Reducing Inequalities to Accelerate Poverty Reduction

SDG 1: End poverty in all its forms everywhere
SDG 10: Reduce inequality within and among countries

The first Sustainable Development Goal is to end poverty, in all its forms, everywhere by the year 2030. International organizations have been working on the task of eradicating poverty long before world leaders set the Sustainable Development Goals in 2015. Despite the great progress made from 1990 until now, the UN has estimated that 600 million people will still live in poverty by 2030 and efforts to meet the target had slowed before the COVID-19 pandemic already. It is now crucial to accelerate the global concerted action towards eradicating poverty in all geographies and for all people, regardless of age, sex and ability.

The tenth Sustainable Development Goal is to reduce inequalities both within and among countries. Amongst others, main targets are the reduction of income inequalities within the same country and the promotion of social, economic and political inclusion. Before the pandemic, inequality persisted in its various forms: income, wealth and opportunities. The pandemic is now exacerbating existing inequalities and is projected to push back the poorest countries a full 10 years on their SDG progress.

The emancipation of every individual in social, economic and political realms is embedded in both SDGs' targets as monetary-based poverty measures can miss a lot in the description of the deprivations faced by many. Poverty is often perceived as multidimensional, and includes health (poor health and malnutrition – also see SDG 3), education (measured in years of schooling and school attendance – see SDG 4), living standards (lack of adequate sanitation facilities and access to drinking water – see SDG 6, and access to electricity and availability of clean cooking fuel – SDG 7 – and technology, bad housing conditions), social exclusion, violence and disempowerment.

While the number of poor people, those living with less than $1.9 a day, is estimated to account for **700 million** people worldwide, the number of "multi-dimensional" poor is estimated to be of **1.3 billion**, 83% of which are located in Sub-Saharan Africa and South Asia.

Rural areas are home to 55% of the world population, yet out of all the individuals considered to be multidimensionally poor, 85% live in rural areas. The incidence and intensity of poverty are thus consistently higher in rural areas across the globe, while rural areas in different countries are characterized by different deprivations. Rural-urban differences are particularly pronounced in the

indicators for the living standards and the rural-urban divides are the largest in Sub-Saharan Africa, South Asia, and East Asia and the Pacific.

Your Challenge

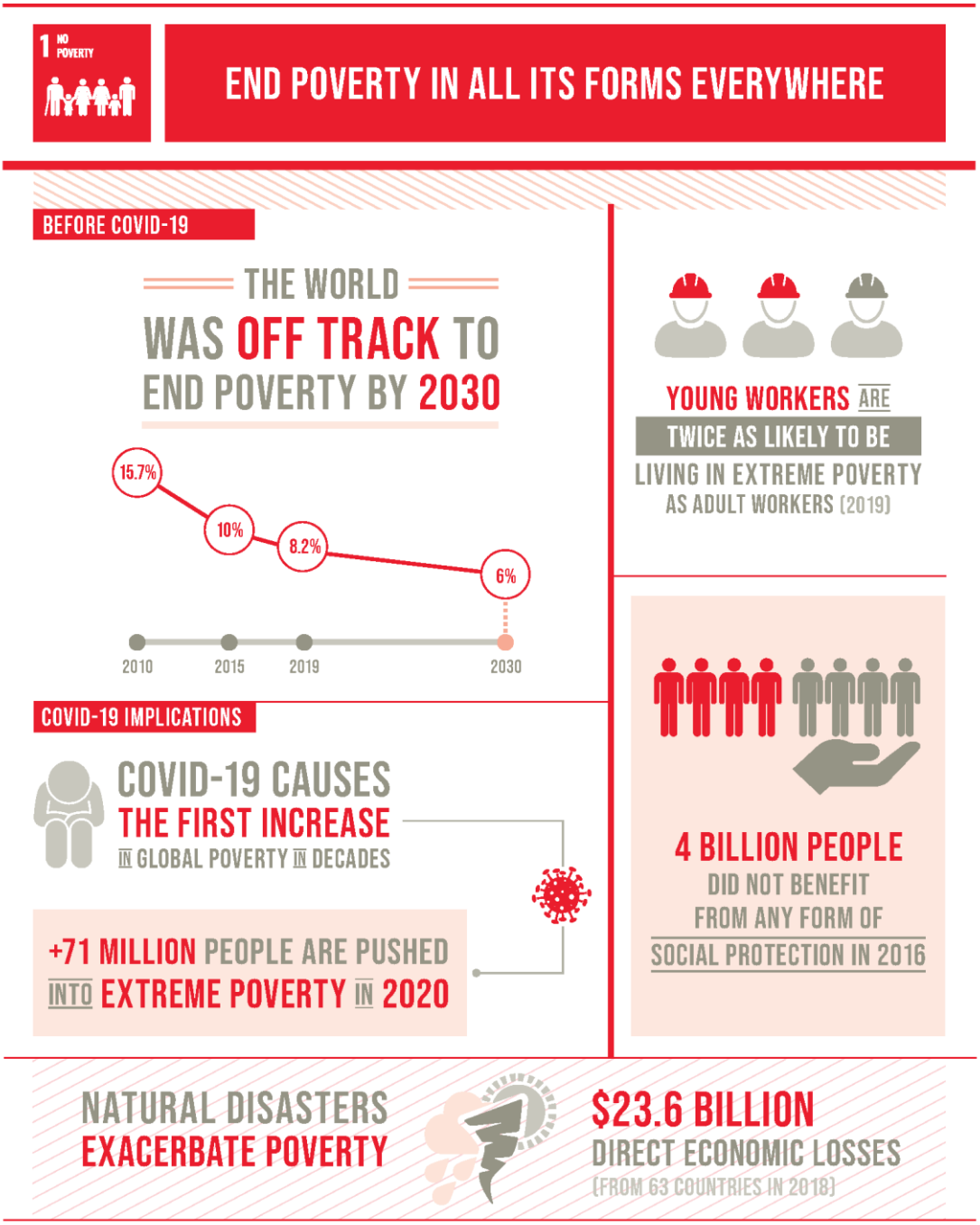
What can your company do to reduce (regional) inequalities and support the development of poor communities in multiple dimensions? You may focus on a specific geographical region or develop a solution which can be used across different geographies. You are encouraged to brainstorm on existing synergies which might benefit the progress towards multiple SDGs at once. Be sure to describe in detail how your solution could be distributed and/or operated efficiently, also in rural areas. Work on a solution (product, service or other) that your company could deliver, build the business case and prove that it will work, with impact!

Sources:

Demographics of the Extreme and Moderate Poor – ourworldindata.org
Global Multidimensional Poverty Index Report – ophi.org.uk
Gross domestic product per person adjusted for differences in purchasing power – gapminder.org

SDG 1 and 10 at a Glance…

Be sure to explore these goals further!
Further resources to get started: SDG 1 | SDG 10 – also consider SDG 3 | SDG 4 | SDG 6 | SDG 7.



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10 REDUCED INEQUALITIES

REDUCE INEQUALITY WITHIN AND AMONG COUNTRIES

BEFORE COVID-19

INCOME INEQUALITY WAS FALLING IN SOME COUNTRIES

GINI INDEX FELL
IN 38 OUT OF 84 COUNTRIES
(2010-2017)

THE GINI INDEX MEASURES INCOME INEQUALITY AND RANGES FROM 0 TO 100, WHERE 0 INDICATES THAT INCOME IS SHARED EQUALLY AMONG ALL PEOPLE, AND 100 INDICATES THAT ONE PERSON ACCOUNTS FOR ALL INCOME

GLOBAL RECESSION COULD SQUEEZE DEVELOPMENT AID TO DEVELOPING COUNTRIES

RESOURCE FLOWS FOR DEVELOPMENT

$420 BILLION (2017)	→	$271 BILLION (2018)

COVID-19 IMPLICATIONS

THE MOST VULNERABLE GROUPS ARE BEING HIT HARDEST BY THE PANDEMIC

OF COUNTRIES WITH DATA HAVE A COMPREHENSIVE SET OF MIGRATION POLICIES

When Hunger Meets Gender Inequality

SDG 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture
SDG 5: Achieve gender equality and empower women and all girls

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SDG2 and SDG 5 are both highly complex and highly crucial as they depict the foundations for human needs, growth and development. People who do not benefit from stable access to nutritious food will fall behind on quality education, access to economic opportunities and will suffer from poor health and well-being. Similarly, issues related to gender inequality, such as discrimination in society, the labor market, education or healthcare, as well as violence or other physical harmful practices will leave women and girls fall behind in society and the economy across the globe and will be detrimental for their well-being.

There often is a close relation between SDG 2 and 5. In order to ignite your brainstorming regarding interrelated trends and problems with regard to the two areas please have a look at the examples outlined below:

- The high representation of female farm workers on small-scale food producers which are disproportionally hit in case of adversity. Also the discrimination against women to own assets (e.g. land or generated income) can depict a source of food insecurity (e.g. when the land on which you plant food is taken away or you cannot decide how much of your income is used to buy nutritious food).

- The fact that male-headed households achieve higher labour productivity and earn a larger annual income compared to their female counterparts.

- The female role and standing in different cultures and regions, lack of access to sexual education, knowledge about and freedom of choice and (financial) access for contraceptives and the relation to high birth rates and subsequent resulting of malnutrition of children and families.

- The rising female poverty in so-called rich nations and children's nutrition – think of single mothers struggling to provide financial resources and childcare; and the impact this has on their own position as well as the children's nutrition and access to equal opportunities in society (both in terms of hunger and malnutrition as well as on overweight).

- The aging of society and elderly women who increasingly experience poverty with limited access to a nutritious or even a stable supply of food, and might also be subject/ vulnerable to abuse in their situation.

- Desperation due to hunger (and gender-based discrimination) which pushes children into child marriage or makes them more vulnerable to child labor, human trafficking and sexual or other types of exploitation.

- The fact that most women carry more household burden in the home and purchase and prepare food. Next to financial resources, the adoption of a healthy and nutritious diet is subject to different influences, such as lifestyle, household participation, knowledge, time, access etc.

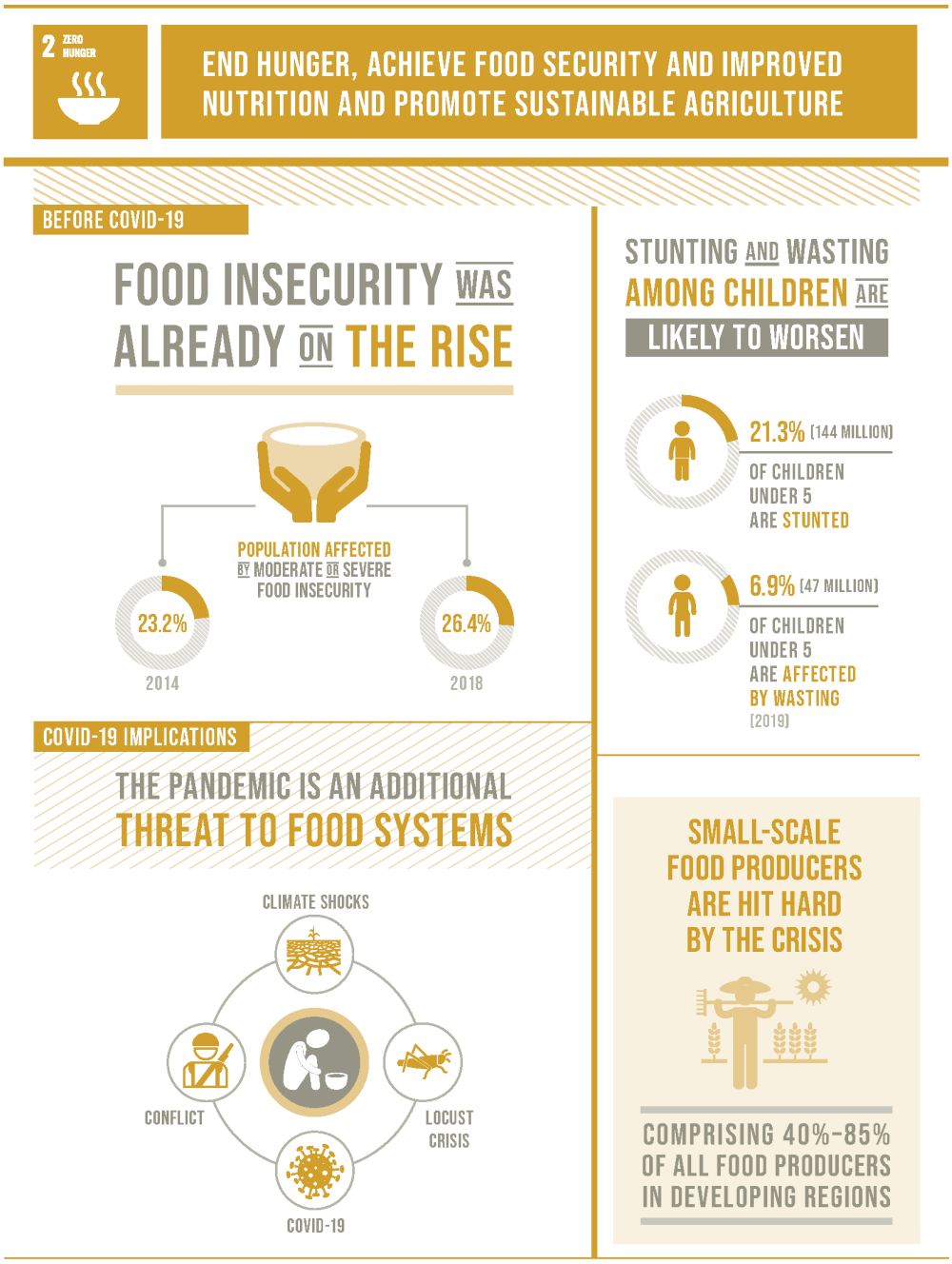
- The increased risk of adverse maternal and neonatal outcomes due to anemia and malnutrition.

Your Challenge

What can your company do (alone or in collaboration with other member companies or organizations) to make an impact on both SDG 2 and 5? Identify an area in which the close relation between SDG 2 and 5 is apparent (either pick one of the examples above or come up with your own) and elaborate the nature of the problem. Work on a solution (product, service or other) that your company could deliver, build the business case and prove that it will work, with impact!

SDG 2 and 5 at a Glance…

Be sure to explore these goals further!
Further resources to get started: SDG 2 | SDG 5



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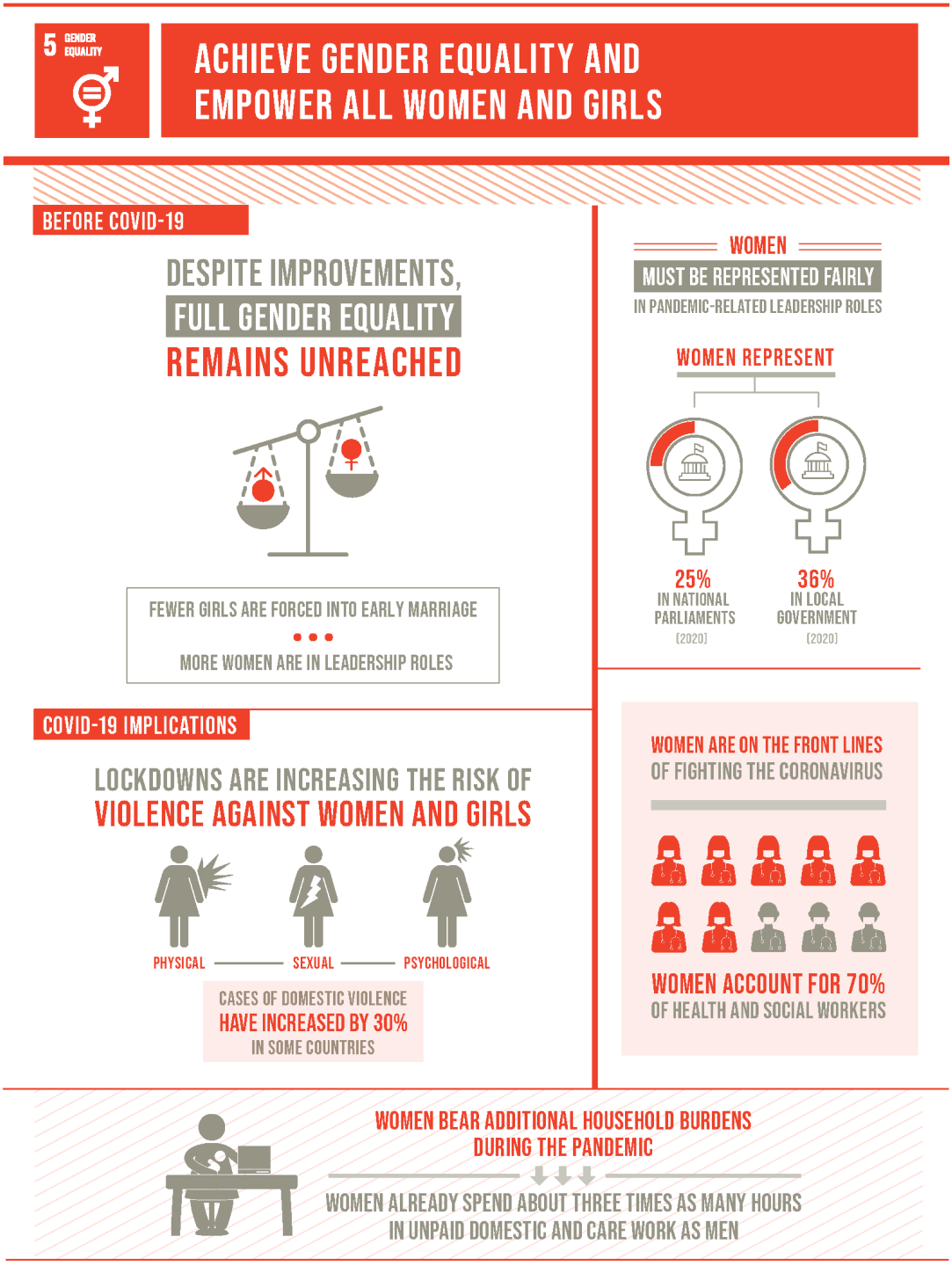

Can the COVID-19 Pandemic Provide Momentum to Improve Global Health Infrastructure?

SDG 3: Ensure healthy lives and promote well-being for all at all ages
SDG 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

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The UN's third Sustainable Development Goal is to "ensure healthy lives and promote well-being for all at all ages". Several health-related targets are set by the year 2030, including the following:

- Reduce maternal mortality ratio to less than 70 per 100,000 live births;
- End all preventable deaths under 5 years of age;
- Fight communicable diseases by ending the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases;
- Achieve universal health coverage, including financial risk protection, access to quality essential healthcare services and access to safe, effective, quality and affordable essential medicines and vaccines for all;
- Support research, development, and universal access to affordable vaccines and medicine;
- Increase health financing and support health workforce in developing countries;
- Improve early warning systems for global health risks.

As described on the UN's SDG website, prior to 2020, great progress was made in terms of global health, including critical areas such as child and maternal health, immunizations, tuberculosis, HIV, malaria, and other communicable diseases. Despite this, less than half of the global population was covered by essential health services. The COVID-19 global pandemic has paused much of this progress and it is estimated that healthcare disruptions could reverse decades of improvements and could lead to a spike in illness and deaths from communicable diseases in lesser developed countries. Clearly the goals set for 2030 are at risk.

The global COVID-19 pandemic has strained healthcare infrastructure globally, including in wealthier countries with well-developed healthcare systems. Each of the selected 2030 targets laid out above have a similar theme in that they all require a strong infrastructural foundation for success. This provides an interesting tie into SDG 9, which recognizes the need to "build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation". Included in the SDG is Target 9.5, which aims to "enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, substantially increasing public and private research and development spending". SDG 9 also includes goals relating

to physical infrastructure, facilitating development of industry, and sustainable infrastructure in developing countries.

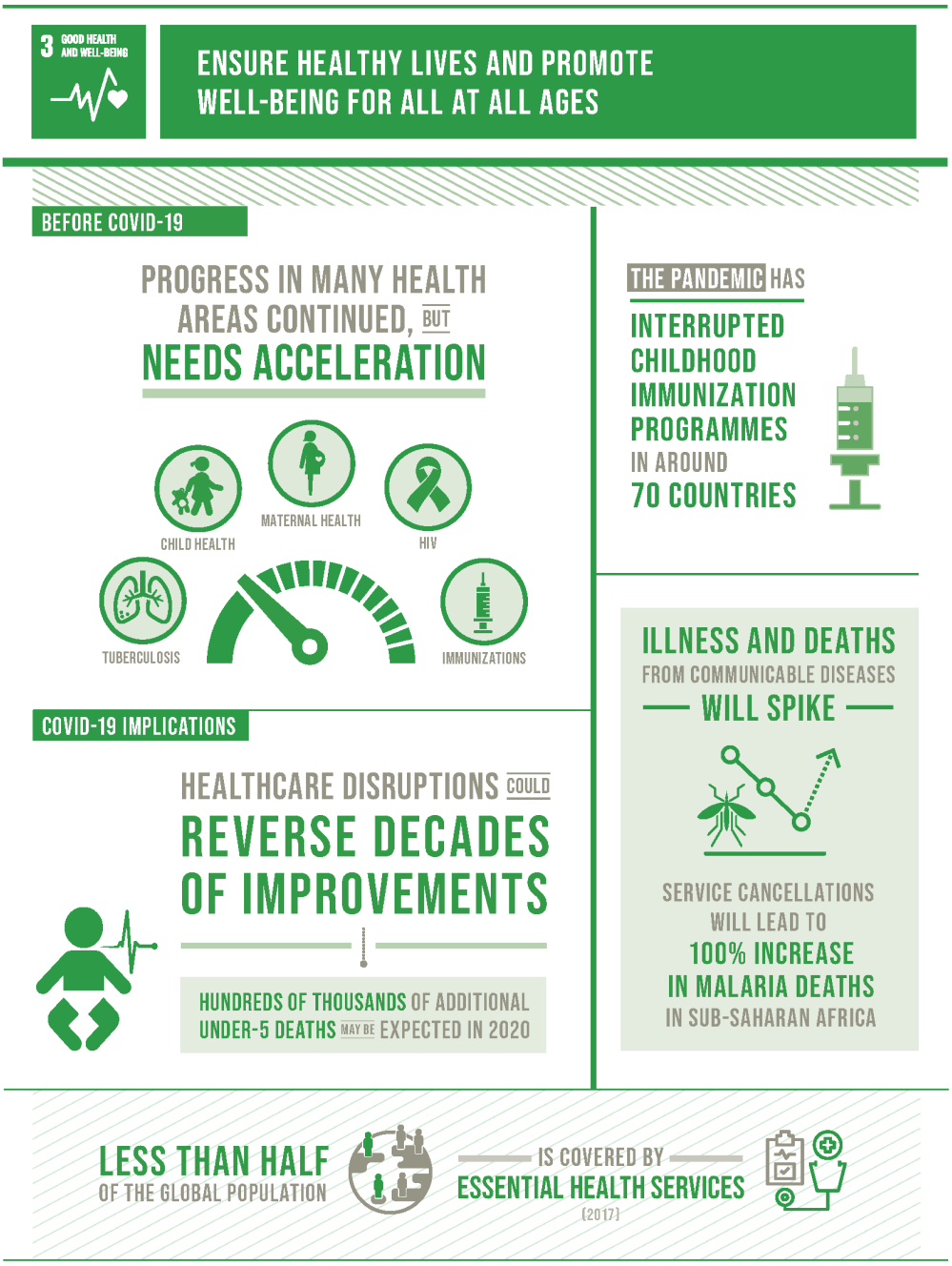
As outlined above, the COVID-19 pandemic has 'pushed the pause button' on many health-related initiatives, but it has also emphasized the importance of community health and has the potential to improve our global health infrastructure. Consider, for example, the speed at which vaccines were researched, developed, tested, and brought to market. Consider the speed at which governments have created capacity to treat sick patients and to vaccinate at scale, in wealthier and developing countries. And many lower-income countries are just at the beginning of their vaccination process and will need to create or roll out infrastructure as well. This raises an interesting question: is it possible to leverage the lessons learned from COVID-19 and the ongoing vaccination rollout to permanently improve healthcare infrastructure and resume progress on the 2030 SDG targets?

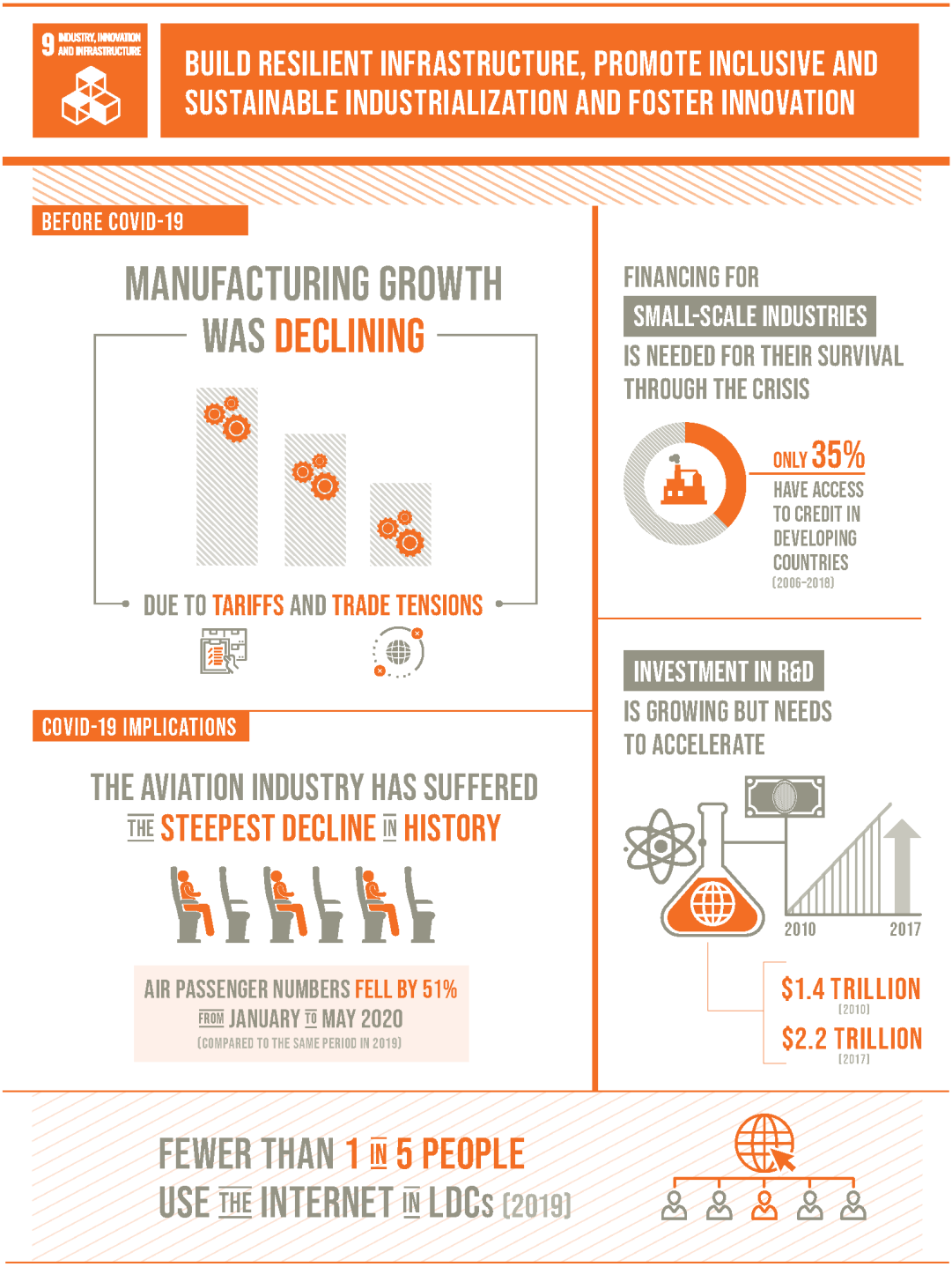
Your Challenge

What can your company do to build back better and support tangible progress in the healthcare infrastructure? Is there a way to seize momentum from the current focus on global health to further support the goal of healthcare *for all* and its related targets? Work on a solution (product, service or other) that your company could deliver, build the business case and prove that it will work, with impact!

SDG 3 and 9 at a Glance…

Be sure to explore these goals further!
Further resources to get started: SDG 3 | SDG 9




9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
BUILD RESILIENT INFRASTRUCTURE, PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION AND FOSTER INNOVATION
BEFORE COVID-19
MANUFACTURING GROWTH WAS DECLINING
DUE TO TARIFFS AND TRADE TENSIONS
FINANCING FOR SMALL-SCALE INDUSTRIES IS NEEDED FOR THEIR SURVIVAL THROUGH THE CRISIS
ONLY 35% HAVE ACCESS TO CREDIT IN DEVELOPING COUNTRIES (2006-2018)
INVESTMENT IN R&D IS GROWING BUT NEEDS TO ACCELERATE
2010
2017
$1.4 TRILLION (2010)
$2.2 TRILLION (2017)
COVID-19 IMPLICATIONS
THE AVIATION INDUSTRY HAS SUFFERED THE STEEPEST DECLINE IN HISTORY
AIR PASSENGER NUMBERS FELL BY 51% FROM JANUARY TO MAY 2020
(COMPARED TO THE SAME PERIOD IN 2019)
FEWER THAN 1 IN 5 PEOPLE USE THE INTERNET IN LDCs (2019)

Rethinking Access to Quality Education to Promote a Sustainable Economy

SDG4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
SDG 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

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In today's world, we have greater access to information than ever before. Yet, a significant portion of the global populace has limited access or none at all. Humans thrive when they can learn and grow. This is why SDG 4 aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

Investing in education is essential to achieve SDG 8 and promote sustained, inclusive and economic growth. Placing an emphasis on education improves our ability as a society to provide full and productive employment and decent work for all.

For example, promoting equal access to affordable and quality technical, vocational and tertiary education increases the number of individuals who possess the necessary skills for employment and entrepreneurship. Additionally, emphasizing sustainable development, global awareness, and inclusivity throughout education will encourage sustainable progress and opportunities for all in the economy. By supporting and implementing development-oriented educational policies, we strengthen the workforce and stimulate the growth needed for a prosperous future.

Progress towards these goals has fluctuated over the years. Most notable is the impact of COVID-19, which exposed the inequalities embedded within our education and economic systems. Students in resource-scarce communities were not equipped with the proper tools to shift to a remote learning environment, which remains out of reach for over 500 million students. Vocational skill efforts also became stagnated for those looking to enter or re-enter the workforce. Additionally, the pandemic created some of the worst economic conditions since the great depression, with over 1.6 billion workers in the informal economy alone losing or at risk of losing their livelihoods.

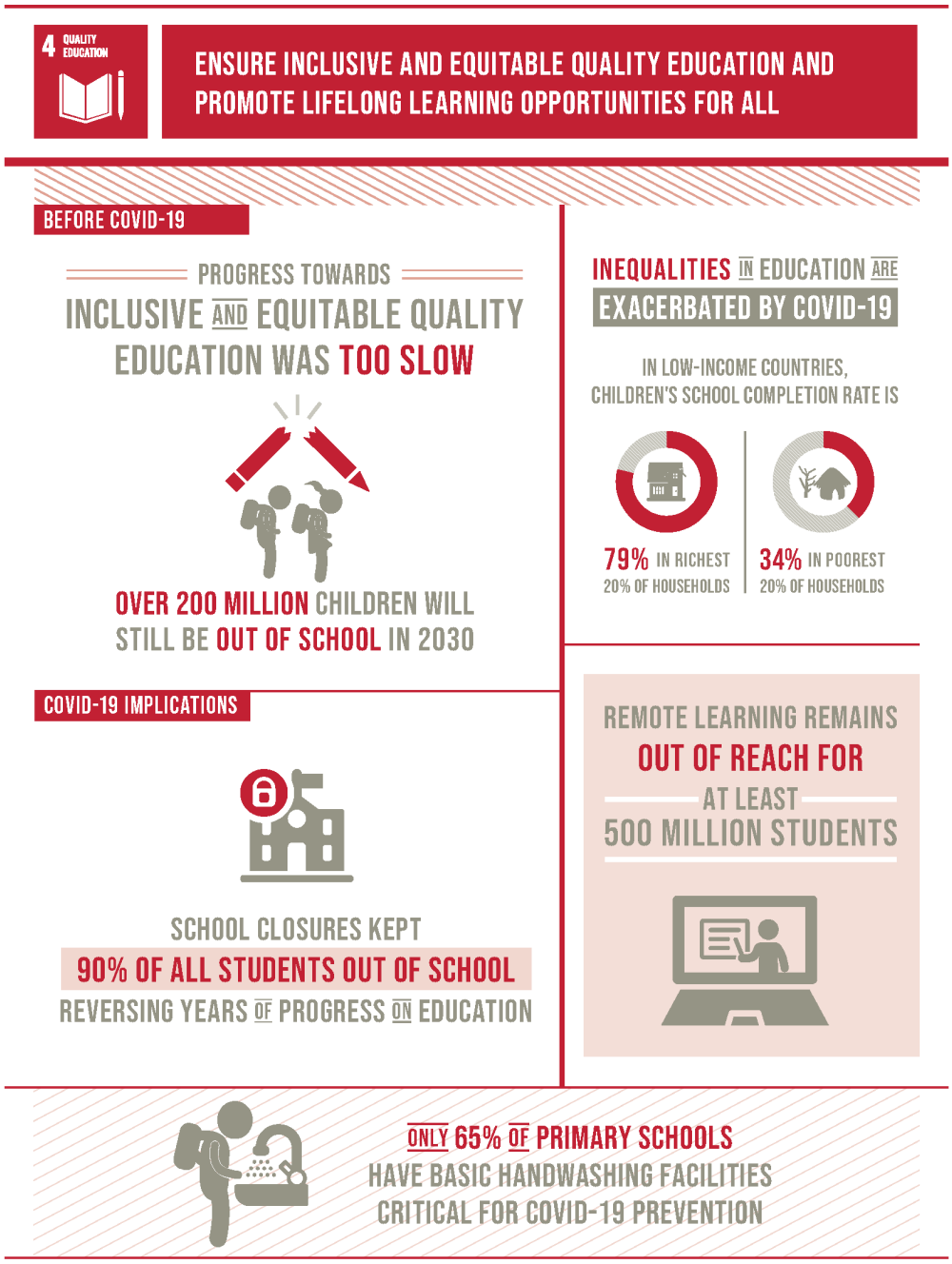
While the negative impact of COVID-19 is evident, it has encouraged us to rethink how we can increase access to quality education and create decent work for all. Our rapidly evolving world allows for advanced solutions within both our education system and global economy.

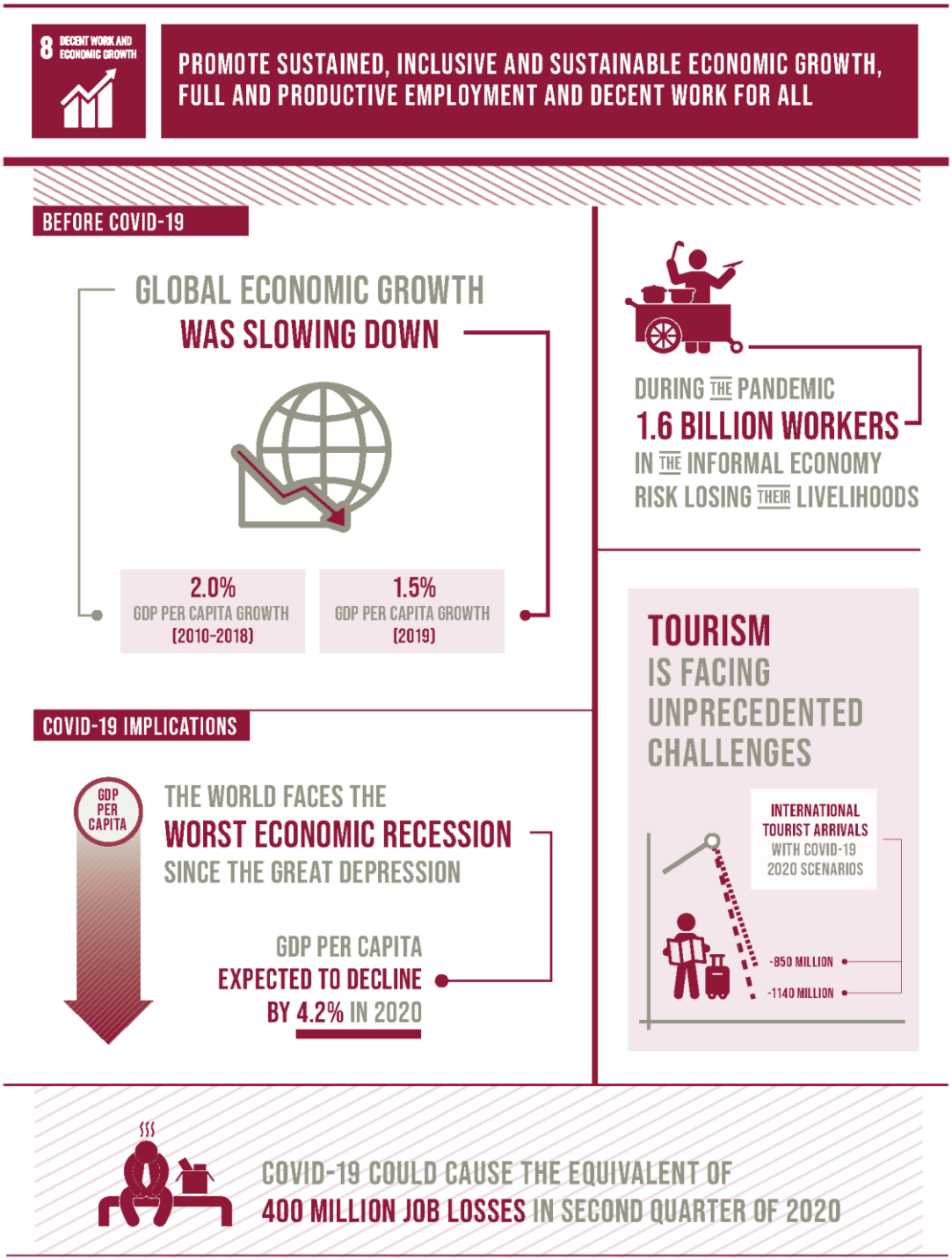
Your Challenge

What can your company do to improve educational programs and initiatives that better prepare individuals for roles within a sustainable economy? Barriers to quality education hinder progress on SDG 8. Therefore, your solution should promote inclusion and access, and provide a direct link to improved economic output. Contemplate which economic sectors are best suited to accommodate sustainable growth and an influx of prepared workers. Further, consider how your company can utilize technology and innovation to meet these goals. Work on a solution (product, service or other) that your company could deliver, build the business case and prove that it will work, with impact!

SDG 4 and 8 at a Glance…

Be sure to explore these goals further!
Further resources to get started: SDG 4 | SDG 8




8 DECENT WORK AND ECONOMIC GROWTH
PROMOTE SUSTAINED, INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL
BEFORE COVID-19
GLOBAL ECONOMIC GROWTH
WAS SLOWING DOWN
2.0%
GDP PER CAPITA GROWTH
(2010-2018)
1.5%
GDP PER CAPITA GROWTH
(2019)
COVID-19 IMPLICATIONS
GDP PER CAPITA
THE WORLD FACES THE
WORST ECONOMIC RECESSION
SINCE THE GREAT DEPRESSION
GDP PER CAPITA
EXPECTED TO DECLINE
BY 4.2% IN 2020
DURING THE PANDEMIC
1.6 BILLION WORKERS
IN THE INFORMAL ECONOMY
RISK LOSING THEIR LIVELIHOODS
TOURISM
IS FACING
UNPRECEDENTED
CHALLENGES
INTERNATIONAL TOURIST ARRIVALS
WITH COVID-19
2020 SCENARIOS
-850 MILLION
-1140 MILLION
COVID-19 COULD CAUSE THE EQUIVALENT OF
400 MILLION JOB LOSSES IN SECOND QUARTER OF 2020

Clean Water and Sanitation for All

SDG 6: Ensure availability and sustainable management of water and sanitation for all

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The goal of SDG 6 is to "ensure availability and sustainable management of water and sanitation for all" by the year 2030. To achieve this goal, the UN has set 6 key targets towards which all member countries must make progress. Furthermore, the UN has identified 5 domains of opportunity to either enable or accelerate progress towards the targets. For this competition, 3 domains of opportunity have been selected:

1) Supporting **knowledge and capacity development** to compensate for lack of human resources.
2) Enabling **data acquisition and monitoring** of progress as well as a basis for efficient decision and policy making.
3) Developing **innovative solutions** through the use of new technologies to enable more affordable alternatives than have currently be provided.

Target 6.1: Achieve access to safe and affordable drinking water

Achieving this target means extending services to 844 million people who still lack even a basic water service, and progressively improving the quality of services to 2.1 billion people who lack water accessible on premises, available when needed and free from contamination (safely managed drinking water). Only 1/5 countries below 95% coverage are on track to achieve universal basic water services by 2030. What could be a cheap solution to decontaminate or prevent contamination of water?

Target 6.2: Achieve access to sanitation and hygiene and end open defecation

Some 892 million people still practice open defecation, the majority of whom live in just two regions: Central & Southern Asia and sub-Saharan Africa. Only 10% of countries below 95 per cent coverage is on track. What could be a cheap and disposable solutions that people can use for sanitation in the absence of toilets?

Target 6.3: Improve water quality, wastewater treatment and safe reuse

Collecting, treating and reusing wastewater from households and industry, reducing diffuse pollution and improving water quality are major challenges for the water sector. Many countries lack the capacity to collect and analyze the data needed for a full assessment of where countries on this target. What could be a solution that enables the re-use of water in areas with limited water network infrastructure (say, lack of state provided water pipes)?

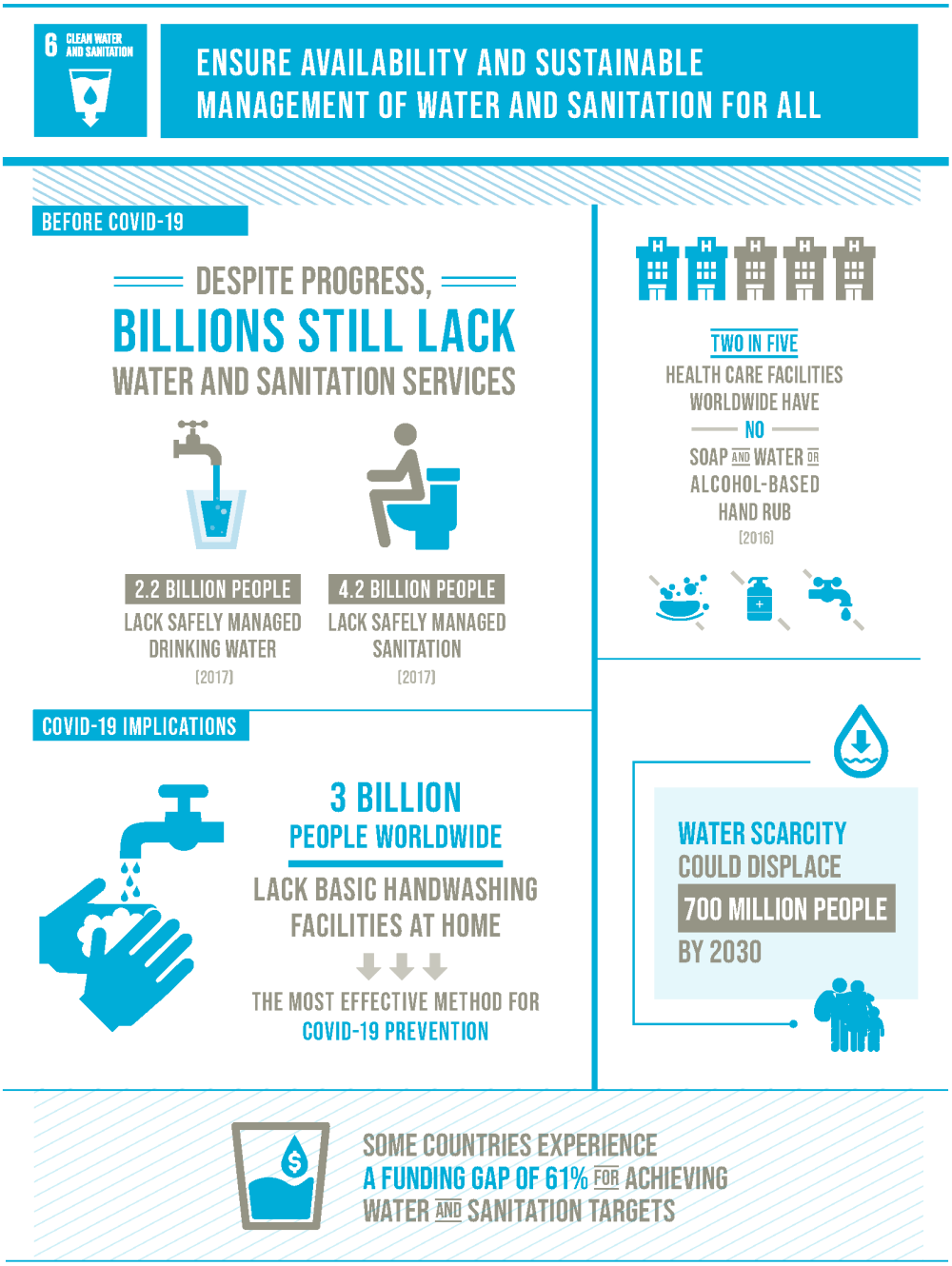
Some inspirations and resources for data that gives a global view of progress in each country.

Your Challenge

What can your company do to address any of the 3 selected SDG 6 targets? Where possible, frame your solution in the context of the 3 domains of opportunity that best fits your solution. In addition, you are encouraged to think of how your approach can provide data to facilitate assessment of how your solution contributes to meeting the target that you're addressing. Bear in mind the level of data analysis capacity (or lack thereof) in the countries that can benefit from your solution. Work on a solution (product, service or other) that your company could deliver, build the business case and prove that it will work, with impact!

SDG 6 at a Glance…

Be sure to explore this goal further!
Further resources to get started: SDG 6



Climate Action for Business

SDG 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
SDG 12: Ensure sustainable consumption and production patterns
SDG 13: Take urgent action to combat climate change and its impacts

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Climate action is more than ever required. The year 2019 was the second warmest year on record and while in 2020 global carbon dioxide emissions fell by 6.4% as a result of the COVID-19 pandemic, this still falls short of the required annual 7.6% reduction to limit global warming to a 1.5% rise.

Simultaneously, waste reduction is another big challenge that impacts all levels of society and the economy. For larger manufacturing companies, annual targets for reducing hazardous waste, diverting waste from landfills, but also waste management needs to be established at business unit level to drive ownership and accountability.

Some companies see their commitment to finding solutions for these challenges not only as a commitment to sustainability but also as a (business) opportunity to create products and solutions that add value for society, firmly anchored in their vision.

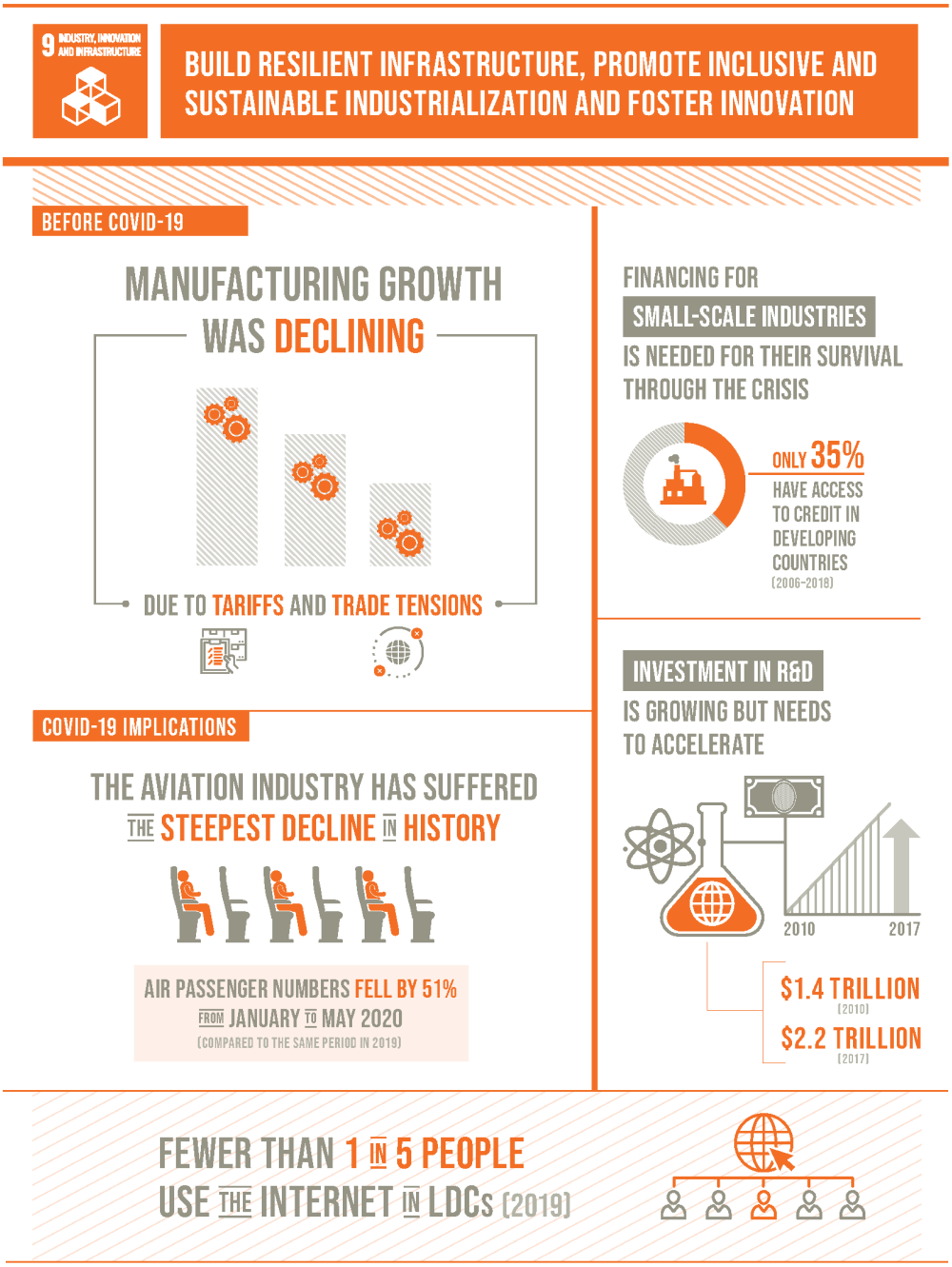
Reducing or even eliminating greenhouse gas emissions and waste are two of the most impactful actions companies can take. More and more companies are committing to become carbon neutral and waste-free / circular in their operations and facilities by 2035 or 2050. These initiatives represent a continuation of companies' sustainability efforts since many years. But how can this be accelerated through measurement, innovation and collaboration? Several technologies do exist but are only available at Pilot or Proof of Concept level. What innovations can be brought to industries and individual companies that make it easier for them to adapt and get propelled into a more sustainable way of doing business?

Your Challenge

What can your company do to make it significantly and demonstrably easier for industries or individual companies to adapt and get propelled into a sustainable, carbon neutral and waste-free way of doing business and make measurable progress towards SDGs 9, 12 and 13? Think of cross-fertilization between industries: what experiences from other industries can be brought to heavily polluting manufacturing industries who also generate tremendous amounts of waste that can't be recycled easily? Think of concrete actions, ease of development and implementation, immediate and long term results, enablers. Work on a solution (product, service or other) that your company could deliver, build the business case and prove that it will work, with impact!

SDG 9, 12 and 13 at a Glance…

Be sure to explore these goals further!
Further resources to get started: SDG 9 | SDG 12 | SDG 13



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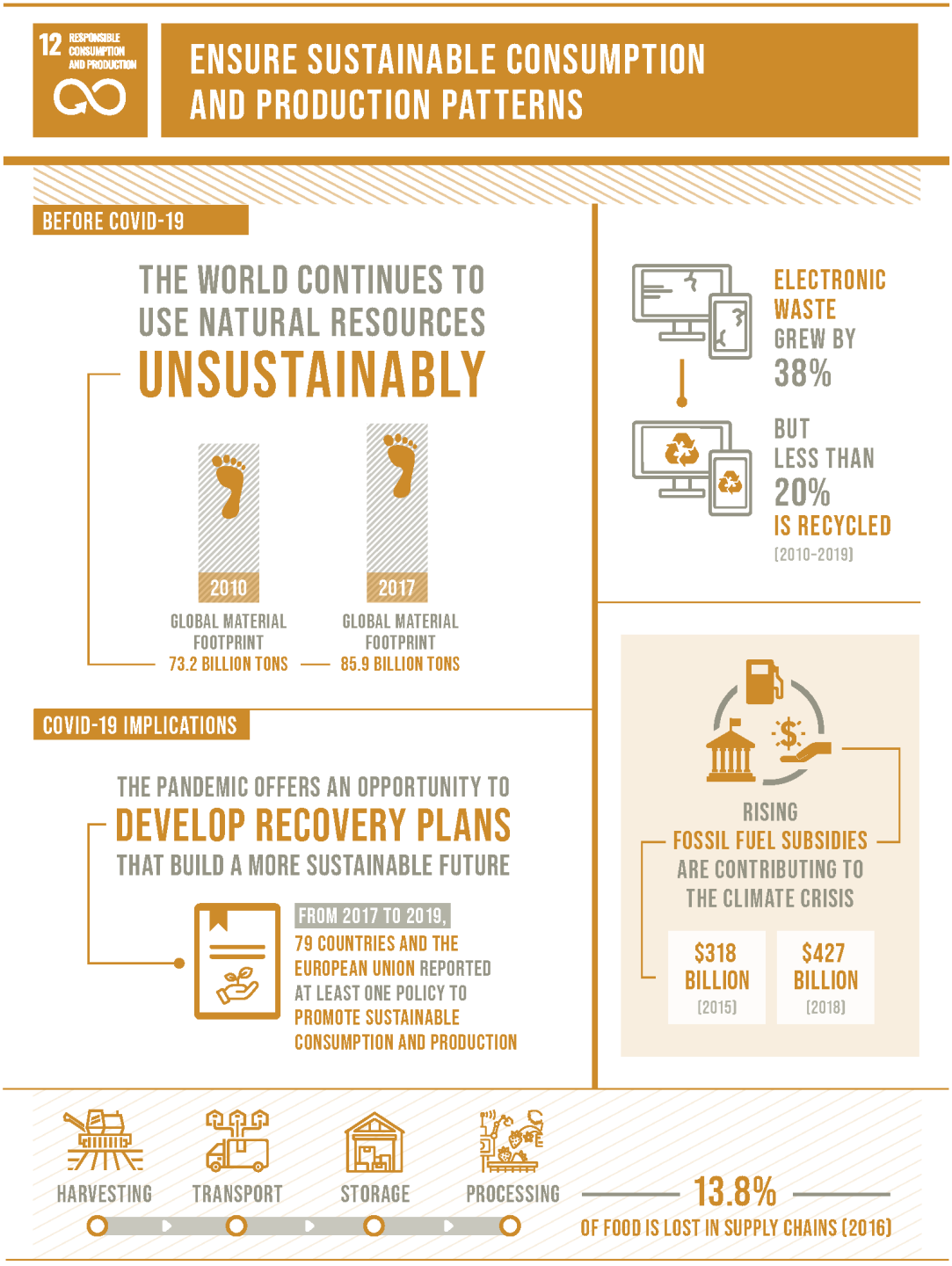

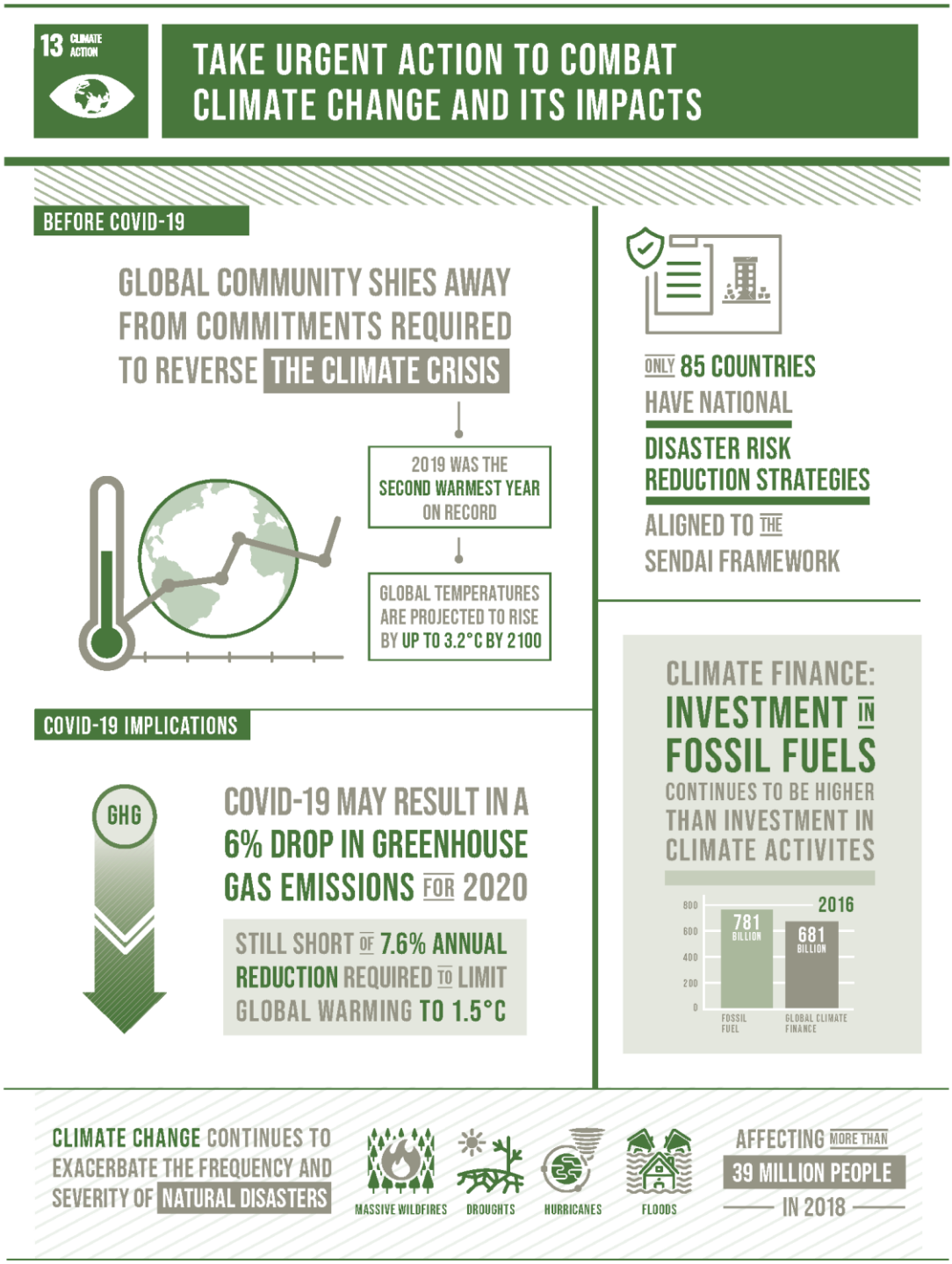
13 CLIMATE ACTION
TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS
BEFORE COVID-19
GLOBAL COMMUNITY SHIES AWAY FROM COMMITMENTS REQUIRED TO REVERSE THE CLIMATE CRISIS
2019 WAS THE SECOND WARMEST YEAR ON RECORD
GLOBAL TEMPERATURES ARE PROJECTED TO RISE BY UP TO 3.2°C BY 2100
ONLY 85 COUNTRIES HAVE NATIONAL DISASTER RISK REDUCTION STRATEGIES ALIGNED TO THE SENDAI FRAMEWORK
COVID-19 IMPLICATIONS
GHG
COVID-19 MAY RESULT IN A 6% DROP IN GREENHOUSE GAS EMISSIONS FOR 2020
STILL SHORT OF 7.6% ANNUAL REDUCTION REQUIRED TO LIMIT GLOBAL WARMING TO 1.5°C
CLIMATE FINANCE: INVESTMENT IN FOSSIL FUELS CONTINUES TO BE HIGHER THAN INVESTMENT IN CLIMATE ACTIVITES
2016
800
600
400
200
0
781 BILLION
681 BILLION
FOSSIL FUEL
GLOBAL CLIMATE FINANCE
CLIMATE CHANGE CONTINUES TO EXACERBATE THE FREQUENCY AND SEVERITY OF NATURAL DISASTERS
MASSIVE WILDFIRES
DROUGHTS
HURRICANES
FLOODS
AFFECTING MORE THAN 39 MILLION PEOPLE IN 2018

Accelerating Innovation for Sustainable Cities and Infrastructure

SDG 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
SDG 11: Make cities and human settlements inclusive, safe, resilient and sustainable

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Since decades we are facing continuing urbanization on a global scale, which will lead to two-thirds of the global population living in cities by 2050. This development causes overcrowded cities, inadequate housing for many, especially in developing countries, overburdened infrastructure and services (roads, waste collection, sanitation systems) and increased air pollution.

The global issues caused by urbanization are worsened by COVID-19, and have an even larger impact in poor, densely populated areas. In crowded cities, it has been hard for individuals and communities to live by the recommended measures to mitigate the effects of COVID-19, like social distancing and self-isolation.

This calls for governments to accelerate innovative city and infrastructure planning to create resilient and healthy cities. The rising issues are in many areas too comprehensive for governments to deal with on their own. So we need the corporate and academic world to be part of the solution as well. The pandemic surfaced in the middle of a digital revolution. The growing cities are not just melting pots of culture and connected communities, they are taking a role at the forefront of innovation, relying on technology to combat many issues.[1] Although transforming smart cities comes at a huge cost, many cities are using the opportunity to increase their technology investment in smart city infrastructure. On the one hand they are reducing the spread of the virus, while on the other hand rejuvenating economic growth in their cities.

Some examples. Singapore uses new tech tools to respond to the pandemic with data analytics, artificial intelligence and sensors to modernize government initiatives. The UAE government ensures that guidelines regarding social distancing and lockdown are obeyed by implementing an AI-based system that helps local police wearing smart helmets equipped with a thermal camera to detect those infected with COVID-19 from a safe distance. The system also helped identify people who were on the roads without the necessary authorization. And in India cities have set up operational integrated command and control centers, serving as quasi-war rooms to make emergency decisions, manage contact tracing activities and monitor lock down efficiency. Dashboards are used to identify quarantine violations, deliver essential commodities and conduct emergency alert response.
These measures are raising concerns about privacy and fundamental human rights where digital technologies such as contact tracing and surveillance tools are used. Yet, when data is used securely,

these technologies can deliver major benefits also post-pandemic. Collaboration by organizations to protect data is the way forward. And citizen engagement should also be part of it.

And here are some other examples of developments we have seen during the pandemic that could impact how we organize our cities. Education, work and entertainment nowadays come at the click of a mouse. This could create an opportunity for city governments to accelerate infrastructure improvements and for urban developers to fundamentally change how they build the next generation of cities. Urban planning for the future can include sustainability measures such as green roof gardens, different use of transportation vehicles, more use of AI in decision making.[2] The pandemic showed how (public) space can be transformed for other uses, such as outdoor retail expansions, health corridors and parking spaces converted into outdoor patios. Telehealth services also rapidly improved. And there are many initiatives around the world to train for jobs resilient to market swings, incentivise switching to electricity, support industries that produce lower-carbon goods.[3]

Cities are cooperating with the private sector to apply the use of technology across public (digital) infrastructures to plan for a climate smart, resilient growth.[4]

Your Challenge

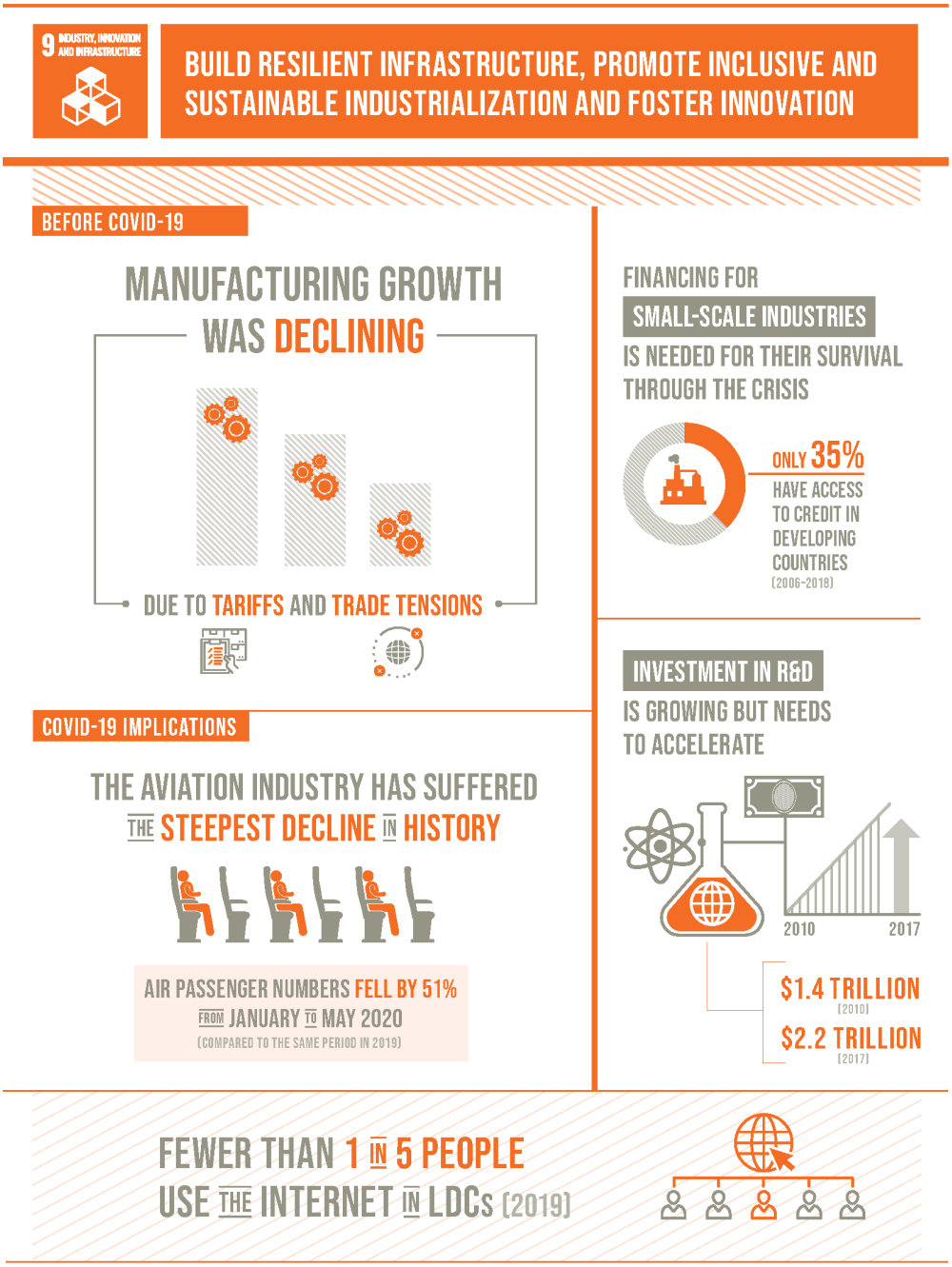
What can your company do to increase the synergies between SDG 9 and 11 and solve some of the most pressing problems of increasing urbanization? From the targets in SDG 9, identify areas that could simultaneously contribute to the targets in SDG 11. Consider the many challenges growing cities face and identify an impactful pathway to make cities more inclusive, safe, resilient and sustainable – in a certain region, or in multiple settings. Work on a solution (product, service or other) that your company could deliver, build the business case and prove that it will work, with impact!

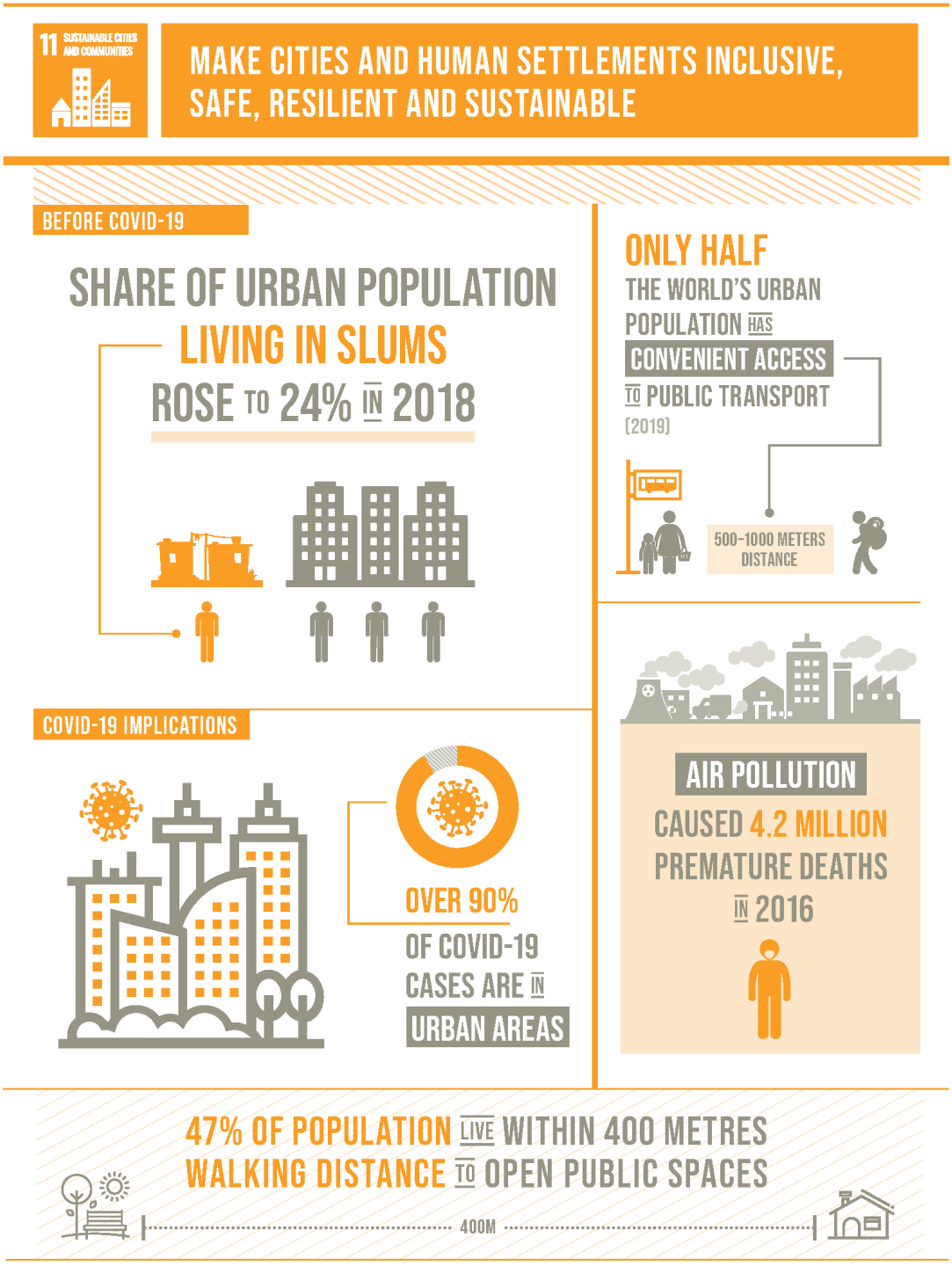
Sources:

1. GCN, how COVID accelerated smart city development by Siva Sooryaa Muruga Thambiran
2. Future Cities Canada: Resilient Cities, Post Covid-19, Accelerating Innovation
3. National Observer: COVID-19 crisis offers Canada route to low carbon economy
4. Eria.org: Three Narratives for Smart Livable Cities in the Post COVID-19 Era

SDG 9 and 11 at a Glance…

Be sure to explore these goals further!
Further resources to get started: SDG 9 | SDG 11




11 SUSTAINABLE CITIES AND COMMUNITIES
MAKE CITIES AND HUMAN SETTLEMENTS INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE
BEFORE COVID-19
SHARE OF URBAN POPULATION LIVING IN SLUMS ROSE TO 24% IN 2018
ONLY HALF
THE WORLD'S URBAN POPULATION HAS CONVENIENT ACCESS TO PUBLIC TRANSPORT (2019)
500–1000 METERS DISTANCE
AIR POLLUTION
CAUSED 4.2 MILLION PREMATURE DEATHS IN 2016
COVID-19 IMPLICATIONS
OVER 90% OF COVID-19 CASES ARE IN URBAN AREAS
47% OF POPULATION LIVE WITHIN 400 METRES WALKING DISTANCE TO OPEN PUBLIC SPACES
400M

4th Industry Revolution: The Petrochemical Industry

SDG 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
SDG 13: Take urgent action to combat climate change and its impacts
SDG 14: Conserve and sustainably use the oceans, sea and marine resources for sustainable development

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During the last 100 years, the petrochemical industry had to reinvent multiple times in order to make sure it would stay relevant for customers, markets and society. The industry has developed products which allowed end markets to be more competitive, to reduce weight, to save energy and to make sure that there is less food waste and the shelf-life of food was extended in a safe and correct manner. Plastics, for instance, form a major part of the petrochemical production and have become essential components of a whole range of products and packaging because they're durable, lightweight, and cheap. But though they offer numerous benefits, plastics and other petrochemical products originate from fossil fuels and emit greenhouse gases from cradle to grave.

The petrochemical industry produces products which you find in many end user applications such as:
- Food packaging,
- Solar panels and windmills,
- Hand gel, beauty care, protective masks,
- Coatings and adhesives,
- Building and construction products,
- Consumer appliances such as isolation products, sports shoes and textiles – non-woven,
- Automotive.

The industry has now entered into the 4th industrial revolution where it needs to address new challenges. How to continue to make above products without CO_2, as well as make them circular? Plastic waste is a major issue for society and the ecosystem and in the industry view, plastic is too valuable to end up in nature! Plastic pollution is not just an oceans issue, it's a climate issue, it's a human health issue, it's a business issue.

The industry focuses on various aspect to address the plastic challenge:
- Design products for recycling, so that after use by the consumer, the industry can easily bring them back into either mechanical recycling or feedstock recycling;
- Mechanical recycling;

- Feedstock recycling, this is a process where the industry converts plastic waste via pyrolysis, gasification or other technologies back into oil/feedstock. From this oil the industry produces polymers for food packaging like virgin plastics.

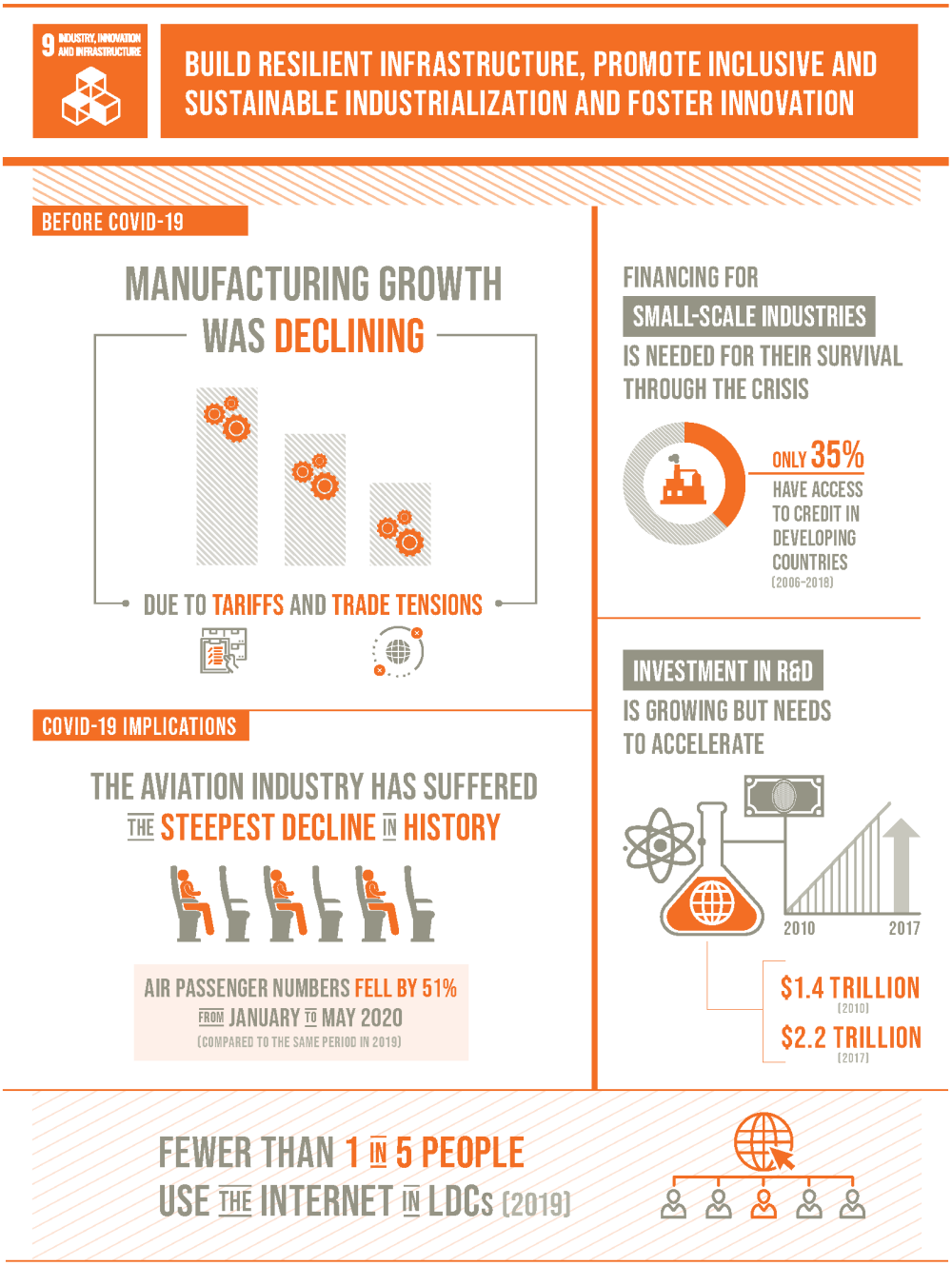
As you can imagine the cost of the energy transition (CO_2 reduction and circular) is significant. The upfront investment in R&D, new assets and higher operation cost are significant as well. Therefore, all the alternatives to make products carbon neutral and circular are – certainly at the moment – significantly more expensive. How to overcome this challenge in such a way that both industry and consumers can keep up?

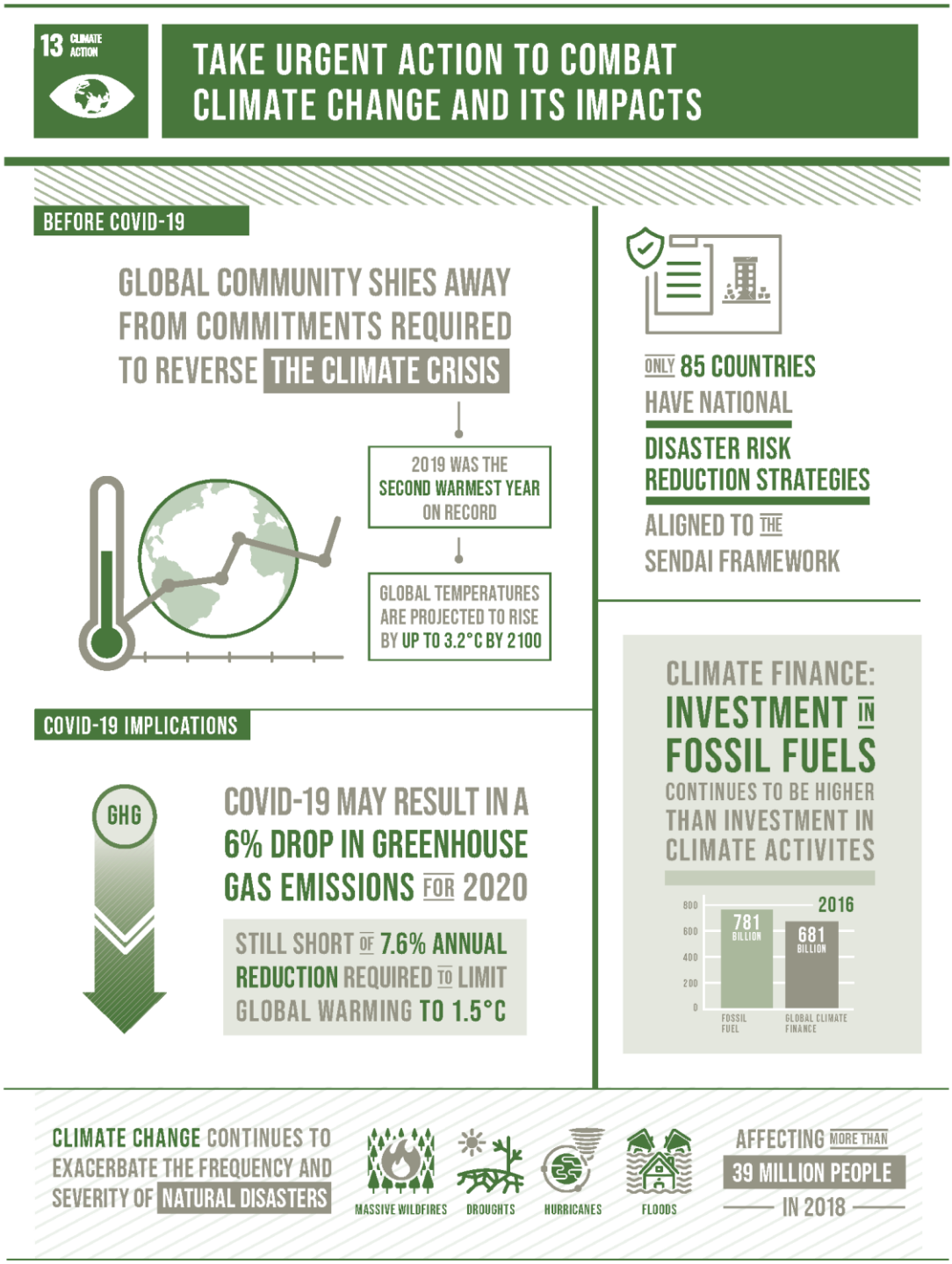
Your Challenge

What can your company do to support this industrial revolution that will transform the petrochemical industry once again to make it more sustainable? Realistically consider how much more consumers and companies are willing to pay for alternatives with lower CO_2 and from a circular manufacturing process. Keep in mind the endless amount of applications currently being offered by the petrochemical industry: the scale is enormous, and so could the impact be. Work on a solution (product, service or other) that your company could deliver, build the business case and prove that it will work, with impact!

SDG 9, 13 and 14 at a Glance…

Be sure to explore these goals further!
Further resources to get started: *SDG 9* | *SDG 13* | *SDG 14*



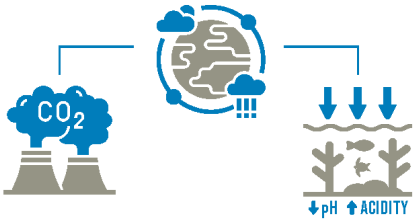

13 CLIMATE ACTION
TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS
BEFORE COVID-19
GLOBAL COMMUNITY SHIES AWAY FROM COMMITMENTS REQUIRED TO REVERSE THE CLIMATE CRISIS
2019 WAS THE SECOND WARMEST YEAR ON RECORD
GLOBAL TEMPERATURES ARE PROJECTED TO RISE BY UP TO 3.2°C BY 2100
ONLY 85 COUNTRIES HAVE NATIONAL DISASTER RISK REDUCTION STRATEGIES ALIGNED TO THE SENDAI FRAMEWORK
COVID-19 IMPLICATIONS
GHG
COVID-19 MAY RESULT IN A 6% DROP IN GREENHOUSE GAS EMISSIONS FOR 2020
STILL SHORT OF 7.6% ANNUAL REDUCTION REQUIRED TO LIMIT GLOBAL WARMING TO 1.5°C
CLIMATE FINANCE: INVESTMENT IN FOSSIL FUELS CONTINUES TO BE HIGHER THAN INVESTMENT IN CLIMATE ACTIVITES
2016
800
600
400
200
0
781 BILLION
681 BILLION
FOSSIL FUEL
GLOBAL CLIMATE FINANCE
CLIMATE CHANGE CONTINUES TO EXACERBATE THE FREQUENCY AND SEVERITY OF NATURAL DISASTERS
MASSIVE WILDFIRES
DROUGHTS
HURRICANES
FLOODS
AFFECTING MORE THAN 39 MILLION PEOPLE IN 2018

AmCham
THE NETHERLANDS

CONSERVE AND SUSTAINABLY USE THE OCEANS, SEA AND MARINE RESOURCES FOR SUSTAINABLE DEVELOPMENT

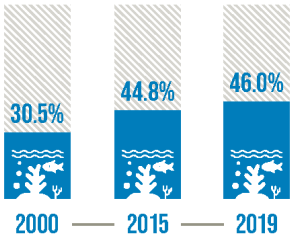
BEFORE COVID-19

OCEAN ACIDIFICATION CONTINUES TO THREATEN MARINE ENVIRONMENTS AND ECOSYSTEM SERVICES



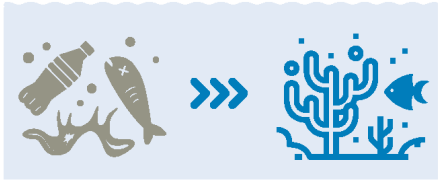
A 100–150% RISE
IN OCEAN ACIDITY IS PROJECTED BY 2100, AFFECTING HALF OF ALL MARINE LIFE

GLOBAL MARINE KEY BIODIVERSITY AREAS COVERED BY PROTECTED AREAS INCREASED

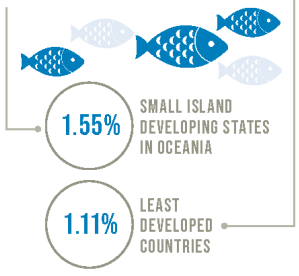


COVID-19 IMPLICATIONS

THE DRASTIC REDUCTION IN HUMAN ACTIVITY BROUGHT ABOUT BY COVID-19 MAY BE A CHANCE FOR OCEANS TO RECUPERATE



SUSTAINABLE FISHERIES CONTRIBUTE TO GDP



10X THE GLOBAL AVERAGE

97 COUNTRIES SIGNED THE AGREEMENT ON PORT STATE MEASURES, THE FIRST BINDING INTERNATIONAL AGREEMENT ON ILLEGAL, UNREPORTED AND UNREGULATED FISHING

Improving the Quality of Ecosystems Below Water and on Land

SDG 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development
SDG 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
SDG 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development

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Oceans are our planet's life support and regulate the global climate system. They are the world's largest ecosystem, home to an unknown number of species, containing vast untapped potential for scientific discovery. Oceans and fisheries continue to support the global population's economic, social and environmental needs. Despite the critical importance of conserving oceans, decades of irresponsible exploitation have led to an alarming level of degradation.

Meanwhile, forest areas also continue to degrade at an alarming rate. Protected areas are not concentrated in sites known for their biological diversity, and species remain threatened with extinction. Wildlife crime surges, land use changes with deforestation and habitat encroachment as a result. Our interaction with the environment is a pathway of transmission for emerging infectious diseases, including COVID-19, threatening public health and the world economy.

Lack of Progress

Oceans and fisheries continue to support the global population's economic, social and environmental needs while suffering unsustainable depletion, environmental deterioration and carbon dioxide saturation and acidification. Current efforts to protect key marine environments and small-scale fishers and invest in ocean science are not yet meeting the urgent need to protect this vast, fragile ecosystem.

On land, only about a third of reporting parties are on track to achieve their national biodiversity targets. While the rate of loss has slowed, global forest cover continues to decline, protected areas are not concentrated in areas of key biodiversity and multiple species remain threatened with extinction.

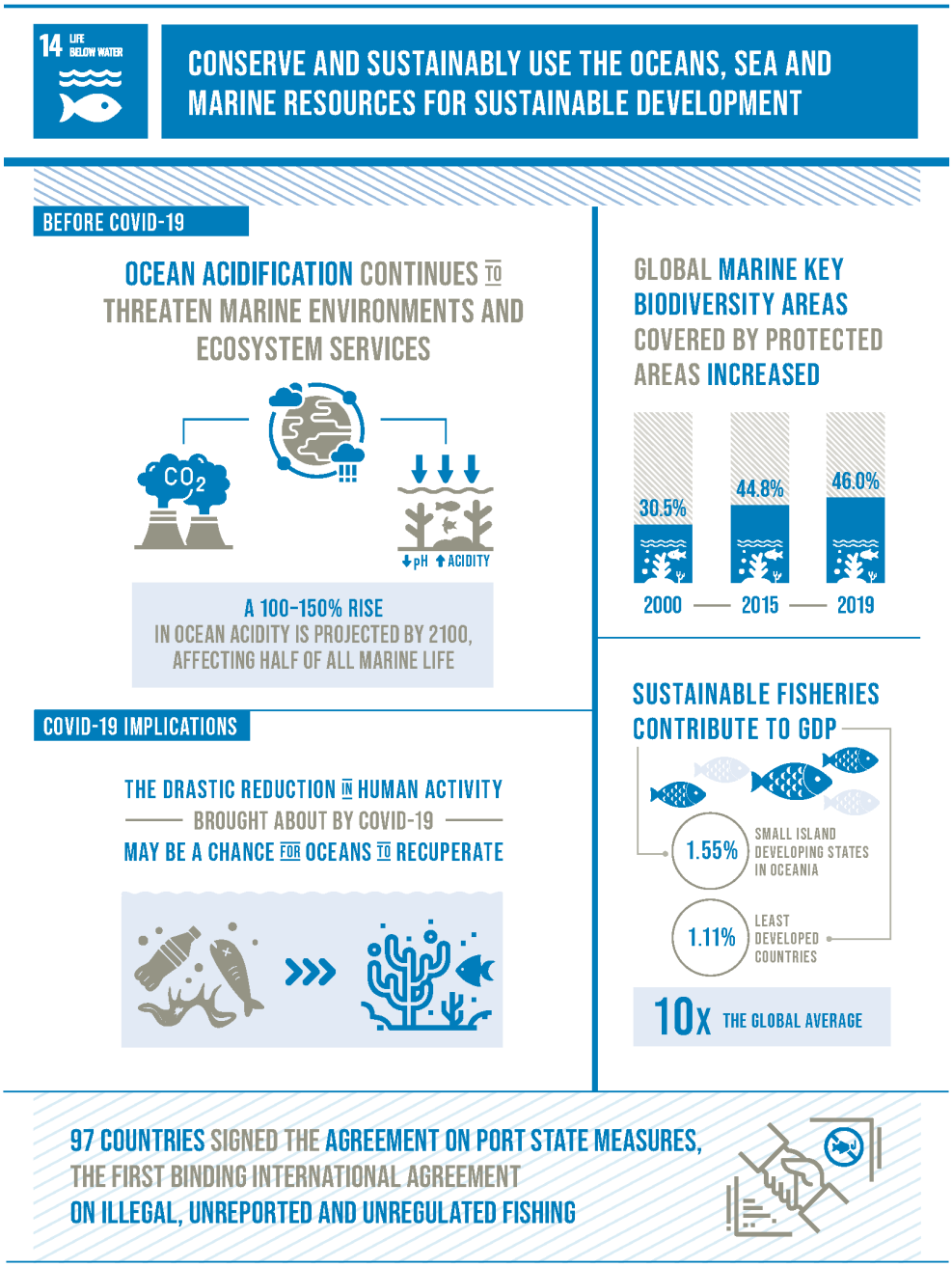
The COVID-19 pandemic has been (preliminary) classified as a zoonotic disease, meaning that the virus is thought to be transmitted from animals to humans. Such vulnerabilities will only increase if we don't change course.

Your Challenge

What can your organization do to revert the degradation of our oceans and ecosystems on land? The global pause in human activity and the increased awareness due to COVID-19 might leverage and inspire solutions. As regions across the globe have very specific characteristics, you are asked to limit your solution to one geography. And as big goals like the SDGs cannot be achieved by a single person, an individual company or even one country or government by itself, finding the right partners within the ecosystem you are aiming to make an impact on is essential. Work on a solution (product, service or other) that your company could deliver, build the business case and prove that it will work, with impact!

SDG 14, 15 and 17 at a Glance…

Be sure to explore these goals further!
Further resources to get started: *SDG 14* | *SDG 15* | *SDG 17*



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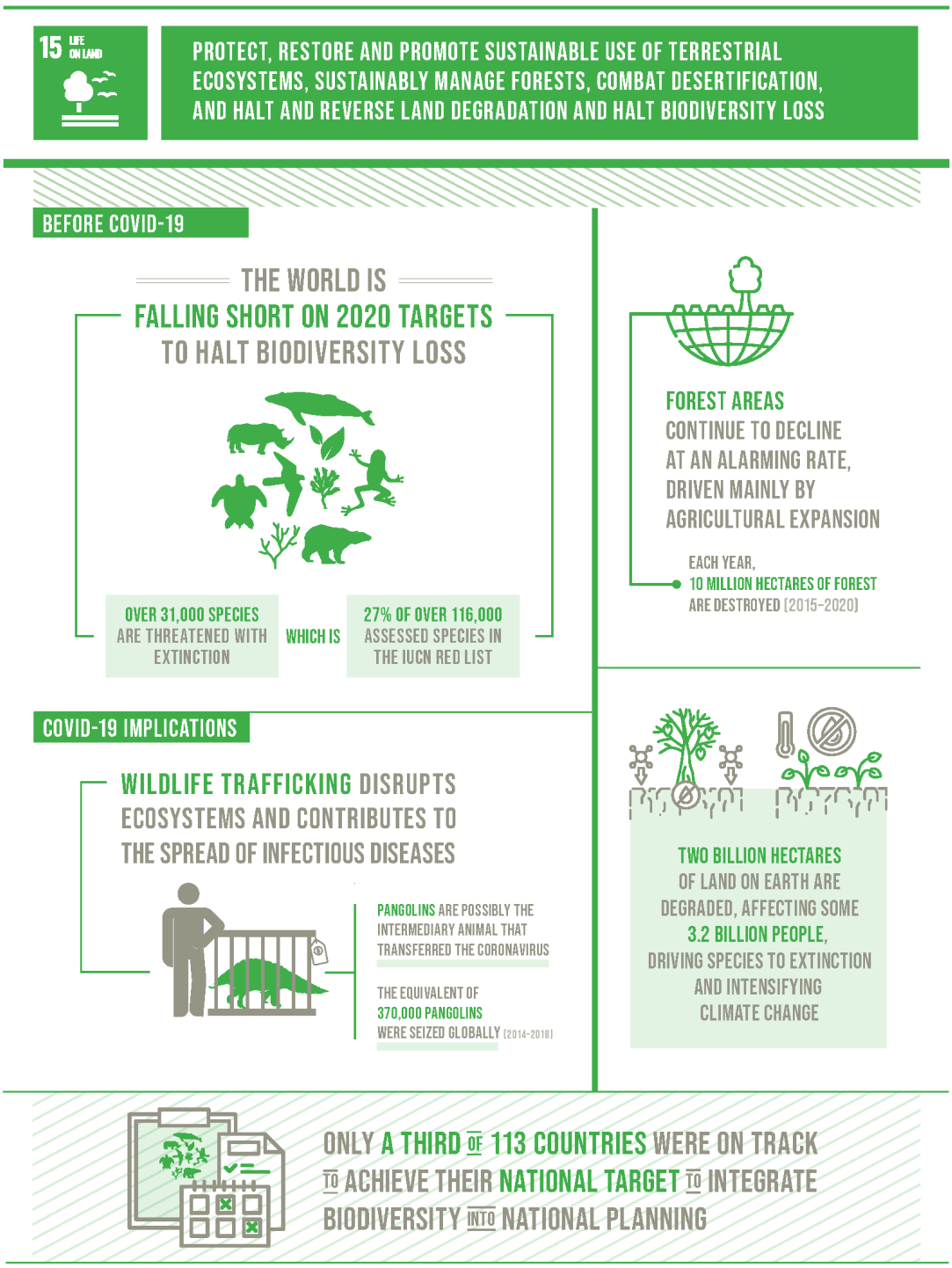

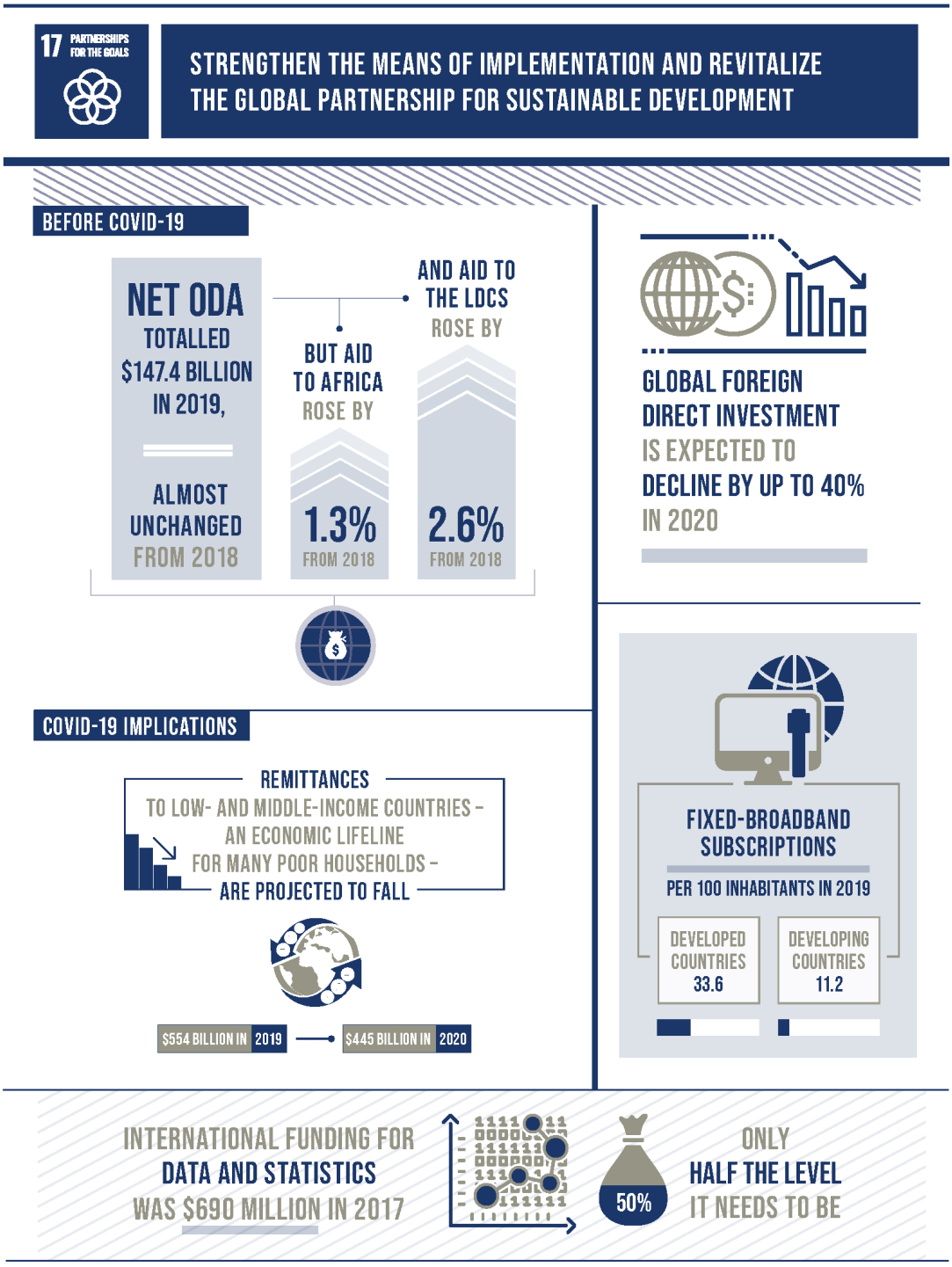
17 PARTNERSHIPS FOR THE GOALS
STRENGTHEN THE MEANS OF IMPLEMENTATION AND REVITALIZE THE GLOBAL PARTNERSHIP FOR SUSTAINABLE DEVELOPMENT
BEFORE COVID-19
NET ODA
TOTALLED $147.4 BILLION IN 2019,
ALMOST UNCHANGED FROM 2018
BUT AID TO AFRICA ROSE BY
1.3%
FROM 2018
AND AID TO THE LDCS ROSE BY
2.6%
FROM 2018
GLOBAL FOREIGN DIRECT INVESTMENT IS EXPECTED TO DECLINE BY UP TO 40% IN 2020
COVID-19 IMPLICATIONS
REMITTANCES TO LOW- AND MIDDLE-INCOME COUNTRIES – AN ECONOMIC LIFELINE FOR MANY POOR HOUSEHOLDS – ARE PROJECTED TO FALL
$554 BILLION IN 2019
$445 BILLION IN 2020
FIXED-BROADBAND SUBSCRIPTIONS
PER 100 INHABITANTS IN 2019
DEVELOPED COUNTRIES 33.6
DEVELOPING COUNTRIES 11.2
INTERNATIONAL FUNDING FOR DATA AND STATISTICS WAS $690 MILLION IN 2017
50%
ONLY HALF THE LEVEL IT NEEDS TO BE

Consumer Engagement for Responsible Consumption & Production

SDG 12: Ensure sustainable consumption and production patterns

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The UN's 12th sustainable development goal is to "ensure sustainable consumption and production patterns". Consider the following (per the UN's SDG website):
- The global material footprint grew from 73.2 billion tons to 85. 9 billion in the period from 2010 to 2017, an increase of 17%;
- Electronic waste grew by 38%, but less than 20% is recycled;
- 13.8% of food is lost in supply chains;
- Rising fossil fuel subsidies are contributing to the climate crisis ($427B in subsidies in 2018, a 34% increase from 2015).

In early 2020, Deloitte conducted a survey into consumer attitudes in the UK towards environmental and ethical sustainability, which was subsequently updated in March 2021. According to the study, consumers equally value 5 environmentally sustainable or ethical practices:
- Waste reduction;
- Reducing the carbon footprint;
- Producing sustainable packaging;
- Committing to ethical working;
- Respect of human rights.

Consumers demonstrate their commitment to sustainability in different ways. According to the study, the most common ways were to limit use of single-use plastic, buy seasonal produce, buy local, reduce air travel, reduce the amount of new products and goods purchased, choosing brands that have environmentally sustainable practices and values, reducing consumption of meat and animal products, avoiding certain brands or products due to ethical or sustainability related concerns, and opting for modes of transport with lower carbon emissions.

Yet, despite this, there are still many reasons that consumers do not embrace sustainability when making purchasing decisions. The top three reasons why consumers haven't adopted a more sustainable lifestyle were lack of interest, costs, and not having enough information. This suggests that there are opportunities to increase consumer engagement on the topic, lower costs of making sustainable choices, and providing consumers with increased information that can support their choices.

How can you entice consumers who are uninterested today in making more sustainable buying decisions? This could be across all demographic groups or focusing on those are most reluctant today. How can you lower costs of sustainable purchasing decisions, such that costs (real or perceived) are equalized with less sustainable options? And how might this opportunity manifest itself in less developed markets? How can you educate consumers and provide the information that they are looking for in order to make buying decisions that are more aligned with the 5 environmentally sustainable and ethical practices outlined above?

Your Challenge

What can your company do to lift the barriers to more sustainable purchasing and demonstrably shift consumer patterns? Consider the three top obstacles: lack of interest, costs, and not having enough information. Work on a solution (product, service or other) that your company could deliver, build the business case and prove that it will work, with impact!

SDG 12 at a Glance…

Be sure to explore the goals further!
Further resources to get started: SDG 12