> An analogy used by John Elkington, a father of the sustainability movement who coined the term "triple bottom line." Conceived by Samuel Plimsoll, the Plimsoll line is a marking on a ship's side showing the limit of submersion that was safe and legal under various conditions. The idea only took off with the advent of insurance.
- <sup>22</sup> Elkington, J., Lim, J., and Smith, L. (2016). *Breakthrough Business Models: Exponentially More Social, Lean, Integrated, and Circular*. Retrieved from [http://s3.amazonaws.com/aws-bsdc/Volans\\_Breakthrough\\_Business\\_Models\\_Report\\_September-2016-updated-4-Oct-2016.pdf](http://s3.amazonaws.com/aws-bsdc/Volans_Breakthrough_Business_Models_Report_September-2016-updated-4-Oct-2016.pdf)

## ACKNOWLEDGEMENTS

This issue brief was developed in support of the efforts of 40 WBCSD member companies that are leading efforts to revamp WBCSD's Vision 2050.

We would like to thank the following organizations and individuals for their valuable contribution to the development of this briefing.

## INTERVIEWEES

**John Elkington**, Founder and Chief Pollinator, Volans

**Gerbrand Haverkamp**, Executive Director, World Benchmarking Alliance

**Mariana Mazzucato**, Professor in the Economics of Innovation and Public Value, University College London (UCL) and Director, UCL Institute for Innovation and Public Purpose

**Jane Nelson**, Director, Corporate Responsibility Initiative, Harvard Kennedy School

**Jeremy Oppenheim**, Founder and Senior Managing Partner, SystemIQ

**Guido Schmitt Traub**, Executive Director, UN Sustainable Development Solutions Network

**Nigel Topping**, High Level Champion for Climate Action COP26

**Sally Uren**, Chief Executive, Forum for the Future

**Aris Vrettos**, Director, Centre for Business Transformation, Cambridge Institute for Sustainability Leadership

## COORDINATORS

Social Side Insight: Beth Jenkins, Richard Gilbert, Ann Casanova

WBCSD: James Gomme, Julian Hill-Landolt

## DISCLAIMER

This publication has been developed in the name of WBCSD. Like other WBCSD publications, it is the result of a collaborative effort by members of the secretariat and senior executives from member companies. A wide range of members reviewed drafts, thereby ensuring that the document broadly represents the perspective of the WBCSD membership. Input and feedback from stakeholders listed above was incorporated in a balanced way. This does not mean, however, that every member company or stakeholder agrees with every word.

## ABOUT THE WORLD BUSINESS COUNCIL FOR SUSTAINABLE DEVELOPMENT (WBCSD)

WBCSD is a global, CEO-led organization of over 200 leading businesses working together to accelerate the transition to a sustainable world. We help make our member companies more successful and sustainable by focusing on the maximum positive impact for shareholders, the environment and societies.

Our member companies come from all business sectors and all major economies, representing a combined revenue of more than USD \$8.5 trillion and 19 million employees. Our global network of almost 70 national business councils gives our members unparalleled reach across the globe. Since 1995, WBCSD has been uniquely positioned to work with member companies along and across value chains to deliver impactful business solutions to the most challenging sustainability issues.

Together, we are the leading voice of business for sustainability: united by our vision of a world where more than 9 billion people are all living well and within the boundaries of our planet, by 2050.

Follow us on [Twitter](#) and [LinkedIn](#)

[www.wbcds.org](http://www.wbcds.org)

Copyright © WBCSD,  
June 2020.



**World Business Council  
for Sustainable Development**

Maison de la Paix  
Chemin Eugène-Rigot 2B  
CP 2075, 1211 Geneva 1  
Switzerland  
[www.wbcsd.org](http://www.wbcsd.org)

