



CLIMATE  
NEXUS  
REPORT

# Climate + Health

The Business Case  
for Action

September 2018

WE MEAN  
BUSINESS



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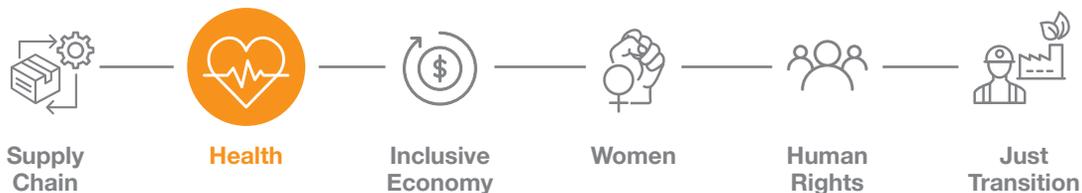
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# About this Report

Climate change affects each and every human around the globe, with profound and potentially lasting implications for global health. This paper uses data and case studies to highlight the impacts of climate change on health and help companies across sectors understand the resulting consequences for business. The report demonstrates why and how business can

take action, including how to establish a deeper understanding of the nexus of health and climate throughout the company; how to articulate the risks and opportunities for companies across various sectors; how to secure buy-in from senior leadership; and how to identify, assess, prevent, mitigate, and remedy the adverse impacts of climate change on health.

This report is part of a series of six **climate nexus reports** that cover:



All papers in this series are aimed at business to drive resilience inside the company, across supply chains, and within vulnerable communities.

The reports address issues that are material to business, vital in the current political environment, and key to building resilience. The principal audience for this report is sustainability professionals working inside BSR member companies. More specifically, it is relevant to professionals working in the technology; financial; food, beverage, and agriculture; and pharmaceutical sectors.

This report was prepared using a mix of written sources and interviews. The research draws upon a significant volume of sources, including literature covering

climate science, literature covering health-related consequences of climate change, company materials, and media coverage. The report benefited from the results of semi-structured interviews conducted with AstraZeneca, Johnson & Johnson, and Sanofi, and as well as insights and contributions from BSR's Healthcare Working Group member companies, including Astellas, Bristol-Myers Squibb, Celgene, GSK, LEO Pharma, Merck KGaA, and Takeda.

This report was written by Lea Farnier, Joanna Lovatt, and Cecile Oger, with additional guidance from Samantha Harris and David Wei. Any errors that remain are those of the authors. Please direct comments or questions to Cecile Oger at [coger@bsr.org](mailto:coger@bsr.org).



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## Disclaimer

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# Climate Health

## The Nexus

The health impacts of climate change will be distributed unevenly across the globe, and climate change may make preexisting inequality worse.

### IMPACTS INCLUDE



Changes in the distribution and burden of vector-borne diseases (such as malaria and dengue) and water-borne infectious disease



Human undernutrition from crop failure



Occupational health risks



Population displacement from sea-level rise



Noncommunicable diseases and disorders like respiratory diseases, heart disease, depression, and mental disorders

According to the World Health Organization, the direct damage costs of climate change to health could reach

**US\$2B-\$4B**  
per year by 2030\*

## The Business Case

### RISK



The social and financial costs of unmitigated climate change on human health will be huge for businesses all over the world and in every sector—

**and will have a detrimental effect on workforce health.**

### OPPORTUNITY

**Companies operating at the intersection of health and climate will have the opportunity to contribute to solutions.**

Artificial intelligence and big data companies should see an increasing demand for technologies and **solutions** to understand, map, and anticipate impacts.



► **Solutions include disease surveillance, early-warning systems for extreme weather, and more.**

Healthcare companies are adopting different approaches to address logistics challenges in countries where cold chain storage is not available.

During the Ebola outbreak, Johnson & Johnson designed a whole new distribution system to provide vaccines to Sierra Leone.

To deliver vaccines the “last mile,” the company also developed specialized motorbikes with refrigerated boxes to keep vaccines at temperature until the time of delivery.\*\*



## Recommendations

Here's how companies can act across their value chains and in the communities where they operate, enable their partners and stakeholders, and influence decision-makers to address the climate change-health nexus.



### ACT

Businesses should assess and **understand their own footprint and ability to contribute to addressing the growing health risks** associated with climate change through their business, products, and services.

Pharmaceutical companies and organizations in the healthcare sector should **map their portfolios and identify the products and services that are most likely to be affected by a changing climate.**



### ENABLE

Businesses can **enable greater societal resilience by increasing public awareness** of climate-related diseases and health impacts.

Companies can **increase the affordability of and access to products and services** that help build climate and health resilience in tandem.

**Cross-industry collaborations** can build more effective solutions and scale impact.



### INFLUENCE

Business can seek to create an enabling environment for health and climate resilience through **stronger community engagements that support climate-resilient infrastructure**, such as by creating alert systems to minimize the impact of singular climate events. Investments in resilient communities will benefit companies in the long term.

The private sector can seek to create an enabling environment for health and climate resilience by **engaging with policymakers** on these issues.

\* <http://www.who.int/mediacentre/factsheets/fs266/en/>

\*\* <http://www.flypharma.com/pharmas-role-tackling-ebola-crisis>

# Executive Summary

The threat of climate change to business is clear, and so is the evidence that climate change can undermine decades of progress made in public health globally. While business has been addressing climate for years now, much of the work done thus far has consisted of steps to mitigate climate change by increasing energy efficiency and reducing greenhouse gas (GHG) emissions. There remains a critical need for business to support society in adapting to the health impacts associated with climate change. Business can help build societal resilience through investments in research and development, the construction of climate-resilient infrastructure, and the provision of climate-sensitive services.

## **What are the impacts of climate change on health?**

Climate change has intensified in the last several decades, and so have the impacts of climate change on human health. These include direct impacts resulting from increases in the frequency, intensity, and duration of extreme heat, as well as the rising incidence of extreme weather events, such as floods and storms. These impacts also include changes in the distribution and burden of vector-borne diseases (such as malaria and dengue) and water-borne infectious diseases, human undernutrition from crop failure, population displacement from sea-level rise, and occupational health risks, as well as noncommunicable diseases and disorders like respiratory diseases, heart disease, depression, and mental disorders. Researchers expect that the health impacts of climate change will be distributed unevenly across the globe and that climate change may make preexisting health inequality worse.

## **Why should business care?**

The social and financial costs of unmitigated climate change on human health will be huge for business, civil society, government, and the general public. For business, this risk has implications across global supply chains and can also affect a company's strategy, finance, operations, human resources, and compliance. On the other hand, climate change has been described as the greatest opportunity for human health in the 21st century due to the substantial potential health and economic benefits associated with mitigating and adapting to climate change. By acting at the nexus of health and climate change, business has an opportunity to reduce risks, anticipate and prepare for future needs, and build resilience. While the healthcare sector has the single most critical role to play, several other sectors—including financial services; food, beverage, and agriculture; and technology—can also contribute to improve health outcomes.

# There are three key reasons why this issue matters to business:

01

**The health impacts of climate change will affect companies in every sector, all over the world.** For instance, pollution and other effects of climate change will contribute to worsening health outcomes, which can have a detrimental effect on workforce health.

02

**Some companies operating at the intersection of health and climate will have the opportunity to contribute to solutions.** These include financial institutions and service providers; food, beverage, and agriculture companies, and information and communications technology (ICT) companies. For instance, artificial intelligence and Big Data companies should see an increasing demand for the development and commercialization of technologies and solutions to understand, map, and anticipate the impacts of climate change on health. These solutions could include disease surveillance, early-warning systems for extreme weather, and more.

03

**Healthcare companies will have a critical role to play.** For this sector, the notion of resilience becomes central, as companies must stay in business and ensure continuity to be able to supply drugs and health solutions to patients. Healthcare companies cannot afford to be vulnerable to climate change, and they must build climate resilience.

## Recommendations: Act, Enable, Influence

All companies can take action in areas under their direct control to build climate resilience and benefit health at the same time. They can also enable and influence other companies, partners, individuals, and policymakers by incentivizing, partnering, and communicating with others in their industry and supply chains—thereby influencing the broader market.

### ACT

**Companies can take action in areas under their direct control to reduce climate change impacts on health.**

- All companies and all industries have a role to play in mitigating the effects of pollution that results from or is linked to their businesses. This has the potential to directly benefit human health by reducing human exposure to harmful pollutants.

- Businesses should assess and understand their own footprint and the extent to which they can contribute to addressing the growing health risks associated with climate change through their business, products, and services.
- Companies from sectors with a high potential to address the impacts of climate change on health (financial services; ICT; and food, beverage, and agriculture companies) should assess climate risks, prioritize, and invest in areas where they can have the highest impact and contribute positive value.
- Pharmaceutical companies and organizations in the healthcare sector should map their portfolios and identify the products and services that are most likely to be affected by a changing climate. They should adapt their quality-assurance systems, risk-management structures, and supply chain management practices to address these climate-related risks.

## ENABLE

**Companies can create mechanisms to respond to climate-related events more effectively, to amplify positive impacts on health, and to enable resilience.**

- Businesses can enable greater societal resilience by increasing public awareness of climate-related diseases and health impacts. Specifically, they can increase awareness among their own workforces and the broader ecosystems in which they operate.
- Businesses can enable resilience by increasing the affordability of and access to products and services that help build climate and health resilience in tandem. Healthcare companies can invest in R&D to develop new drugs and/or delivery models that provide solutions to climate-related diseases and that address affordability. Other sectors can also contribute: For instance, the food industry can ensure proper food supply, and the financial services sector can develop new products

and services to help individuals manage the health-related effects of climate.

- Businesses can collaborate across industries to build more effective solutions and scale impact. The ICT sector should be a source of innovation and serve as partners for other industries to create new models and solutions that address the rising threats posed by climate on public health.
- Businesses can collaborate to create joint positions on climate and health. Because health is a shared global issue, companies should create industrywide information, positions, and potentially voluntary standards to define what climate and health mean to each sector. In particular, the healthcare; food, beverage, and agriculture; financial services; and ICT sectors can recognize their roles and responsibilities and create more resilience to achieve greater impact.

## INFLUENCE

**Companies can choose to influence the political, social, cultural, and economic conditions that can enhance resilience.**

- Businesses can seek to create an enabling environment for health and climate resilience through stronger community engagements. Whether it's supporting new infrastructure that is built to handle climate volatility or creating alert systems to minimize the impact of singular climate events, investments in resilient communities will benefit companies in the long term.
- Businesses should continue to seek and leverage funding. The Paris Agreement has catalyzed a number of initiatives and funds that are available to support both public- and private-sector climate adaptation. Financing for climate-specific research and innovation should increase as progress toward climate goals accelerates.
- Finally, businesses can seek to create an enabling environment for health and climate resilience by investing in stronger political and government engagements.

# Climate Change, Business, and Health

The threat of climate change to business is clear, and so is the evidence that climate change can undermine decades of progress made in public health globally. However, climate change presents more than just risks. Climate-related health impacts can drive business innovation and opportunities. This report identifies the key impacts of climate on health, articulates how these effects impact business, and provides compelling evidence and guidance on why and how business should act to build resilience.

The threat of climate change to business is clear. Every year since 2011, the World Economic Forum's *Global Risks Report* has identified climate-related risks, including the water crisis and biodiversity loss, as top threats to business in terms of both likelihood and impact. In 2018, failure of climate change mitigation and adaptation was ranked as one of the top 10 global risks, alongside extreme weather events and natural disasters.<sup>1</sup> Risks are wide-ranging, persist throughout business value chains, and can be expected to pose severe financial threats to companies worldwide. Some examples of this include impacting innovation at pharmaceutical companies that rely on climate-vulnerable biodiversity to fuel the discovery of new medicine, threatening business continuity for companies that rely on water resources to manufacture their products, and physical disruptions across supply chains due to climate-related weather events.

At the same time, climate change has the potential to undermine decades of progress made in public health globally.

These changes have direct implications on economic growth and business operations. For instance, employee health could be jeopardized by increasing temperatures, and productivity could decline when employees are affected by vector-borne diseases like malaria or dengue or respiratory diseases like asthma. According to the World Health Organization, the direct damage costs of climate change to health could reach US\$2 billion to US\$4 billion per year by 2030.<sup>2</sup> The Lancet Commission on pollution and health estimates that welfare losses due to pollution cost US\$4 trillion to US\$6 trillion per year, or 6.2 percent of global economic output.<sup>3</sup>



Today, business has an imperative not only to act on mitigating their climate-induced harmful effects on health, but also to support society to adapt to the health impacts of climate change and to help create climate-resilient health systems.

Businesses have been taking steps to mitigate climate change for years. These include increasing energy efficiency and reducing GHG emissions, in order to keep global average temperature rises below 2°C by the end of the century in line with the 2015 Paris Agreement. To date, private-sector participation, commitment, and progress have been commendable but not sufficient. These efforts have contributed to global health by limiting the harmful effects of

human exposure to pollutants like CO<sub>2</sub> and NO<sub>2</sub>, which can cause respiratory diseases. There now remains a critical need for businesses to support society to adapt to the health impacts associated with climate change. This paper focuses on the steps to build business and societal resilience, which include investments in R&D, the construction of climate-resilient infrastructure, and the provision of climate-sensitive health services.

# The Nexus

## How does climate change undermine health?

Global concern around the threat of climate change has intensified in the last several decades, and there is a growing body of research that explores the complex ways climate change will affect human health. Numerous studies and frameworks unpack the issue and map the observable effects of climate change on health (these include work by the U.S. Centers for Disease Control and Prevention and the World Health Organization).<sup>4,5</sup> The Lancet Countdown on health and climate change provides a comprehensive framework by describing climate-related health impacts under a number of different “pathways.”<sup>6</sup>





**DIRECT PATHWAYS:** These result from increases in the frequency, intensity, and duration of extreme heat and the rising occurrence of other extreme weather-related events such as floods and storms.

Natural disasters expected to worsen with the onset of climate change include extreme weather events (like cyclones), droughts, and heat waves. Weather-related disasters increased by 46 percent from 2007 to 2016.<sup>7</sup> In 2017, for instance, the U.S. experienced its three most costly hurricanes in history: Hurricane Harvey cost approximately US\$180 billion in damages (second only to Hurricane Katrina in 2005) and caused at least 82 deaths; Harvey was swiftly followed by Hurricane Irma, which cost up to US\$200 billion in damages, with at least 61 reported deaths; and Hurricane Maria cost between US\$5 billion and US\$95 billion, with 64 reported deaths as of November 2017.<sup>8</sup>

Loss of utilities during and after severe weather events is also likely to negatively impact health. For instance, long-term care facilities and hospitals may lose power and may lack sufficient backup to operate. While a large portion of the health-related costs of natural disasters are associated with emergency-relief initiatives, the costs related to rebuilding healthcare infrastructure have a long-term effect on local economies.

Climate change can also have a lingering effect on human health. For instance, extreme temperatures can cause heatstroke, and floods from heavy rain can result in the spread of infectious diseases like cholera. Drought can wipe out crop production and cause food insecurity and malnutrition,<sup>9</sup> and it may result in migration. Extreme heat is known to be deadly: In May 2018, dozens of people died due to heat exposure in Pakistan, and the scorching heat coupled with extreme humidity has made it unbearable for many people in South Asia.<sup>10</sup>



**ECOSYSTEM MEDIATED PATHWAYS:** These result from changes in the distribution and burden of vector-borne diseases (such as malaria and dengue) and water-borne infectious disease.

Some diseases that are sensitive to or exacerbated by the effects of climate change have the potential to cause huge loss of human life. Research indicates that risk for diseases like cholera and influenza will increase due to changes in temperature and extreme weather events. For example, research shows that flu epidemics are more likely following a winter with higher than average temperatures.<sup>11</sup>

Rising temperatures also will make new environments favorable for breeding mosquitoes, which could increase the number of people vulnerable to malaria by three to five percent (the equivalent of several hundred million people).<sup>12</sup>

Research shows that the median altitude of malaria moves higher during warmer years, and this could affect people living in highlands like mountainous areas of Ethiopia or Colombia.<sup>13</sup> This is further exemplified by the Zika outbreak in 2015-16, which has been linked to the unusually warm weather conditions. This suggests that there could be increased risk of future Zika outbreaks in the southeastern U.S., southern China, and southern Europe.<sup>14</sup>

These risks are heightened by another growing global concern: the emergence of antimicrobial resistance.<sup>15</sup> Not only does the malaria parasite have a growing resistance to one of the most widely used antimalarial drugs, artemisinin, but research suggests that antimicrobial resistance may be associated with higher temperatures, which encourage bacterial growth that drives the increased transmission of drug-resistant strains, among other factors.<sup>16,17</sup>



**HUMAN-INSTITUTION MEDIATED PATHWAYS:** These are described as human undernutrition from crop failure, population displacement from sea-level rise, and occupational health risks.

The nexus of climate change, food security, and nutrition is increasingly understood to be a critical and complex area.<sup>18</sup> Research is beginning to demonstrate how climatic changes will impact the nutritional content of food through a reduction in plant nutritional quality as a result of increased CO<sub>2</sub> levels.<sup>19</sup> Furthermore, water scarcity, coastal salinization due to sea-level rise, and extreme weather will affect crop yields and agricultural productivity, potentially causing famine and food insecurity.<sup>20</sup> This can contribute to malnutrition, stunting, and nutrient deficiencies that also have health consequences. Resource scarcity and sea-level rise caused by climate change may also result in population movements and migration, with health consequences such as exposure to new health risks and

accelerated disease transmission and antimicrobial resistance.<sup>21</sup>

Occupational hazards could affect factory workers, manual laborers, and more generally anyone working outdoors or performing duties that expose him or her to extreme weather. Recent data on 15,000 female factory workers enrolled in BSR's HERproject in Bangladesh show that high temperatures and heavy rainfall are associated with a decrease in worker productivity and an increase in sick leave.<sup>22</sup> Elsewhere, there is a growing body of research to suggest that dehydration in agricultural workers is leading to kidney disease and that rising average temperatures are making it worse.<sup>23</sup> Workers in changing environments also may be increasingly vulnerable to certain types of diseases. For instance, in Brazil, temperature increases and the conversion of native vegetation to sugarcane have led to the proliferation of rodent species hosting hantavirus, a disease with a 50 percent mortality rate in humans.<sup>24</sup>



**MULTIPLE PATHWAYS:** These impact noncommunicable diseases and disorders like respiratory diseases, heart disease, depression, and mental disorders.

Noncommunicable diseases are expected to increase by 17 percent in the next 10 years, and many share the same origin as climate change.<sup>25</sup> For instance, air pollution

(from industrial and transport activity) affects chronic respiratory and cardiopulmonary diseases. In 2015, diseases caused by pollution were responsible for an estimated 9 million premature deaths. Other diseases and disorders are expected to increase due to extreme weather or natural disasters, such as the mental health effects and stress associated with extreme events and population displacement.

## Climate Change May Make Pre-Existing Inequality Worse

It is estimated that the health impacts of climate change will be distributed unevenly across the globe and will affect different populations in various ways based on a combination of vulnerability factors.

According to the Germanwatch Climate Risk Index, approximately 95 percent of climate-related deaths over the past 30 years occurred in developing countries.<sup>26</sup> Nations with weak healthcare infrastructure will be hit the hardest. These include India, Pakistan, and the Philippines—countries that have some of the world's lowest health expenditures per capita.<sup>27</sup> Other countries are particularly vulnerable to climate change impacts like extreme weather events, water scarcity, and desert progression. Sea-level rise could dramatically reduce land space in countries like Bangladesh, which is low-lying and densely populated, and could result in forced domestic and international migration.

Climate change also may exacerbate existing social determinants of health, like advanced age or low socioeconomic status.<sup>28</sup> Low-income families can be exposed to poor air

quality, for example, due to living in damp buildings or close to industrial sites, and this may worsen with climate change. Vulnerable populations are also less resilient to shocks, like increasing healthcare costs or damages and injuries caused by extreme weather. In developed countries, the people who will be particularly vulnerable to the health impacts of climate change include lower-income people, as well as the elderly, women, young children, or people with preexisting health conditions.



A climate-resilient health system plays a big role in a society's overall climate resilience. Healthcare companies may offer some of the solutions to creating a climate-resilient health system and society.

# The Business Case

The social and financial costs of unmitigated climate change on human health will be huge for business, civil society, government, and the general public. For business, climate risks have implications across global supply chains and can also affect a company's strategy, finance, operations, human resources, and compliance.

On the other hand, climate change has been described as the greatest human health opportunity of the 21st century,<sup>29</sup> due to the substantial potential health and economic benefits associated with mitigating and adapting to climate change. Businesses

have an opportunity to act at the nexus of health and climate change to reduce risks, anticipate and prepare for future needs, and build resilience.

To understand why this issue matters to business, we evaluated the links between the health impacts of climate change and their consequences on business. Our research revealed that businesses in all sectors will be affected by the health-related consequences of climate change. We also discovered that several sectors have a key role to play in addressing these consequences.

The healthcare sector—including the healthcare industry (pharmaceuticals, biotechnology, vaccines, and other medical technology) and healthcare delivery systems (hospitals and medical clinics)—has the single most critical role to play. However, several other sectors—including financial services; food, beverage, and agriculture; and ICT—can contribute to improving health outcomes. Below are three key reasons why this issue matters to business.

**The health impacts of climate change will affect companies in every sector, all over the world:**

- Operational risks (and costs) will increase as the impacts of climate change on health intensify.
- Worsening health outcomes as a result of pollution and other climate change impacts can have a detrimental effect on workforce health. Left unaddressed, this may have financial implications due to employee turnover and absenteeism. Climate change mitigation activities like the adoption of low-carbon fuels have the dual impact of preventing climate change and mitigating negative health impacts. For instance, air-quality improvements through regulatory action in the U.S. have yielded estimated economic benefits of US\$30 for every dollar invested since 1970. This amounts to an aggregate benefit of US\$1.5 trillion from an overall investment of US\$65 billion.<sup>30</sup>
- Government regulation and expectations will likely intensify. Across 197 countries, the number of climate change laws and policies has already risen from 72 in 1997 to nearly 1,500 at the end of April 2018.<sup>31</sup> Two of the 17 Sustainable Development Goals (SDGs) directly refer to climate and to health (SDG 3 focuses on good health and well-being, and SDG 13 focuses on climate action). These SDGs provide guidelines and targets for countries to adopt and for businesses to inform their strategies. Similarly, in the Paris Agreement, “the right to health,” is acknowledged and central to the actions that are to be taken.<sup>32</sup>

- Businesses can create health-related co-benefits through mitigating climate change and building resilience. As highlighted in this paper, the impact of pollution on human health has a substantial financial cost.

**Some companies operating at the intersection of health and climate will have the opportunity to contribute to solutions:**

- Financial institutions and service providers should expect an increase in the demand for investment capital (e.g., traditional loans, innovative development financing, or philanthropic funds) from health system actors. This will enable these companies to undertake climate adaptation and resilience steps.
- Financial service providers like health insurance companies should expect an increase in the demand for climate-sensitive health insurance plans, with increased coverage for health risks associated with climate change.
- Businesses in the food, beverage, and agriculture sector should expect increasing restrictions on natural resources like water. That is because sea-level rise and climate-induced natural disasters further stress water-insecure regions, and droughts affect crop productivity. Because healthy ecosystems are necessary for food production and security, companies in these sectors will need to be climate resilient to adapt and secure their capacity to produce food and prevent famine and malnutrition. If not, these changes may result in population displacement and migration, which also have health consequences.
- ICT companies operating in artificial intelligence and big data should anticipate increasing demand for the development and commercialization of technologies and solutions that help the world understand, map, and anticipate the impacts of climate change on health. These solutions could include disease surveillance, early-warning systems for extreme weather, and more.

**Companies in the healthcare sector will have a critical role to play:**

The role for the healthcare sector is clear because of the nature of this business: These companies develop, manufacture, and provide health solutions, vaccines, medicines, diagnostic tools, medical devices, and more. For healthcare companies, the notion of resilience becomes central as they must stay in business and ensure business continuity to be able to supply drugs and health solutions to patients. Healthcare companies cannot afford to be vulnerable to climate change, and they must build climate resilience.

For healthcare companies, the business implications of health-related climate impacts could be substantial and disruptive:

- **Supply chain implications:** Pharmaceutical companies often outsource the production of active pharmaceutical ingredients (APIs) to contract manufacturing organizations (CMOs). Because APIs heavily rely on water, pharmaceutical companies will need to pay extra attention to securing APIs, particularly from countries that may be vulnerable to water stress from climate change. Another aspect to consider is biodiversity: Biodiversity is a critical natural asset for health, given that natural substances and plant compounds form the basis of many commonly used therapeutic drugs, including antibiotics. In a climate changing world, healthcare companies will be increasingly exposed to regulatory and supply risk through their dependence on biodiversity and ecosystem services.
- **Production and manufacturing implications:** To ensure business continuity, companies may need to relocate manufacturing centers that are vulnerable to extreme climate-related events, such as floods or fire. Similarly, companies may need to change production processes to adapt to climate-related constraints such as water scarcity.
- **R&D and product portfolio implications:** In a climate changing world, current products and services may no longer respond to the needs of populations. Climate change may shift disease burdens, which will affect the demand for drugs and other treatments. Pharmaceutical companies should expect new, changing, and increased demand for drugs and treatments, drug-delivery devices, cold chain storage systems, and other climate-resilient health delivery technologies. Adapting to changing needs will require substantial investment. For instance, infectious diseases like cholera will likely become more prevalent and may require additional industrial capacity. At the same time, new diseases or pathogens may appear, requiring companies to invest substantial sums in accelerated R&D and new production.
- **Commercial and product use implications:** Awareness of the health impacts of climate change, like aeroallergens, is not yet mainstream throughout the health workforce.<sup>33</sup> As a result, these health burdens are not yet being addressed in health workforce capacity planning. Healthcare companies can anticipate more demand for the training of healthcare workers.
- **Financial implications:** Healthcare companies may face diminished capital investment and higher credit risk as lenders refuse to make capital available to companies that are not seen to be adequately anticipating the impacts of climate change on business continuity. Investors and lenders may also want to see how healthcare companies are changing their product portfolios and therapeutic areas in response to new disease patterns.

# Business Actions

## Building Climate and Health Resilience by Strengthening Capital Assets

According to the BSR “Framework for Climate Resilience,” a successful strategy for climate resilience enhances the adaptive capacity of the company and enables greater adaptive capacity across the supply chain and within vulnerable communities. These actions can be defined by “capital assets”—the human, physical, financial, natural, social, and political capital—that are key to building resilience. Capital assets should not be considered individually, as they each complement and contribute to the strength of others within the framework.

While by no means exhaustive, the business actions described in this section highlight key opportunities and examples of preexisting

leadership designed to stimulate interest and motivation for businesses that operate at the nexus of health and climate.

### Six Capital Assets to Build Climate Resilience



#### Human Capital

refers to the skills and knowledge of available human resources, particularly in the workforce.



#### Political Capital

refers to access to decision making to shape policy environments that enable resilience.



#### Financial Capital

refers to the volume of available financial resources and access to financial goods and services.



#### Physical Capital

refers to infrastructure and equipment, including those related to manufacturing facilities, transport, logistics and communications.



#### Social Capital

refers to the strong relationships, collaborations, and bonds of mutual support and cooperation that are essential for addressing a systemic global challenge such as climate change.



#### Natural Capital

refers to the full range of services provided by biodiversity and ecosystems, including land and water.



Human capital refers to the skills and knowledge of available human resources, particularly in the workforce.

Society needs to build resilience to cope with the health impacts of climate change. This will require increased adaptive capacity in the workforce to deal with climate shocks; additional professional training on the health impacts of climate change to effectively identify, prevent, and manage health risks; and improved awareness of the climate-health nexus, not just from human resources functions but also from innovation and R&D teams and more broadly from health policymakers, the media, and affected communities.<sup>34</sup>

### WHAT ACTIONS CAN BUSINESS TAKE?

### HOW HAS IT BEEN DONE BEFORE?

#### ALL SECTORS

- All sectors can look after workforce health, which will help ensure worker attendance and therefore productivity while avoiding unexpected costs. The **human resources function** can identify the impact climate change will have on the health of employees and supply chain workers (e.g., heat stress and dehydration for manual workers or laborers, or in certain geographies) and take steps to adapt the workplace appropriately. The actions can be as vast and varied as allowing employees to work from home during pollution peaks, promoting healthy habits, and providing flu vaccinations.
- Construction company Vinci acknowledges its responsibility to provide employees and subcontracted workers with decent working conditions. In Qatar, in a joint effort with the Global Union Federation (GUF) and the Qatari Shareholder Company, Vinci developed an agreement that includes a heat stress prevention program, additional training, dedicated toolbox talks, adapted working hours, and specific procedures to stop work when the heat index rises above a certain level.<sup>35</sup>

#### TECHNOLOGY SECTORS

- **ICT companies** can provide open-access weather surveillance and advanced-warning mechanisms for extreme weather events.
- **Big data and artificial intelligence firms** have a key opportunity to use their technology and the data they collect to collaborate with health authorities and drug manufacturing companies to strengthen disease surveillance and establish early warnings for outbreaks and diseases. These companies can also model disease patterns that are transforming due to climate change, which can help pharmaceutical companies adapt their R&D and production capacity.
- In 2008, Google pioneered the use of big data to predict disease outbreak. While its Google Flu Trends failed in delivering on its promises and was later dismantled, it nonetheless paved the way for the use of technology, big data, social media, and artificial intelligence in tracking diseases and predicting new patterns. As many new initiatives confirm, huge progress continues to be made, including through the use of Google search and Twitter.<sup>36,37,38</sup>
- Following the 2013 tsunami in the Philippines, Hewlett-Packard deployed fully automated healthcare centers in Tacloban City, an area seriously affected by the disaster. In addition to providing access to healthcare services, the healthcare centers uploaded patient data to the cloud, allowing public health experts to track health patterns and respond to disease outbreaks.<sup>39</sup>

## HEALTHCARE SECTORS

- **All health system actors, including healthcare companies**, can ensure that their facilities are adequately staffed and that contingency plans are in place so that no service is disrupted in the event of an outbreak, extreme weather event, or natural disaster.
- **Companies engaged in R&D** can conduct clinical trials and research on climate-related health risks to better understand alterations in disease patterns, fluctuations in disease burdens, and the emergence of new diseases.
- **Healthcare and pharmaceutical companies** can provide training to increase the skills and knowledge of healthcare professionals to respond to climate-related events or identify climate-related health diseases.
- The Medical Society Consortium on Climate Change and Health promotes messages about how climate change has major health and healthcare implications to approximately 500,000 clinical practitioners.<sup>40</sup>
- Sanofi organizes local and regional meetings across its global operations to share information about the impacts of air pollution on health. In 2016, Sanofi's affiliate in India organized 174 continuing medical education programs during World Allergy Week. These programs engaged 2,000 physicians on the theme "Pollen Allergies: Adapting to A Changing Climate."<sup>41</sup>

## Physical Capital

Physical capital refers to infrastructure, equipment, facilities, logistics, communications, utilities, and even genetic agricultural resources.

Climate change will shift and increase disease burdens in new and unpredictable ways. Adequately responding to this will require the availability of climate-resilient drugs, treatments, and infrastructure. There are also critical gaps in the pharmaceutical portfolio relating to antimalarials, insecticides (for mosquito control), and neglected tropical diseases.<sup>42</sup>

### WHAT ACTIONS CAN BUSINESS TAKE?

### HOW HAS IT BEEN DONE BEFORE?

## FOOD, BEVERAGE, AND AGRICULTURAL SECTORS

- **Food, beverage, and agriculture companies** can improve the climate resilience of their supply chain, and ensure the quality and quantity of crop yield (particularly their ability to produce food) by building the capacity of suppliers to cope with climate impacts.
- The Kellogg Company engages with its suppliers and farmers to improve climate resilience throughout its supply chain. Through approaches such as crop diversification, adaptation of crop varieties, and support on agricultural practices, the company improves climate adaptation and ensures that farmers are equipped with the technology and resources necessary to improve their farms and livelihoods.<sup>43</sup>

## TRANSPORTATION SECTORS

- **Transport and logistics companies** can invest in infrastructure adaptations that protect heat-sensitive medicines during transport and delivery.
- UPS has been investing in cold chain areas in airports to maintain the integrity of healthcare products in delayed international shipments.<sup>44</sup> The U.S. imported pharmaceutical goods market, including heat-sensitive products, was worth US\$ 86 billion in 2015.<sup>45</sup>

## HEALTHCARE AND PHARMACEUTICAL SECTORS:

Healthcare companies have the most at stake:

- **Pharmaceutical companies** can anticipate and adapt their R&D, current portfolio, and production capacity for drugs and treatment that respond to health risks associated with climate change. These include neglected tropical diseases and vector-borne and parasitic diseases (malaria and dengue). Companies also can anticipate regulatory hurdles to ensure they obtain the necessary marketing authorizations to distribute their medicines in new geographies.
- **Pharmaceutical companies** can ensure that their facilities have adaptive manufacturing capacity, such as the ability to produce new or higher quantities of medication or the ability to ensure that the drug distribution systems reach wider areas as affected geographic regions grow.
- **Healthcare companies can use innovation to adapt delivery models** that are better suited to higher temperatures. These solutions include cold chain storage systems and climate-resilient health delivery technologies (e.g., insulated containers for cold chain storage in vaccine delivery).
- As providers of health solutions, **healthcare companies—particularly those producing life-saving medicines**—should evaluate their value chains to ensure business continuity. This can be done by building climate-resilient facilities and securing manufacturing and delivery of drugs. To prevent and avoid drug shortages, companies should ensure they have contingency plans for their facilities under various situations, including extreme weather conditions.<sup>46</sup>
- Antimalarials will be increasingly needed in a climate changing world. In this context and through the Medicines for Malaria Venture, companies such as Novartis and Sanofi are developing drug candidates that, if successfully developed, will be among antimalarials that do not belong to the artemisinin class, thereby responding to the emerging threat of artemisinin resistance.<sup>47,48</sup>
- According to the Access to Vaccines Index, four companies (GSK, Johnson & Johnson, Merck & Co., Inc., and Sanofi) stand out as taking strong approaches to aligning vaccine supply with global demand. They do this by committing to ensure access in case of shortages, providing a regular and timely supply-and-demand review process, and having processes for scaling-up production.<sup>49</sup>
- Healthcare companies have adopted different approaches to address logistics challenges in countries where cold chain storage is not available. Merck & Co., Inc.'s HPV vaccine, Gardasil, has been approved for controlled temperature chain use, as it does not require constant refrigeration.<sup>50</sup> Pfizer is taking a collaborative approach to logistics challenges by developing strategies for storage of medicines prior to distribution. The World Health Organization has approved the cholera vaccine Shanchol, from Shantha Biotechnics, a Sanofi company, for use at temperatures as high as 40°C for up to 14 days, immediately prior to administration.<sup>51</sup> This makes it the first cholera vaccine to receive a stamp of approval for storage and distribution outside the traditional cold chain. During the Ebola outbreak, Johnson & Johnson designed a whole new distribution system to provide vaccines to Sierra Leone. To deliver vaccines the “last mile,” the company also developed specialized motorbikes with refrigerated boxes to keep vaccines at temperature until the time of delivery.<sup>52</sup>

## Financial Capital

Financial capital refers to the volume of available financial resources and access to financial goods and services.

Financial capital is needed to unlock the value of human and physical capital for climate resilience. For health, this means domestic banks and other investors making financing available for climate change mitigation and resilience investments within health infrastructure and R&D. It also means the provision of climate-sensitive financial services, like health insurance by financial service providers, to protect human well-being.

The World Economic Forum estimates that to help the world adapt to the effects of climate change, “green” investments in infrastructure worth approximately US\$5 trillion must be made every year until 2020.<sup>53</sup> This includes overall additional investments worth US\$331 billion in

buildings and industry.<sup>54</sup> Within healthcare, climate financing will be needed across the value chain, particularly for R&D, core operations (including pharmaceutical manufacturing), the health system (including hospital infrastructure), and patients and customers (including access to climate-sensitive health insurance).<sup>55</sup>

## WHAT ACTIONS CAN BUSINESS TAKE?

## HOW HAS IT BEEN DONE BEFORE?

### ALL SECTORS

- **All companies** can issue corporate sustainability bonds or establish philanthropic funds to finance climate mitigation, adaptation, or resilience activities across any of the public health capital asset components.
- Companies such as Merck & Co., Inc. and Pfizer invest in the US\$108 million Global Health Investment Fund (GHIF).<sup>56</sup> While not climate specific, the fund provides financing to healthcare companies for the development of neglected or underfunded diseases. Similar funds available for public health include GAVI, the Vaccine Alliance, the TB Alliance, and the Global Fund to Fight AIDS, Tuberculosis, and Malaria.<sup>57,58</sup>
- The Coca-Cola Company, among other partners, committed to investing US\$21 million (including cash and in-kind technical logistics expertise) to improve the distribution and storage of medical products in 10 African countries.<sup>59</sup>

### HEALTHCARE SECTOR

- **Healthcare companies** can improve access to healthcare and essential medicines in the countries that are considered to be most vulnerable to the impacts of climate change. They can do this by making medicine available through not-for-profit prices, or by developing inclusive business models.<sup>60</sup> Every year, more than 100 million people in developing and developed countries are affected by poverty due to medical payments.<sup>61</sup>
- GSK works to make medicines more affordable in developing countries as part of its access to healthcare commitment. These efforts include waiving patents, making structures of potential medicines open source, and making antimalarials available at not-for-profit prices in the world's poorest countries.<sup>62</sup>

### FINANCIAL SECTOR

Financial services and insurance sectors have the strongest role to play by leveraging and adapting their key business activities and services.

- **Financial services companies** such as domestic banks can provide green bonds and other financing mechanisms dedicated to infrastructure adaptations and the construction of climate-resilient infrastructure.
- **Multilateral development banks and investors** can guarantee loans to catalyze funding for climate resilience at the local level.
- **Insurance companies** can adapt their business models to insure against the rising risks of climate change by providing better access to insurance plans and services. They can do this through lower costs and premiums, advance payments, and more. A 2016 Ceres survey found that many U.S. health insurance companies show a general lack of understanding about climate risks, despite their significant risk of exposure to the impacts of climate change on health.<sup>63</sup>
- **Financial institutions** such as banks can develop products and services to meet the growing risks of climate change and help individuals manage the health risks of climate emergencies.
- The Green Climate Fund was adopted by 194 governments as a financial mechanism of the United Nations Framework Convention on Climate Change (UNFCCC), with the specific aim of helping countries mitigate and adapt to climate change. By 2011, it had gathered pledges worth US\$10.3 billion to support projects, including those on health, food, and water security. Other financing mechanisms available for business include those from the International Finance Corporation (IFC).
- The property insurance company Aviva is using big data to differentiate the insurance premiums based on varying flood risks for coastal houses. The financial services and insurance company USAA now offers discounts for homeowners living in fire-prone areas if they take steps to protect their houses from wildfires.<sup>64</sup>
- Using US\$96.6 million in investment capital from Allianz X, European company BIMA will expand its life, accident, health insurance, and teledoctor service products for low-income consumers in countries including Bangladesh, Ghana, Pakistan, and Sri Lanka. Mobile money is used as a means of payment, allowing individuals who do not have a bank account to access the services.<sup>65</sup>



Natural capital refers to the full range of services provided by biodiversity and ecosystem services, including land and water.

Businesses will need to adjust their operations to mitigate their impact on the environment indirectly through carbon emissions, and they will need to adapt their use of natural resources like water to directly protect people's health from the effects of climate change.

The environmental determinants of health include air quality, water quality and quantity, and food nutrition and security. In a climate changing world, every industry has a role to play in mitigating environmental impacts. While this can be done by reducing GHG emissions, some industries have a key role to play in climate adaptation to strengthen and protect natural capital and build climate resilience.

## WHAT ACTIONS CAN BUSINESS TAKE?

## HOW HAS IT BEEN DONE BEFORE?

### WATER-DEPENDENT SECTORS

- Sectors that have water-intensive or water-dependent processes—**including food, beverage, and agriculture; pharmaceuticals; and textiles sectors**—can innovate and rethink their processes to consume less water while ensuring business continuity.
- In addition to replenishing the water used in beverage production, The Coca-Cola Company works with a variety of public and multilateral partners to improve safe access to water and sanitation, protect watersheds, and provide water for productive use. The company estimates that these initiatives benefited nearly 3 million people by the end of 2016.<sup>66</sup>

### FINANCIAL SECTORS

- **Financial services companies** like insurers and investors can restrict their services and investments on the basis of how much pollution a company creates.
- The Natural Capital Declaration has been signed by the CEOs of more than 40 financial institutions as a means of building natural capital into private-sector accounting and decision-making.<sup>67</sup>
- Allianz has announced that it will stop insuring coal power plants and mines and pull out of the coal sector completely by 2040.<sup>68</sup>

### PHARMACEUTICAL SECTORS

- **Pharmaceutical companies** that rely on biodiversity for R&D and production can partner to identify biodiversity conservation risks and opportunities (as per the Nagoya Protocol)<sup>69</sup> and investigate potential semi-synthetic alternatives to using plants in the production of medicine.
- As part of its approach to conserving biodiversity, Merck KGaA seeks to minimize its impact on ecosystems through steps such as water management and climate impact mitigation. The company also conducts ecological risk assessments when acquiring new production sites.<sup>70</sup>
- As a supporter of the Convention on Biological Diversity, Johnson & Johnson has developed a biodiversity conservation action plan for its key facilities.<sup>71</sup> In addition, the company has a goal to conduct water-risk assessments at all of its manufacturing/R&D locations, and implement resource protection plans at high-risk sites.<sup>72</sup> This is to ensure that its operations do not impact surrounding communities, as well as ensuring supply chain continuity so that the company can make and get life-saving products to patients.

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## PHARMACEUTICAL SECTORS (CONT.)

- Novartis closely monitors water streams in and out of its manufacturing sites to prevent pharmaceuticals from contaminating wastewater.<sup>73</sup>



## Social and Political Capital

Social capital refers to strong relationships, collaborations, and bonds of mutual support and cooperation that are essential for addressing a systematic global challenge such as climate change. Political capital refers to the access to decision-making to shape policy environments to enable resilience.

For business, this means engaging in public-private partnerships and industry association collaborations to address health risks linked to climate change. It also means engaging in responsible lobbying and compliance with international and national regulatory frameworks. Political capital also has implications for the responsibility and accountability imbued in domestic government health ministries and other functions.

Tangential to all capital assets discussed above is the value of partnerships, coalition building, and cooperation to mitigate and combat the effects of climate change. In particular, the UN has identified gaps in financing, political will, and capacity building as holding back overall development progress. That's why the need for better partnerships to address these gaps is enshrined in UN SDG 17, focused on partnerships for the goals.

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### WHAT ACTIONS CAN BUSINESS TAKE?

### HOW HAS IT BEEN DONE BEFORE?

#### ALL SECTORS

- **All companies** can invest in engagement and dialogue, which are the main focus areas of social and political capital. Engagement with government is a way for companies to anticipate and adapt to shifts in the regulatory environment. It also provides a path to co-create and leverage solutions that benefit all stakeholders.
- Johnson & Johnson engages with medical professionals who see the impact of climate on their patients firsthand. The company uses these experiences to fuel the collection of stories and data that contribute to advocacy on health issues related to climate and pollution.

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#### HEALTHCARE SECTORS

- **Healthcare companies** can participate in responsible and/or soft lobbying. For example, they can set voluntary standards to inform and anticipate the development of government regulations.
- **Financial services and healthcare companies** can influence carbon and energy pricing, thus enabling regulatory frameworks that support climate change mitigation, reduce pollution, and lower the risk of climate-induced negative impacts on health.
- In its 2017 white paper on climate change, the European Federation of Pharmaceutical Industries and Associations committed to partnering with stakeholders to ensure that public policies are clear and stable and address the link between climate change and public health risks. The organization also committed to engaging with the broader healthcare community in developing future climate policies.<sup>74</sup>

## HEALTHCARE SECTORS (CONT.)

- **Healthcare and insurance companies** can advocate for tighter coordination among governments, the academic world, and the private sector. They can do this by working with governments and health authorities to influence policies that build more resilient health systems.
- **Healthcare companies** can leverage their expertise to enable the broader healthcare ecosystem to act on climate change and health. For instance, they can facilitate the education of physicians and other healthcare professionals on the specific effects of climate change on human health.
- Several pharmaceuticals companies, including Novo Nordisk, Pfizer, and Takeda, joined companies from other sectors in supporting the UN Global Compact's Caring for Climate initiative, through which they commit to increasing their efforts to fight climate change and expect governments to act the same way.<sup>75</sup>
- There are several healthcare partnerships focused on climate adaptation, including the Coalition for Sustainable Pharmaceuticals and Medical Devices (which includes companies such as AstraZeneca, Baxter, GSK, Johnson & Johnson, and Novo Nordisk).

# Recommendations

All companies can take action in areas under their direct control to build climate resilience and benefit health at the same time. They can also enable and influence other companies, partners, individuals, and policymakers by incentivizing, partnering, and communicating with others in their industries and supply chains—thereby influencing the broader market.

BSR's "Act, Enable, Influence Framework" represents a comprehensive approach for business, in which it is not merely an actor implementing rules and regulations, but instead an active participant in shaping its operating environment. While the examples given in the capital assets chapter relate to tactics, the recommendations that follow represent strategic approaches that businesses can use to drive solutions.

## ACT

**Companies can take action in areas under their direct control to reduce climate change impacts on health.**

- All companies and all industries have a role to play in mitigating the effect of pollution that results from or is linked to their business. Research shows that dirty air, water, and soil cost the global economy an estimated US\$4.6 trillion annually.<sup>76</sup> By accelerating climate change mitigation activities, companies can directly help reduce air pollution and related respiratory diseases. These activities include switching to low-carbon fuels, improving energy efficiency, and setting science-based targets. All of these steps will directly benefit human health by reducing human exposure to harmful pollutants.

- Businesses should assess and understand their own footprints and the extent to which they can contribute to addressing the growing health risks associated with climate change through their business, products, and services. A value chain approach will help companies identify activities, products, and regions where the impact may be most felt and where risks and opportunities may require more attention.
- Companies from sectors with a high potential to address the impacts of climate change on health (financial services; ICT; and food, beverage, and agriculture companies) should acknowledge their responsibility and adopt a relevant approach. These companies should assess climate risks, prioritize, and invest in the capital assets that are best aligned with their company profiles, value chains, and strengths. They can then leverage those assets for highest impact and positive value. In practice, this may require several steps: an initial assessment and articulation of where the company can make an impact, followed by investments to raise awareness (especially internally, to secure buy-in). This culminates in the development of a strategic plan that could include R&D and marketing (how will the company's current product portfolio fit in a climate changing world with shifting disease patterns and plunging agricultural yields?), production (to what extent will the company's industrial capacity need to evolve?), human resources (how will climate-related weather events affect the company's employees and supply chain workers?), and more.
- Pharmaceutical companies and organizations in the healthcare sector must ensure business continuity and use a climate lens when looking at issues like drug shortage prevention. It's the very nature of their business to provide solutions to health issues by manufacturing and supplying drugs to patients who need them. Pharmaceutical companies also should map their portfolios and identify the products and services that are most likely to be impacted by a changing climate,

and ensure that their quality assurance systems, risk-management structures, and supply chain management practices are adequately adapted to address climate-related risks.

## ENABLE

### **Companies can create mechanisms to respond to climate-related events more effectively, and to amplify positive impact on health and enable resilience.**

- Businesses can enable greater societal resilience by increasing public awareness of climate-related diseases and climate-related health impacts. Specifically, they can raise awareness among their own workforces and the broader ecosystems in which they operate. Steps might include training their workforce to better anticipate and respond to climate-related events.
- Business also can enable resilience by increasing the affordability of and access to products and services that help build climate and health resilience in tandem. Healthcare companies are at the forefront of this opportunity: For instance, they can invest in R&D to develop new drugs and/or new drug-delivery models that provide solutions to climate-related diseases. They also can make their products more affordable in disadvantaged populations and bottom-of-the-pyramid markets, which are likely to be more affected by climate change. Other sectors also can play a role: The food sector can ensure food supply, and financial institutions can develop new products and services to help individuals manage the health-related effects of climate change and build greater resilience.
- Businesses can collaborate across industries to build more effective solutions and scale impact. More than ever, companies that leverage and lean on other industries' strengths, experience, and expertise can help build resilience because they will be the ones cocreating solutions. In particular, the ICT sector should be a source of disruptive innovation and partnership for other industries looking to create new models and solutions that

address the rising threats posed by climate on public health. For instance, big data and artificial intelligence may help close the knowledge gap to help businesses better anticipate and prepare for the future.

- Businesses can collaborate to create joint positions on climate and health. Because health is a shared global issue, companies will need to increase their level of collaboration and collective reasoning to have a greater positive impact. Companies should consider building industrywide information, positions, and potentially voluntary standards to define what climate and health means to their sectors. In particular, the healthcare; food, beverage, and agriculture; financial services; and ICT sectors can recognize their roles and responsibilities and bring more resilience to achieve greater impact.

## INFLUENCE

**Companies can choose to influence the political, social, cultural, and economic conditions that can enhance resilience.**

- Businesses can seek to create an enabling environment for health and climate resilience through stronger community engagements. The risk of climate disasters on business and operations must not be neglected. For instance, severe damages to facilities in the healthcare or food, beverage, and agriculture sectors could prevent companies from delivering food or healthcare products, which would have devastating impacts on the health of communities. Whether it's supporting new infrastructure that is built to handle climate volatility or creating alert systems to minimize the impact of singular climate events, investments in resilient communities will also benefit companies in the long term.

- Businesses should continue to seek and leverage funding. The Paris Agreement has catalyzed a number of initiatives and funds that are available to support both public- and private-sector climate adaptation. Global health funding has increased annually, from 8.6 percent of GDP per capita in 2000 to almost 10 percent of GDP per capita in 2015.<sup>77</sup> It's likely that the financing available for climate-specific research and innovation will increase as progress toward climate goals accelerates.
- Businesses can seek to create an enabling environment for health and climate resilience by investing in stronger political and government engagements. Companies could support international initiatives to increase the impact of their voices. They could also try to anticipate and influence policies. A good example of that is We Mean Business, a coalition of nonprofit organizations that work with business to drive action on climate change as a means to influence policy that supports the transition to low-carbon economies.



# Conclusion

Health is a universal right and an equally universal challenge. After decades of progress on global health, there is clear evidence that climate change is posing a new kind of threat on health—one that could be devastating for humanity. The negative impacts of climate change on health are already palpable, and they are likely to increase drastically if nothing is done to mitigate climate change.

As described in this report, business has a clear role to play in addressing the risks and capturing the opportunities at the nexus of climate change and health. Not only can companies mitigate climate change and thereby prevent further negative health impacts, they can leverage their assets, products, services, and innovation to provide solutions that directly reduce climate-related burdens on health. There is room for every company to create actions that both build climate resilience and benefit health, and BSR encourages all companies to seize these opportunities.

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