

CHEMISTRY THAT MATTERS™



# SUSTAINABLE DEVELOPMENT GOALS

ROADMAP 2019



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SABIC is a company literally born of sustainability – and it remains a foundational element of our corporate strategy. Sustainability guides our innovative solutions to global needs. Through it, we identify opportunities, reduce risks, inspire change, and increase our resilience in a challenging business climate. It also underpins SABIC's commitment to social responsibility, stimulating economic growth and employment, as well as providing charitable contributions that add to the prosperity of the countries where we operate. Our goal is to become the world's preferred supplier of chemicals by 2025 and a key enabler of Saudi Vision 2030 – making tomorrow's world even better than today's. This is what we call Chemistry that Matters.™



**YOUSEF ABDULLAH AL-BENYAN**  
Vice Chairman and Chief Executive Officer

# FOREWORD

In 2015, the United Nations adopted the Sustainable Development Goals (SDGs), that is, 17 goals to be met by 2030 to address the world's shared challenges of poverty, inequality, climate change, environmental degradation, prosperity, and peace and justice.

In helping to achieve the SDGs, leading global companies are afforded opportunities, estimated in the region of \$12 trillion worth of growth potential, in addition to millions of jobs created or retained. As with any new growth opportunity, much depends on making the SDGs a central part of business strategy. SABIC has undertaken an assessment of the SDGs and embraced 10 Goals that have the greatest relevance to our activities, are aligned to our company-wide sustainability approach and align with opportunities where we can make the greatest impact. SABIC has developed its SDG roadmap to outline its contribution and future opportunities, thereby creating a platform to ensure that the Goals remain central to our business strategy. It will also act as tool for actively engaging the business, keeping our focus on the Goals and requiring the setting and reporting of performance targets to achieve them.

The SDGs that SABIC has selected are linked to both SABIC's strategic priorities for sustainability and materiality. They span our entire value chain - from making our production operations and product portfolio more sustainable to developing sustainable solutions for products that have reached their end-of-life.

The SABIC roadmap articulates our commitment to a holistic approach to sustainability and outlines inspiring new initiatives that will not only contribute to this important global UN program, but will also provide further growth opportunities for the business.



**BOB MAUGHON**  
Executive Vice President, Sustainability, Technology & Innovation  
Chief Technology and Sustainability Officer

# EXECUTIVE SUMMARY

The United Nations Sustainable Development Goals (SDGs) provide commercial organizations with a universal and powerful framework to translate urgent global needs and ambitions into business solutions. In addition to providing their vital support to help combat a range of important environment, social and economic challenges, by aligning business strategies to SDGs, companies can also better manage their risks and unlock opportunities.

While there are, in total, 17 SDGs, SABIC has selected 10 that are most closely aligned to its activities and where it feels it can make the greatest contribution. The SDGs to which we are integrating our business strategies cover a broad range of challenges from dwindling natural resources, biodiversity degradation and economic inclusion to food security, increasing urbanization and associated quality of life and the multifaceted impacts of climate change.

In addition to playing a leading role in helping to solve some of the planet's most urgent challenges and ensuring a better future for everyone, there are good economic and business reasons to take our SDG commitments seriously. Business growth is now intrinsically linked to the achievement of the SDGs. Companies are facing challenges that will limit their potential for growth if they are not addressed, such as scarcity of natural resources; increasingly stringent environmental regulations; unpreparedness for new consumer expectations in regards to more sustainable solutions; the managing of infrastructure not resilient to climate change;

and not having strong alliances in place to deal with these issues.

Since their launch four years ago, the business case for harnessing SDGs to create opportunities has never been stronger. Companies risk growth in the long term if natural, social and economic capital is eroded, but all businesses stand to benefit from reliable, regenerating natural resources, safe, efficient and innovative infrastructure and healthy, resilient communities.

The following document outlines SABIC's rationale, commitment and strategic directions for aligning these key SDGs to our business.

Helping solve planet's most urgent challenges, ensuring a better future for everyone.

## SUSTAINABLE DEVELOPMENT GOALS



## Introduction

# SABIC'S SDG ROADMAP

In 2015, the United Nations established a set of goals to end poverty, protect the planet, and ensure prosperity for all. Known as the Sustainable Development Goals (SDGs), they create a framework for sustainable business practices at the economic, social and environmental levels. There are 17 SDGs in total, with specific targets for each, to be achieved by 2030.

While countries and their governments have been given the task to implement the goals, the SDG agenda is highly ambitious, requiring transformation at a profound, universal and unprecedented scale. It is recognized that success cannot be achieved without harnessing the potential of the private sector and securing their strong engagement. Commercial organizations have a crucial role to play as drivers of economic growth and employment, sources of investment and leaders in innovation and, as such, are in a strong position to help confront some of the world's most pressing and complex societal and environmental challenges.

**The Petrochemical industry is uniquely placed to make exceptional and wide-ranging contributions to SDGs.**

The petrochemical sector already plays a fundamental role in industry and society. It is diverse, complex and far reaching, touching virtually every aspect of our lives through the creation of

intermediates to support a vast array of industrial and consumer-based products. Spanning the automotive, transportation, packaging, healthcare, agriculture and construction industries, among many others, the petrochemical industry's scale and diversity means it is uniquely placed to make exceptional and wide-ranging contributions to many of the SDGs. Society's expectations of the business community are changing and their attitudes, perceptions and behaviors, particularly in relation to their purchasing power, are becoming increasingly linked to a company's approach to corporate social responsibility. As such, corporations should become more purpose-driven and develop business models that fully integrate sustainability into all aspects of their operations.

As one of the world's leading and most forward-thinking petrochemical companies, SABIC understands these evolving expectations and welcomes the SDGs. Through our own organic efforts to embed environmental, social and economic dimensions of sustainability into our DNA and strategically aligning our business with the SDGs, SABIC has embraced the Sustainable Development Goals (SDGs).

By incorporating pioneering technology, re-engineering of operations where deemed necessary and establishing more open, creative collaborations with industry partners across the value chain, governments, NGOs and academia, there are unprecedented possibilities for innovation, growth and development on a scale not seen since the industrial revolution.

The SDG's identified by SABIC are described in the coming pages, along with a discussion on how SABIC's most material sustainability issues, partnership engagements, and numerous projects and initiatives are driving transformation and innovation to deliver lasting SDG impact.



The 10 SDGs SABIC has identified as priorities where we can make the greatest positive impact.

- **ZERO HUNGER:** End hunger, achieve food security and improved nutrition and promote sustainable agriculture.
- **CLEAN WATER AND SANITATION:** Ensure availability and sustainable management of water and sanitation for all.
- **AFFORDABLE AND CLEAN ENERGY:** Ensure access to affordable, reliable, sustainable and modern energy for all.
- **DECENT WORK AND ECONOMIC GROWTH:** Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.
- **INDUSTRY INNOVATION AND INFRASTRUCTURE:** Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.
- **SUSTAINABLE CITIES AND COMMUNITIES:** Make cities and human settlements inclusive, safe, resilient and sustainable.
- **RESPONSIBLE CONSUMPTION AND PRODUCTION:** Ensure sustainable consumption and production patterns.
- **CLIMATE ACTION:** Take urgent action to combat climate change and its impacts.
- **LIFE BELOW WATER:** Conserve and sustainably use the oceans, seas and marine resources for sustainable development.
- **PARTNERSHIPS FOR THE GOALS:** Strengthen the means of implementation and revitalize the global partnership for sustainable development.





# SABIC'S COMPELLING STORY

At a time when critical decisions regarding industry's sustainability responsibilities need to be made in relation to the future of our planet, we are reminded that SABIC was born out of the aspiration and need for sustainability. Established in 1976, SABIC's role was to capture waste gas being flared off into the atmosphere from crude production activities in order to create feedstock for other valuable products, and in the effort, reducing resultant CO<sub>2</sub> and other polluting emissions. Ever since, SABIC has been on a journey to take that once wasted flared gas and employ it as a valuable resource to produce lucrative, beneficial, and increasingly, more sustainable materials for the benefit of all.

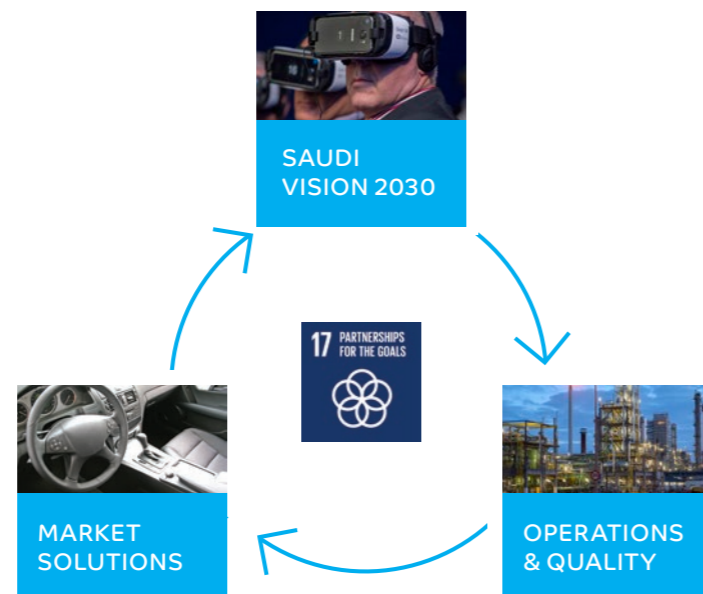
Today, more than ever, sustainability remains a core value of SABIC and a crucial pillar of our 2025 strategy. We recognize that in order to succeed in the modern-day global marketplace, sustainability must be embedded into not only our own DNA, but across our entire value chain and fundamentally inform the way we do business. We ensure we have a deep understanding of the megatrends that will impact SABIC, broader industry and society at large for the next several decades. Through our advanced scientific and technology expertise, and the connecting of the most inspired minds across our partnerships, SABIC is consistently striving for ever better performance in environmental and social responsibility - from resource efficiency, energy reduction and cleaner air and water to improved food security and enhanced quality of life for everyone.

With the rapid rise of the global population and pressures resulting from increased urbanization, there are significant challenges in meeting global consumption while safeguarding the planet. While meeting industry and consumer demands will drive growth across SABIC's businesses, doing so without negatively impacting the planet will require a new approach. Natural resources that provide the world with energy, materials, water, and food are already strained, and there are no quick and easy solutions to address those challenges.

But be addressed, they must – urgently and effectively. As a global industry leader, it is incumbent upon SABIC to put sustainability at the top of our agenda, and to work in collaboration with government, NGOs, business partners, suppliers and all other stakeholders to speedily deliver solutions for the long-term. One of our most important initiatives is the alignment of our business and sustainability strategies with the United Nations Sustainable Development Goals (SDGs).

Sustainability is a journey – and one that SABIC is committed to. Continually examining our achievements, successes - and where we might do better - is dependent on our ability as a company to learn, and implement change, from compelling scientific evidence; adapt and improve our business processes accordingly; listen to our stakeholders; and bring to market the latest innovations to help solve the most difficult challenges.

## SUSTAINABLE DEVELOPMENT GOALS EMBEDDED IN THE BUSINESS STRATEGY




# SABIC'S MOST MATERIAL SUSTAINABILITY ISSUES

SABIC's sustainability is guided by a materiality assessment to identify the key issues across our value chain that we believe are material for our stakeholders and business success as well as for SABIC's future.

Through a structured process, an issue is determined to be material to SABIC if it impacts our business in terms of growth, cost, risk or reputation and its importance to our stakeholders, including customers, employees, governments, investors, partners, suppliers and our communities. We also consider whether an issue is aligned with our vision and purpose as a company, our business strategy and product portfolio, geographical footprint and the degree to which we believe we can positively influence the issue and affect change. The selection of our material issues includes an analysis of economic, environmental and social risks, as well as emerging trends and how these might affect SABIC's ability to grow and create value over the short, medium and long term.

We prioritise these issues based on their relative importance to our business, mapping the most important ones regularly against our sustainability priorities and, most recently, the 10 UN Sustainable Development Goals (SDGs) we have selected as relevant to SABIC.

Accordingly, we focus our resources and provide transparent progress reporting on the agreed issues. For 2019, SABIC's six most material issues are:

<p><b>1. RESOURCE EFFICIENCY</b> With SABIC's goal of reducing material loss intensity* by 50% and water usage intensity* by 25% by 2025 compared to 2010 levels, our tracking program has reported demonstrable progress, but there is a need to reduce flaring and water usage.</p> 	<p><b>2. CLIMATE CHANGE AND ENERGY</b> SABIC's goal is to reduce greenhouse gases and energy usage intensity* by 25% by 2025 compared to 2010 levels. Our focus is on site-based contributions to energy efficiency along with evaluating the deployment of renewable energy as part of the energy mix.</p> 
<p><b>3. INNOVATION AND SUSTAINABILITY SOLUTIONS</b> SABIC is delivering a step change in the design of products and solutions that meet or exceed customer expectations around sustainability, in addition to efficient operations and continual process innovation.</p> 	<p><b>4. CIRCULAR ECONOMY</b> Circular economy inspires SABIC to adapt its processes to the use of renewable and recycled feedstock, and to create durable, recyclable product design solutions for customers.</p> 
<p><b>5. GOVERNANCE AND INTEGRITY</b> Operating with the highest levels of integrity is one of SABIC's most important values. We will continue to deliver programs and initiatives that support all employees to constantly live up to this vital part of our culture.</p> 	<p><b>6. ENVIRONMENT, HEALTH, SAFETY, AND SECURITY</b> Safety is the cornerstone of SABIC's operations. We will remain vigilant and committed to continuous improvement.</p> 

\* the intensities are based on units per metric ton of external product sales.



# ZERO HUNGER

The second of the UN's 17 sustainable development goals, and one of the 10 where SABIC believes it makes a significant contribution, is Zero Hunger – or more specifically, ending hunger, achieving food security and improved nutrition and promoting sustainable agriculture.

While the challenge of extreme hunger and malnutrition has improved in many countries, with an estimated 800 million people<sup>1</sup> still suffering from hunger and undernourishment worldwide – most of them women and children in developing countries – these challenges remain a barrier to sustainable development. Hunger and malnutrition are devastating to communities, resulting in populations that cannot be productive, are prone to disease and are unable to improve their livelihoods. It negatively impacts economies, health, education, equality and social development. Wars, destruction of the natural environment, poor harvesting practices, as well as food wastage have all contributed to food scarcity. The aim of the Zero Hunger goal is to end hunger and malnutrition by 2030.

The commercial sector has an important role in supporting a more sustainable food supply chain for a growing global population. SABIC has made significant advances in increasing productivity and management of the food supply system by extending shelf lifetimes of food through innovative packaging help to reduce food waste, and ensuring the quality and safety of food. We are also helping to achieve food security through the development of sustainable agri-nutrients, including our comprehensive portfolio of nitrogen-based inorganic fertilizers. SABIC is exploring the opportunities that bio feedstock offer for greenhouse gas mitigation while addressing concerns about competition with the food chain.

Within each SDG, there are a number of specific targets, so in addition to SABIC selecting the SDGs it can best contribute to, it has also identified a subset of targets within each.

### For Zero Hunger these are:

**2.1** By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round.

**2.3** By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs,

knowledge, financial services, markets and opportunities for value addition and non-farm employment.

**2.4** By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.



<sup>1</sup> United Nations press release: With Nearly 800 Million People Still Underfed Worldwide, Secretary-General Urges United Nations Agencies, Governments to Advance 'Zero Hunger' Initiative; September 22, 2016

## IMPACT OPPORTUNITIES RELATED TO UN SDG 'ZERO HUNGER'

Aligning parts of our business to the UN's SDG of Zero Hunger not only ensures SABIC plays its part in overcoming this important societal challenge, but also provides SABIC with the opportunity to leverage its innovation know-how to develop a host of solutions to meet future food security needs. From the latest enhanced efficiency, stable & slow-release agri-nutrients to improve food production yield and forging partnerships to encourage sustainable agricultural practices, to developing advanced packaging solutions to extend shelf lifetimes of food and reducing food waste, SABIC is demonstrating the commercial benefits of support for the SDGs.

In summary, we have identified the following impact opportunities for SABIC:

- 1: Develop agri-nutrient specific grades to enhance productivity and/or with slow release of nutrients;
- 2: Create innovative packaging to extend shelf lifetimes; hence, reducing food waste;
- 3: Promote in partnership sustainable agricultural practices.

### CASE STUDY 1 WATER CONSERVATION



SABIC is committed to raising awareness of water conservation globally and advancing agricultural sustainability. In particular, we have a special focus on the Kingdom of Saudi Arabia due to its arid location. SABIC is closely collaborating with the Saudi Ministry of Environment, Water and Agriculture to fund, build and operate the National Research and Development Center for Sustainable Agriculture (Estidamah) which focuses on climate control research, irrigation strategies, soil-less agriculture, crop and pest management. We aim to engage farmers, investors, government agencies, academics and business leaders to develop the best solutions to water consumption in food production.



### CASE STUDY 2 UNIQUE FOOD PACKAGING



Perishable food items such as dairy, meat, fish, fruit and vegetables require careful handling and protection throughout the production, transportation and retail chains in order to reach the consumer's table in a fresh, healthy, safe and flavorful state. Food packaging integrity is of paramount importance and a key focus area for SABIC. SABIC has developed an array of unique high-performance, corrosion-resistant and recyclable food contact packaging solutions.



### CASE STUDY 3 CONTRIBUTING TO FOOD SECURITY



In our work with food producers, SABIC has developed agri-nutrient solutions that improve food security by increasing crop production. To help feed a predicted global population of 9 billion people by 2050, our specialty fertilizers can be specifically tailored to the nutritional demands of different crops for different regions of the world. Our latest, smart generation of products increase fertilizer efficiency while offering farmers higher yields with fewer resources. All this combined, is set to increase global harvests significantly by 2025.

Leverage innovation know-how to develop solutions to help meet food security needs.

## SABIC'S OTHER INITIATIVES IN SUPPORT OF ZERO HUNGER

- SABIC is increasing its efforts to supply basic agri-nutrients to African countries where there is low fertilizer use in order to improve crop yield;
- SABIC is promoting the introduction of sustainable agriculture practices through

promoting and demonstrating modern greenhouses technologies and the importance of improving the production and water use efficiencies and how to optimize the fertilizers use at Estidamah Research centre in Riyadh;

- SABIC is expediting the development of enhanced and customized fertilizer products to increase the efficiency of fertilizers, reducing product waste while protecting soil and water tables from leaching of nitrogen-rich nutrients.





# CLEAN WATER AND SANITATION

The sixth of the UN's SDGs is Clean Water and Sanitation, with the objective of ensuring availability and sustainable management of water and sanitation for all.

As recognized by the UN General Assembly in 2010, access to clean drinking water and sanitation is a basic human right. Along with the availability of water resources and good water stewardship – including wastewater management, water quality and resilience management to water-related disasters – it is a determining factor for social, economic and environmental development. The clean water and sanitation SDG aims to improve access to quality drinking water and hygiene, reduce water pollution, especially the type caused by hazardous chemicals, as well as protecting and restoring water-based ecosystems such as rivers, lakes and other wetlands. It also advocates cross-border cooperation as key to integrated management of water resources.

SABIC is playing a vital role in delivering these objectives through its innovative portfolio of high-performance pipe solutions to support agriculture, aquaculture, domestic, infrastructure and industrial pipe markets. Through advanced pipe grades designs, we address urgent, global needs for greater access to clean drinking water and sanitation, improved resource conservation, and sustainable food production. SABIC have created specialty fertilizers that reduce leaching of chemicals into

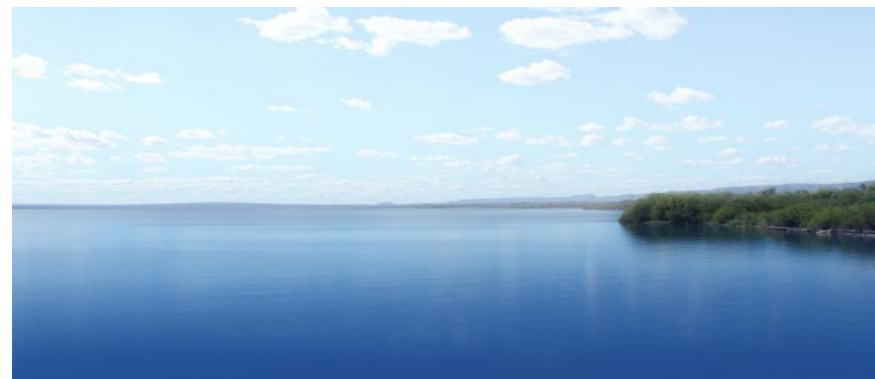
soil and water tables, avoiding contamination of underground water streams. We are also leading the way in water stewardship. As one of SABIC's operational key performance indicators (KPIs), we have implemented rigorous water management programs to decrease our water use intensity by 25% by 2025 from 2010 levels. We are also increasing our water reuse and recycling and are reducing emissions of total organic carbon (TOC) into effluent wastewater.



Kamani, Mali; Villagepump

Within the clean water and sanitation SDG, SABIC is supporting the following UN targets:

- 6.1** By 2030, achieve universal and equitable access to safe and affordable drinking water for all.
- 6.3** By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.
- 6.4** By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.
- 6.5** By 2030, implement integrated water resource management at all levels including through transboundary cooperation as appropriate.



## IMPACT OPPORTUNITIES RELATED TO UN SDG 'CLEAN WATER AND SANITATION'

Through the alignment of relevant divisions of our business to the UN's SDG of Clean Water and Sanitation, SABIC is using its long-acquired expertise to make a significant contribution to protecting our water resources. From the development of innovative resins and plastics for pipe applications in aid of responsible water stewardship to reducing our own water usage intensity, SABIC is showing how commercial organizations can benefit from supporting SDGs.

In summary, we have identified the following impact opportunities for SABIC:

- 4: Pipe solutions to improve water management;**
- 5: Water management programs to reduce water intensity in own operations.**

While previously identified in SDG 2 Zero Hunger, our first impact opportunity – the development of slow release agri-nutrient products which will mitigate contamination of water tables – is highly relevant when supporting the aim of clean water.

### CASE STUDY 1 OPTIMIZING IRRIGATION



Increasing food production in a world with limited water resources has become a global challenge. SABIC is helping to conserve those scarce water resources through its ongoing development of innovative materials. Our new medium density polyethylene natural resin grade plastic is now being used to build efficient drip irrigation systems which not only help increase crop yields, but also supply the water directly into the soil in quantities as needed, preventing unnecessary water wastage. Easy to install and with a long service life, it can be a suitable solution to support responsible irrigation efforts.



### CASE STUDY 2 MODERNIZING SEWAGE SYSTEMS



Traditional concrete sewage systems can develop cracks over time, leading to potential leaking of effluent into the urban environment. Plastic piping systems are more durable and can help avoid water and effluent loss. As a world leader in the development of innovative plastics for pipe applications, SABIC's long standing competencies in material innovation help support the safe and efficient transportation of urban sewage.



### CASE STUDY 3 ENABLING CLEAN WATER



According to the World Health Organization, lack of access to safe drinking water is a cause of diarrheal disease worldwide, resulting in the deaths of one in five children. As a pioneer in advanced materials, SABIC has contributed to the development of a new hand-operated water filtration pump from innovative water filtration company, Villagepump. With the pump valve being the critical component for operation, SABIC's lightweight, chemical and corrosion-resistant NORLY™ resin was selected for its manufacture, ensuring long-term reliable access to clean water. 300 Villagepump units are already installed worldwide, improving the health of thousands of people.



Garowe, Somalia; Kaalo Foundation Netherlands

## SABIC'S OTHER INITIATIVES IN SUPPORT OF CLEAN WATER AND SANITATION

- Minimize emissions of total organic carbon (TOC) in effluent wastewaters – fresh and salt water;
- Reduce water intensity across our operations by 25% by 2025 against 2010 levels;
- Improve water intensity as part of our sustainability assessments for new megaprojects;
- Increase reuse and recycling of water and implement metrics to monitor total volume of water that is recycled and reused;
- Expand education programs for farmers on the impact of water consumption per kilo of produce to help increase water efficiency for farm yields;
- SABIC has signed the World Business Council for Sustainable Development (WBCSD) Pledge for Access to Safe Water, Sanitation and Hygiene (WASH) and is expected to be compliant to the WASH Pledge requirements, committing to implementing access to safe water, sanitation and hygiene at the workplace at an appropriate standard for all employees.



# AFFORDABLE AND CLEAN ENERGY

The seventh SDG is Affordable and Clean Energy, ensuring access to reasonably priced, reliable, sustainable and modern energy for all.

For decades, the world has relied upon hydrocarbon-based fossil fuels such as coal, oil and gas, for electricity production. However, the burning of these fuels produces considerable amounts of greenhouse gas (GHG) emissions which are responsible for, or make a significant contribution to, climate change. While they have made enormous contributions to our daily lives, enabling transportation and innovative packaging solutions to prolong the life of food and medicines, for example, they can also impact on people's wellbeing as well as impacting on our shared global environment. It is an issue that affects us all and there are urgent calls for fuels that emit fewer harmful pollutants, a diversification of fuel sources including renewable energy and a reduction in the intensity of energy usage.



In aiming to support the Affordable and Clean Energy SDG, SABIC is focusing on the following targets:

**7.2** By 2030, increase substantially the share of renewable energy in the global energy mix.

**7.3** By 2030, double the global rate of improvement in energy efficiency.

SABIC is continuously improving energy efficiency across its operations and has set itself ambitious targets to reduce its greenhouse gas and energy intensity by 25% by 2025 from 2010 levels. We are eliminating the use of coal as combustion fuel in our plants and are escalating our efforts to take advantage of opportunities to use renewable feedstock to reduce the amount of fossil fuel depletion. SABIC also has a range of products that

address clean energy solutions, from the creation of materials for floating solar panels and electric vehicles. We have begun to deploy renewable feedstock and renewably sourced energy as part of our energy mix and will continue to evaluate opportunities to advance the use of renewables. In 2018, SABIC approved its first renewable energy strategy to procure renewable energy as part of our energy mix.



## IMPACT OPPORTUNITIES RELATED TO UN SDG 'AFFORDABLE AND CLEAN ENERGY'

SABIC has already instigated a number of energy efficiency initiatives to reduce our consumption of fossil fuels and begin to deploy renewable energy sources. By further aligning our business to the UN's SDG of Affordable and Clean Energy, SABIC is not only contributing to a cleaner future for our planet, but is provided with opportunities to extend our product portfolio by designing innovative solutions to address clean energy needs. SABIC is a shining example of how commercial organizations can benefit from supporting SDGs.

In summary, we have identified the following impact opportunities for SABIC:

- 6: Energy efficiency programs to reduce energy intensity in own operations;
- 7: Product design to address clean energy solutions;
- 8: Evaluate opportunities to advance the storage, sourcing and use of renewable energy.

### CASE STUDY 1 MOVING TO SOLAR POWERED ELECTRICITY



SABIC has already begun its journey to renewable energy. With major projects to shift the source of electricity in the Kingdom from oil and natural gas to renewable sources, including solar and wind energy, we are studying 300 MW of solar power for our sites in Yanbu. Along with partners Marafiq and Royal Commission for Jubail and Yanbu (RC-Yanbu), we aspire to begin the construction of the photovoltaic energy park by 2020. Our ambition is to have 4GW of energy from wind or solar sources installed and available for SABIC by 2025.



### CASE STUDY 2 REPLACING COAL



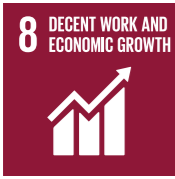
SABIC's Mount Vernon site in Indiana, USA, has successfully switched from coal to natural gas as a fuel. Additionally, the site has commissioned a new cogeneration unit to produce electrical power and steam more efficiently in a combined cycle. The move from coal will also mitigate the large quantities of coal ash going into landfill along with a 33% reduction in greenhouse gas emissions.



## SABIC'S OTHER INITIATIVES IN SUPPORT OF AFFORDABLE AND CLEAN ENERGY

- A formal energy policy signed by the CEO providing guidelines for energy efficiency;
- Investing and supporting upstream clean energy generation and integrate them into the business strategy;
- Reduce energy intensity in operations by 25% by 2025 as against 2010 levels;
- Implement Best Available Technologies (BAT) for new or replacement assets. Simply put, BAT means that operators must use the very best methods to protect the environment that can be economically justified;
- Developed Energy Management Guidelines for SABIC;
- Extend the use of cogeneration technologies to reduce natural resource consumption;
- Work with peers and stakeholders on setting energy efficient standards at industry level;
- Set energy intensity reduction target in Saudi Arabia based on achieving 2<sup>nd</sup> quartile benchmark performance for existing assets and 1<sup>st</sup> quartile benchmark performance for new assets.





# DECENT WORK AND ECONOMIC GROWTH

The eighth SDG is Decent Work and Economic Growth that promotes sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

According to the World Employment and Social Outlook, after an increase of global unemployment rate reaching 6.5 per cent in the early 2000, it has been stabilizing to 5.6 per cent in 2017. However, well-paid job remains a challenge. Simply having a job is not enough to escape poverty, with half the world surviving on the equivalent of about US\$2 a day. The problem is exacerbated by the growing world population that will need 470 million jobs for new entrants to the labour market by 2030. The challenge requires the creation of conditions that allow people to have quality jobs to rise above the poverty level, that stimulate the economy while not impacting on the environment.

As a leading global employer, SABIC is playing its part both within Saudi Arabia and beyond. Providing employment in technology development, research and innovation in mature and developing countries, and through the diversification of its businesses, it is creating new long-term opportunities. In Saudi Arabia, SABIC adds significant value to the domestic economy and is engaged in the development of young Saudis through supporting vocational education and job-oriented training programs to create a pipeline of skilled workers. It is also encouraging the opening of start-ups, fostering an entrepreneurial spirit among young Saudis. SABIC is also committed as an equal opportunities employer and has embedded the principle of equality in policies and processes across both its own operations and its supply chains.

Within the Decent Work and Economic Growth SDG, SABIC is supporting the following UN targets:

**8.2** Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labor-intensive sectors.

**8.3** Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.

**8.4** Improve progressively, through 2030, global resource efficiency in consumption and production and endeavor to decouple economic growth from environmental degradation, in accordance with the 10-year

Creating new long-term opportunities through diversification of our business.

framework of program on sustainable consumption and production, with developed countries taking the lead.

**8.8** Protect labor rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.



## IMPACT OPPORTUNITIES RELATED TO UN SDG 'DECENT WORK AND ECONOMIC GROWTH'

SABIC is strategically aligning our business to not only support the UN's SDG of Decent Work and Economic Growth, but also to see the Kingdom of Saudi Arabia's 2030 economic vision come to life by helping to contribute to over \$4 billion in investments and create approximately 1.6 million jobs.

In summary, we have identified the following impact opportunity for SABIC:  
**9: Foster significant value to the domestic Saudi economy and engage in the development of young Saudis.**

### CASE STUDY 1 SUPPORTING BUSINESS IN KSA

SABIC is committed to supporting both industry development and increasing long-term employment opportunities in its homeland, the Kingdom of Saudi Arabia. To provide meaningful backing for these goals, SABIC has launched its domestic initiative "Nusaned" to assist local entrepreneurs and small businesses in growing their operations both within the Kingdom and beyond. Equally, it targets organizations outside of the Kingdom to set up or extend their operations into Saudi Arabia, so providing greater employment prospects. Appropriately named, Nusaned means "support" in Arabic, and is aimed at overcoming many of the issues both domestic and foreign investors face – from gathering support for initial product and service concepts to investment for actual commercial execution. SABIC has already facilitated numerous successful introductions between companies and investors to provide capital for growth and development.





# INDUSTRY INNOVATION AND INFRASTRUCTURE

The ninth SDG is Industry Innovation and Infrastructure, which calls for the building of resilient infrastructure, promotion of inclusive and sustainable industrialization and fostering of innovation.

Infrastructure is essential for sustainable development and is a catalyst for growth in productivity, incomes and improvements in health and education. The UN estimates that for many lower income African countries, existing constraints regarding infrastructure affect productivity by around 40 percent. When it comes to innovation, manufacturing is a crucial driver of economic development and employment. It is estimated that every job in manufacturing creates 2.2 jobs in other sectors. Technology advancement is also the building block for improving environmental performance by increasing resource and energy-efficiency. Without innovation industrial growth and development will stall.



Focussed to our vision of a world built on sustainable infrastructure.

Within the Industry Innovation and Infrastructure SDG, SABIC is supporting the following UN target:

**9.4** By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.

SABIC is leading the way in infrastructure improvements through scientific research, sustainable technology innovation and investment - both domestically and in developing countries - enabling industrial diversification to support sustainable infrastructure for all. We are not only upgra-

ding our own operational infrastructure, but are also delivering pioneering advancements in ground-breaking product design, material efficiency and reuse, and the latest manufacturing processes, SABIC is committed to its vision of a world built on sustainable infrastructure.

## IMPACT OPPORTUNITIES RELATED TO UN SDG 'INDUSTRY INNOVATION AND INFRASTRUCTURE'

As a world-leading industrial innovator, SABIC will play a prominent role in the UN's Industry Innovation and Infrastructure SDG. In addition to helping create, maintain and improve the critical foundations necessary for industrial growth, the alignment of our business affords opportunities to SABIC to advance its competencies in innovative solution design, process efficiency and the optimizing of resources.

In summary, we have identified the following impact opportunity for SABIC:  
**10: Innovative advancements in ground-breaking product design, material efficiency and reuse, and the latest manufacturing processes.**

### CASE STUDY 1 MAKING MEGAPROJECTS SUSTAINABLE

In order to grow in a sustainable manner, we take into consideration all the sustainability risks and opportunities in relation to both our sites and projects – particularly those projects that represent large-scale, complex ventures. Since 2012, SABIC has been undertaking opportunity assessments for its sites – and since 2017 for all its megaprojects. Mandatory sustainability assessments have been developed for each stage of a new project covering a wide range of risks and opportunities for energy efficiency, greenhouse gas emissions (GHG), water usage and material loss.



### CASE STUDY 2 OPTIMIZING ENERGY ON-SITE

SABIC has developed and implemented a number of onsite energy optimizers for our facilities. They identify and support the development of efficient operating strategies for energy systems. They raise energy efficiency awareness and expertise, enabling better evaluation of future energy performance with a view to maximizing fuel efficiency and reducing greenhouse gas emissions and costs. Focused initially on our facilities within Saudi Arabia, optimizers are installed at our Kemya, United and Petrokemya sites and have already demonstrated energy and greenhouse gas intensity savings of 1%. SABIC will continue expanding this initiative to sites outside the Kingdom in 2019 and beyond.



## SABIC'S OTHER INITIATIVES IN SUPPORT OF INDUSTRIAL INNOVATION AND INFRASTRUCTURE

Upgrading the infrastructure and retrofitting of our own assets to make them sustainable by:

- Reducing energy use, greenhouse gas emissions and water use by 25% and material loss intensity by 50% by 2025 as against the 2010 baseline;

- Capturing and using CO<sub>2</sub> waste from ethylene glycol production in urea and methanol manufacturing (see SDG 13, Climate Change, Case Study 1);
- Capturing CO<sub>2</sub> from process gas emissions and maximizing its use;

- Implementing disruptive technologies to enable use of recycled waste and biomass feedstock (see SDG 12, Responsible Consumption and Production, Case Study 3), and to generate and use clean energy.



# SUSTAINABLE CITIES AND COMMUNITIES

The eleventh goal is Sustainable Cities and Communities, which is to make cities and human settlements inclusive, safe, resilient and sustainable – a vital topic with the predicted growth in population.

At present half of humanity, just over 3.5 billion people, live in cities and by 2030 that number is expected to grow to 5 billion. Of that expansion, 95 percent is expected to take place in the developing world, so it is crucial that efficient urban planning and management practices are in place to deal with such growth. There is a myriad of challenges caused by this rapid urbanization, including a shortage of adequate housing, declining infrastructure, solutions for waste management and increasing pollution. With an estimated 90 percent of urban dwellers already breathing poor quality or unsafe air, resulting in millions of aggravated lung diseases a year, the support of the private sector in helping to alleviate or mitigate this problem is critical. As are innovative solutions, to what most agree, is an impending global housing crisis. Add to this the need to stem the use of natural resources by creating recyclable and reusable materials, and the evidence for commercial involvement is all the more compelling.

As a pioneer in the development of breakthrough manufacturing technologies and leading-edge construction materials, SABIC is making significant advances in the creation of materials to enable cost-effective, more environmentally conscious and rapidly erectable urban structures of the future. With

applications to meet the needs of a growing population, such construction materials are highly energy efficient, long-lasting and lightweight, so making a positive impact along the supply chain, in addition to the end product. Communities around SABIC sites are also benefiting from waste heat supply (see Case Study 1).



In aiming to support the Sustainable Cities and Communities SDG, SABIC is focusing on the following target:

**11.6** By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.



## IMPACT OPPORTUNITIES RELATED TO UN SDG 'SUSTAINABLE CITIES AND COMMUNITIES'

By aligning parts of our business to the UN's SDG of Sustainable Cities and Communities, SABIC is helping to not only combat the challenges posed by continuous urbanization, but also in leading the way to more sustainable living. The alignment also provides SABIC opportunities to draw upon its innovation know-how to develop a host of commercial solutions to meet the needs of sustainable infrastructure and a cleaner environment.

In summary, we have identified the following impact opportunity for SABIC:  
**11: Foster the design of products that make urban areas more sustainable.**

### CASE STUDY 1 SUPPLYING WASTE HEAT FOR HOMES

SABIC's plant in Geleen in the Netherlands, is running an innovative project to deliver more energy efficient heating solution for the neighboring community, replacing the need for natural gas and so reducing greenhouse gas emissions.



### CASE STUDY 2 TRUE SUSTAINABLE LIVING WITH ICEHOUSE™<sup>1</sup>

SABIC is a leader in developing innovative, sustainable construction materials such as LEXAN™ polycarbonate solid and multiwall sheet, which can be used to enable more energy-efficient living - as demonstrated by the highly sustainable, reusable and recyclable ICEHouse™. The cutting-edge aluminium framed structure employs LEXAN™ sheets and the highly insulating, nanogel filled LEXAN™ THERMOCLEAR™ multiwall sheet for wall and ceiling cladding which can be continuously recovered and reused. Delivering up to 50% in energy and weight savings, with 100% recyclability, plus a 250% improved impact resistance, ICEhouse™ is a pioneering flagship project highlighting the sustainable possibilities for living.



## SABIC'S OTHER INITIATIVES IN SUPPORT OF SUSTAINABLE CITIES AND COMMUNITIES

- Development of lightweight materials for transportation - from automotive to aircraft and rail - is key enabler to help deliver a reduction in CO<sub>2</sub> emissions;
- New materials to support the latest 5G network applications to enable even greater levels of connectivity;
- Development of flame retardant materials for aircraft and rail interiors, improving passenger safety;
- Our ULTEM™ and LEXAN™ filaments for conceptual modelling and prototyping of medical devices to the manufacture of end-use instruments, including those for surgical applications;
- Improved sewage pipe systems to mitigate leakage of effluents (see SDG 6, Clean Water and Sanitation, Case Study 2)
- Promotion of technical grade urea to reduce automotive and industrial NO<sub>x</sub> emissions;
- Introduction of ULTEM™ dielectric films for high-temperature capacitor applications used in electric vehicles.

<sup>1</sup> ICEhouse™ is a trademark of McDonough Innovation



# RESPONSIBLE CONSUMPTION AND PRODUCTION

The twelfth UN Sustainable Development Goal calls for Ensuring Sustainable Consumption and Production Patterns.

If the global population reaches 9.6 billion by 2050 as predicted\*, it will require the equivalent of almost three Earth-sized planets to provide the natural resources, water, energy and food, needed to sustain current lifestyles. It is generally recognized that this is not sustainable. At the heart of sustainable consumption and production is the premise of doing more with less, and while there is some good news in that most of the world's 250 largest companies are now reporting on and taking action in relation to sustainability, there are still some very ambitious goals to achieve. Challenges include access to clean water for the one billion people that currently lack it, while curbing demand and combating water pollution. For energy, it is about efficiency and bringing new, renewable sources online and with an estimated third of all food wasted, such spoil needs to be massively reduced. Another urgent issue is the reduction of the amount of plastics that make the unwanted journey into our seas, oceans and other waterways.

Plastics have proved themselves over recent decades to be valuable and have many benefits. However, when used plastics enter waste streams it is a challenge to recover the material and give a useful second use. Mechanical recycling is one option, but many waste streams are not suited for that method. Through our pioneering work to turn mixed plastic waste into a petrochemical feedstock, SABIC is at the forefront of advancing new circular economy solutions.

In our quest for responsible consumption and production, we undertake Life Cycle Assessment (LCA) to evaluate the environmental impact of our operations. Furthermore, we have a portfolio assessment process to qualify solutions to meet our customers and end users' sustainability needs; hence supporting a responsible consumption.

SABIC is striving for a significant reduction in energy intensity across its own operations. The company aspires to procure

renewable energy to make our electricity mix less fossil dependent. SABIC is also exploring ways to use renewable feedstock for our operations. SABIC works tirelessly to optimize utilization of natural resources in order to reduce its energy, water and material consumption, in addition to carefully monitoring its emissions and targeting reuse wherever possible.

In aiming to support the Responsible Consumption and Production SDG, SABIC is focusing on the following targets:

**12.2** By 2030, achieve the sustainable management and efficient use of natural resources.

**12.4** By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.



Kamani, Mali; Village pump

**12.5** By 2030, substantially reduce waste generation through prevention, reduction, reuse and recycling.

**12.6** Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.

## IMPACT OPPORTUNITIES RELATED TO UN SDG 'RESPONSIBLE CONSUMPTION AND PRODUCTION'

By aligning SABIC's activities to the UN's SDG of Responsible Consumption and Production, we are demonstrating our commitment to reduce the generation of waste – both across our own operations and through encouraging our global suppliers to do the same. Importantly, this company-wide commitment will provide the impetus and focus for even greater innovation in products and processes to advance the circular economy and support SABIC's growth.

In summary, we have identified the following impact opportunities for SABIC:

- 12:** Deploy circular economy and sustainable solutions both, in our operations as well as in our product design;
- 13:** Reduce waste generation in own operations through prevention, reduction, reuse and recycling;
- 14:** Launch an environmentally responsible supplier engagement program;
- 15:** Manage the risks associated with manufacturing and comply with regulatory and voluntary approaches on chemicals management.

### CASE STUDY 1

#### BIO-BASED FEEDSTOCK IN THE NETHERLANDS

SABIC is able to crack bio-based feedstock in our naphtha crackers, to make polymers based on renewable feedstock. This alternative raw material reduces the use of fossil-based feedstock up to 80% and sequesters up to 2 kilos of CO<sub>2</sub> per kilo of manufactured polyolefin.



### CASE STUDY 2

#### STABILIZE OPERATIONS REDUCING LOSSES

Our SAFCO affiliate (Saudi Arabia) cut down material losses by 336,000 tons due to stable operations and efforts to capture and reuse CO<sub>2</sub>.



### CASE STUDY 3

#### CHEMICAL RECYCLING PROJECT

SABIC intends to build a semi-commercial plant at our production site in Geleen, The Netherlands, anticipated to start-up in 2021, to upgrade pyrolysis oil, an alternative feedstock made from mixed plastic waste. This thermochemical upcycling process diverts mixed plastic waste from incineration and landfill; thereby contributing to circular economy objectives. Each kilogram of plastic waste diverted from incineration avoids around 2 kilograms of CO<sub>2</sub> emissions.

## SABIC'S OTHER INITIATIVES IN SUPPORT OF RESPONSIBLE CONSUMPTION AND PRODUCTION

- SABIC has implemented a portfolio assessment process to qualify products in order to establish a challenging product mix answering market sustainability needs;
- Enforce SABIC's "First In, First Out" (FIFO) stock management policy, helping to ensure items with a limited shelf life get used first, to help avoid unnecessary waste;
- SABIC has implemented a Global Due Diligence Supplier Program to ensure suppliers acknowledge our code of conduct and are ready and able to provide the necessary products and services in a sustainable manner in line with our values;
- SABIC is committed to reducing the usage of water, energy and greenhouse gas intensities by 25% and material loss intensity by 50% by 2025 as against 2010 levels and to review these targets beyond 2025 boundaries;
- Adapt own operations to comply with the Saudi Energy Efficiency Program (SEEP) in order to reduce use of natural resources for energy in Saudi Arabia;
- Using efficient technologies to reduce the usage of natural resources: Energy optimization programs in the pipeline at all SABIC sites;
- SABIC's capture and purification of CO<sub>2</sub> plant as evidenced at our site in Jubail, Saudi Arabia (see SDG 13, Climate Action, Case Study 1).
- Implementation of SABIC's sustainability requirements as an integral part of our megaprojects;
- SABIC has recently implemented a system in our site in Gelsenkirchen (Germany) where delivery bags are collected and mechanically recycled for re-use, in order to reduce waste.



# CLIMATE ACTION

The thirteenth SDG is Climate Action for which the goal is to take urgent action to combat climate change and its impact.

Climate change is a phenomenon that is now affecting every country on every continent. The effects are clear with average global temperature increasing by 0.85°C between 1880 to 2012, while oceans have warmed, the amounts of snow and ice have diminished, and sea levels have risen. If no action is taken, the world's average surface temperature will climb by more than three degrees this century. Solutions are available and the global community is acting, with 175 parties to date ratifying the Paris Agreement that aims to limit global temperature rise to well below two degrees centigrade. More people are turning to renewable energy and a range of other measures that will reduce emissions and increase adaptation efforts. The belief is that with major institutional and technological change, global warming will not exceed this two-degree threshold.



As one of the world's largest petrochemical companies, SABIC is in a position to elevate the climate change discussion and influence positive behavioral change both in Saudi Arabia and across the globe. Already collaborating with the Saudi government to achieve its nationally determined contribution targets as outlined in the Paris Agreement, SABIC is taking concerted action to address the issue of climate change. From improving energy efficiency across our operations – we have set ourselves targets to reduce our energy consumption and greenhouse gas emissions by 25% by 2025 from 2010 levels – to decarbonization initiatives, elimination of coal as a combustion fuel and reducing the footprint of our products, to evaluating the deployment of renewable sourced energy as part of our energy mix, we are improving the climate resiliency of our operations.

Set targets to improve the climate resilience of our operations.

In aiming to support the Climate Action SDG, SABIC is focusing on the following targets:

**13.2** Integrate climate change measures into national policies, strategies and planning.

**13.3** Improve education, awareness-raising, human, and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

## IMPACT OPPORTUNITIES RELATED TO UN SDG 'CLIMATE ACTION'

Aligning our business to the UN's SDG of Climate Action allows SABIC to play a responsible and leading role in combating climate change, and provides us with the opportunity to leverage our innovation know-how to develop more efficient process and manufacturing practices, and a host of other advanced solutions to help drive sustainable growth.

In summary, we have identified the following impact opportunities for SABIC:

- 16: Integrate climate change measures into our strategies and planning;**
- 17: Foster programs to reduce greenhouse gas emission intensity in own operations;**
- 18: Promote climate change and sustainability training programs in order to improve own staff's education and awareness raising.**

### CASE STUDY 1 CO<sub>2</sub> PURIFICATION



Sometimes when waste is unavoidable, it can often be used as a secondary raw material. By capturing and purifying CO<sub>2</sub> waste, it can be converted into valuable and highly versatile chemicals such as urea, methanol and oxo-alcohol which are the building blocks of a wide range of industrial and consumer products from fertilizers, paint, adhesives, polishes, synthetic fibres used to make clothing, among many other uses. Purified CO<sub>2</sub> also has important preservation, chilling and carbonation applications for the food and beverage industries. SABIC has built the world's largest CO<sub>2</sub> purification and liquefaction plant. Located in Saudi Arabia, it has capacity to supply 500,000 metric tons of purified CO<sub>2</sub>.



### CASE STUDY 2 REDUCING CO<sub>2</sub> EMISSIONS



As part of SABIC's efforts to reduce its CO<sub>2</sub> emissions and resultant greenhouse gas (GHG) intensity, we are employing the most advanced catalyst technology. Catalysts – substances that increase the rate of a chemical reaction - boost energy efficiency, so reducing the amount of greenhouse gas emissions. In SABIC's plants, high-selectivity catalysts are used. Although a complex chemical process, simply put, catalysts with high selectivity are particularly efficient as they focus on desirable, energy enhancing reactions without creating any undesirable ones at the same time, so greatly aiding SABIC's greenhouse gas reduction targets.



### CASE STUDY 3 LIGHTER STRUCTURES



Chemical structural foams are a highly versatile range of products that can significantly reduce the weight of component parts over solid plastics. In the construction industry, it is especially useful to increase wall thickness, delivering strength, insulation and even sound-proofing. When combined with SABIC's long glass fiber-reinforced polypropylene material STAMAX™, foam solutions can reduce the weight of such structures by up to 15%, meaning reduced CO<sub>2</sub> emissions from manufacturing and transportation and quicker production times. SABIC's solution is also extremely low in potentially harmful volatile organic compounds (VOC) emissions.



## SABIC'S OTHER INITIATIVES IN SUPPORT OF CLIMATE ACTION

- In line with the EU 2030 climate & energy framework, SABIC is running climate programs across all European sites. We will be undertaking further gradual greenhouse gas reduction between 2030 and 2050;
- SABIC is committed to reducing its greenhouse gas intensity by 25% by 2025 as against 2010 levels;
- SABIC collaborates with the Saudi government to achieve its Nationally Determined Contribution (NDC) targets as outlined in the Paris Agreement;
- SABIC is launching global sustainability training programs to its staff.





# LIFE BELOW WATER

The fourteenth SDG is Life Below Water which aims to conserve and sustainably use the oceans, seas and marine resources for sustainable development.

The oceans are a vital resource, covering three quarters of the Earth's surface, containing 97 percent of the Earth's water, and representing 99 percent of the living space on the planet by volume. It is their temperature, chemistry, currents and life that drive the global systems that make the Earth habitable for humankind. Much of our resources - rainwater, drinking water, weather, climate, coastlines and even the oxygen in the air we breathe - depend on the wellbeing of the oceans. They also absorb about 30 percent of the carbon dioxide we produce and serve as the world's largest source of protein, with over 2.6 billion people relying on the oceans for their main source of food. Over 3 billion people also depend on marine and coastal biodiversity for their livelihoods, so careful management of this essential global resource is a key feature of a sustainable future.

The chemical sector is working across the value chain to reduce marine pollution of all kinds, including nutrient pollution and the prevention and reduction of ocean plastic waste. SABIC is already engaged in a pioneering feedstock recycling initiative to help drive the reuse and recycling of mixed plastic waste, still largely destined for landfill and subsequently often ends up in our oceans and waterways. Through our ongoing decarbonization efforts and our target to reduce greenhouse gas emissions by 25% by 2025 from 2010 levels, we are aiming to significantly reduce our contribution to the main source of ocean acidification. We are also reducing our emissions of total organic carbon (TOC) into effluent wastewater and have developed innovative specialty fertilizers that reduce leaching of chemicals into soil and water tables. SABIC partners with other chemical companies and manufacturers in major initiatives, such as the Alliance to End Plastic Waste, to

stem the flow of plastic waste into the environment. (see SDG17, case study 1). SABIC is also partner to initiatives to collect ocean plastic waste such as The Ocean Cleanup. Furthermore, SABIC has signed up to the Operation Clean Sweep® pledge initiative toward 100 percent containment of pellet, flake, and powder in our workplaces, saving valuable resources and protecting the environment, with especial mention to protecting the world's streams, waterways, and oceans.

In aiming to support the Life Below Water SDG, SABIC is focusing on the following targets:

- 14.1** By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.
- 14.2** Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels.



## IMPACT OPPORTUNITIES RELATED TO UN SDG 'LIFE BELOW WATER'

The UN's SDG of Life Below Water has a wide-ranging impact on business. Not only does it encourage the commercial world to take steps in aid of preserving our marine environment and protecting its wildlife, but by focusing our minds on this critical issue, it allows organizations such as SABIC to significantly reduce waste of costly resources which, might otherwise end up in water ways and ultimately the oceans.

In summary, we have identified the following impact opportunity for SABIC:  
**19: Join initiatives to reduce the leak of plastic into waterways and oceans.**

### CASE STUDY 1 OPERATION CLEAN SWEEP®



Operation Clean Sweep® encourages industries that handle plastic resins to prevent plastics from entering the world's oceans and waterways. Companies that sign up to Operation Clean Sweep pledge to work towards 100% containment of plastic pellet, flake, and powder, protecting the environment and saving valuable resources. Supporting Operation Clean Sweep since 2015, SABIC is rolling out the program across all its facilities globally in 2019 as part of its water management standard. In addition to implementing the program across our own operations, SABIC is seeking the engagement of its value chain partners, encouraging them to sign up to Operation Clean Sweep or equivalent initiatives.



### CASE STUDY 2 INNOVATIVE FERTILIZERS



In conjunction with some of the world's major food producers, SABIC has developed pioneering agri-nutrient solutions to improve crop yield while reducing impact on the environment. SABIC recently developed innovative fertilizers that reduce run-off from fields, so aiding greater protection of our waterways. Incorporating a new process which coats the urea in a fully biodegradable plastic, the fertilizers contain similar efficacious levels of nitrogen as standard urea but lasts 50% longer. SABIC, in association with manufacturing partners SAFCO and SABTANK have been awarded the "Protect and Sustain" certification from the International Fertilizer Association for its product stewardship in the agri-nutrients industry.



Achieve zero pellet, flake and powder loss to protect the environment.



## SABIC'S OTHER INITIATIVES IN SUPPORT OF LIFE BELOW WATER

- As CO<sub>2</sub> emissions are the main cause of water acidification, SABIC has committed to reduce its greenhouse gas (GHG) intensity by 25% by 2025 as against 2010 levels;
- We are partnering with associations and advocating initiatives to foster plastic waste schemes and prevent plastic ending up in our oceans and

waterways, as well as cleaning up existing plastic pollution, such as The Ocean Cleanup and the Alliance to End Plastic Waste (see SDG 17, Partnership, Case Study 1).

# PARTNERSHIPS FOR THE GOALS

The seventeenth and final SDG is Partnership for the Goals, which aims to strengthen the means of implementation and revitalize the global partnership for sustainable development.

Partnerships between governments, the private sector, NGOs and civil society are crucial to accelerate sustainable development and advance all the sustainable development goals. Troubling is the fact that according to the UN, official development assistance stood at \$146.6 billion in 2017, a decrease of 0.6 per cent in real terms over 2016. However, there are trillions of dollars of private resources available to help achieve the sustainable goals and this needs to be channelled and directed to deliver sustainable energy, infrastructure and transport, as well as information and communications technologies. To achieve this, it will be necessary to mobilize both existing and additional resources, particularly those related to finance and technology development. It also applies to capacity building, or the process by which people and organizations obtain the resources needed for gainful employment, undertaking their jobs competently and to a greater capacity. This is particularly the case in the developing world where mature economies will need to fulfil their official development assistance commitments.

SABIC is committed to developing and enhancing the multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, especially across developing nations. We are actively engaged in ongoing programs and initiatives to encourage, promote and implement effective public, commercial and civil partnerships.

As a member of the World Business Council for Sustainable Development (WBCSD), SABIC advocates and targets business solutions aimed at scaling up the impact the commercial sector can make to our most urgent sustainability challenges. We also recently joined the China Business Council for Sustainable Development (CBCSD), participating in discussions on solutions to develop a model for a low carbon emission city.

SABIC partners with other chemical associations, companies and manufacturers in major initiatives to capture, recycle and recover plastic waste including the American Chemistry Council (ACC), the European Chemical Industry Council (CEFIC), PlasticsEurope and the Alliance to End Plastic Waste. We are also supporting ambitious programs to prevent and collect ocean plastic with organizations such as Operation Clean Sweep® and The Ocean Cleanup.

We are also active participants in global initiatives including The Carbon Disclosure Project (CDP); the Global Reporting Initiative (GRI); The Conference of Parties (COP) of the United Nations Framework Convention on Climate Change (UNFCCC); and the UN Global Compact (UNGC), for which we support reporting across all areas of sustainability from climate change and human rights to governance and social well-being, reporting. As a trusted partner of the Saudi government, SABIC also

provides technical support at the Carbon Sequestration Leadership Forum (CSLF). In addition to the many global partnerships, SABIC plays a leading role in region-specific collaborations such as with Gulf Petrochemical and Chemicals Association (GPCA) for which we undertake joint advocacy programs for a range of sustainability challenges.



## IMPACT OPPORTUNITIES RELATED TO UN SDG 'PARTNERSHIPS FOR THE GOALS'

Strategic alliances also afford SABIC the opportunity to collaborate on innovative product design and processes, and new business solutions.

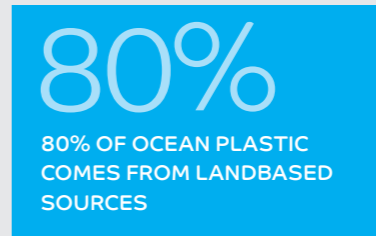
In summary, we have identified the following impact opportunity for SABIC:  
**20: Foster multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals.**

As a global industry leader we work with our partners to speedily deliver solutions for the long-term.

### CASE STUDY 1 ALLIANCE TO END PLASTIC WASTE



Plastic waste in the environment, particularly in the ocean, is a serious global issue that calls for swift action and strong leadership. Despite the many benefits plastics bring to people and communities around the world, unmanaged plastic waste has become a challenge. SABIC is a founding member of the Alliance to End Plastic Waste, a new not-for-profit organization consisting of 27 global companies committed to advancing solutions to reduce mismanaged plastic waste in the environment. An immediate goal for Alliance members is to deploy \$1.5 billion over the next five years to create and implement a comprehensive and workable strategy to combat the challenge.



### CASE STUDY 2 IMPROVING AGRICULTURAL PRODUCTIVITY



SABIC partnered with the Arab Fertilizer Association, the Giad Industrial Group, and the Sudanese Ministry of Agriculture to host an Agricultural Awareness Caravan in the Sudan's River Nile State, as part of the association's strategy to improve agricultural productivity, promote cooperation, and achieve Arab food security. The caravan, a partner of the Saudi Ministry of Environment, Water and Agriculture, helped identify potential investment opportunities in the state.



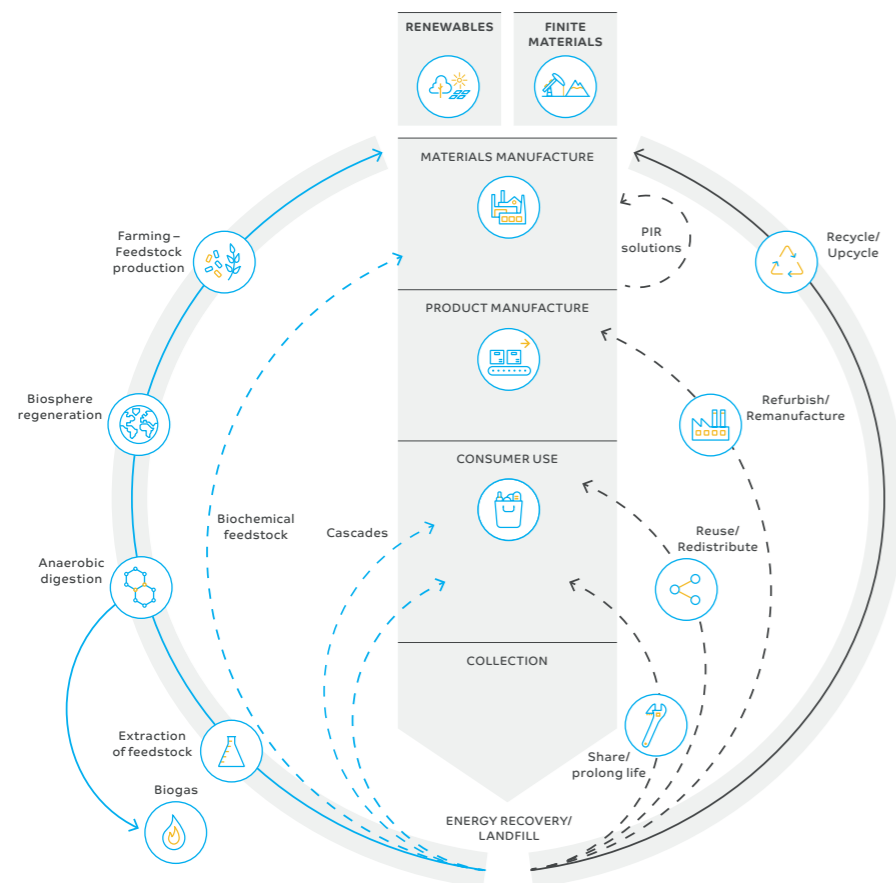


# MAPPING THE IMPACT OPPORTUNITIES

The most material issues help us identify and prioritize the sustainability concerns that matter most to our business and stakeholders. After selecting the 10 SDGs most relevant to SABIC, we have undertaken a review and assessment of projects and initiatives across the business which have resulted in 20 impact opportunities with the greatest potential to contribute to our growth.

In mapping our material priorities to these impact opportunities we have also aligned them to our selected SDGs in order to help facilitate strategic planning and thinking, keep us focused on our key business objectives and ensure everyone is aligned to our overall vision.

## SABIC'S CIRCULAR ECONOMY SOLUTIONS



### SABIC'S MOST MATERIAL SUSTAINABILITY ISSUES

#### 1. RESOURCE EFFICIENCY



#### 2. CLIMATE CHANGE AND ENERGY



#### 3. INNOVATION AND SUSTAINABILITY SOLUTIONS



#### 4. CIRCULAR ECONOMY



#### 5. GOVERNANCE AND INTEGRITY



#### 6. ENVIRONMENT, HEALTH, SAFETY AND SECURITY (EHSS)



### UN SDG

### IMPACT OPPORTUNITIES

### RELATED MOST MATERIAL SUSTAINABILITY ISSUE



- 1: Develop agri-nutrient specific grades to enhance productivity and/or with slow release of nutrients.
- 2: Create innovative packaging to extend shelf lifetimes; hence, reducing food waste.
- 3: Promote in partnership sustainable agricultural practices.

- Innovation & Sustainability solutions
- Innovation & Sustainability solutions
- Governance & Integrity



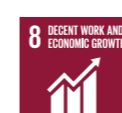
- 4: Pipe solutions to improve water management.
- 5: Water management programs to reduce water intensity in own operations.

- Innovation & Sustainability solutions
- Resource efficiency



- 6: Energy efficiency programs to reduce energy intensity in own operations.
- 7: Product design that address clean energy solutions.

- Climate change
- Innovation & Sustainability solutions
- Climate change



- 9: Foster significant value to the domestic Saudi economy and engage in the development of young Saudis.

- Governance & Integrity



- 10: Innovative advancements in ground-breaking product design, material efficiency and reuse and the latest manufacturing processes.

- Innovation & Sustainability solutions
- Resource efficiency
- Climate change
- Circular economy

UN SDG	IMPACT OPPORTUNITIES	RELATED MOST MATERIAL SUSTAINABILITY ISSUE
	11: Foster the design of products that make urban areas more sustainable.	<ul style="list-style-type: none"> <li>Innovation &amp; Sustainability solutions </li> </ul>
	12: Deploy circular economy and sustainable solutions both, in our operations as well as in our product design.	<ul style="list-style-type: none"> <li>Innovation &amp; Sustainability solutions </li> <li>Circular economy </li> </ul>
	13: Reduce waste generation in own operations through prevention, reduction, reuse and recycling.	<ul style="list-style-type: none"> <li>Circular economy </li> </ul>
	14: Launch an environmentally responsible supplier engagement program.	<ul style="list-style-type: none"> <li>Governance &amp; Integrity </li> </ul>
	15: Manage the risks associated with manufacturing and comply with regulatory and voluntary approaches on chemicals management.	<ul style="list-style-type: none"> <li>EHSS </li> </ul>
	16: Integrate climate change measures into our strategies and planning.	<ul style="list-style-type: none"> <li>Climate change </li> </ul>
	17: Foster programs to reduce green house gases emission intensity in own operations.	<ul style="list-style-type: none"> <li>Climate change </li> </ul>
	18: Promote climate change and sustainability training programs in order to improve own staff's education and awareness.	<ul style="list-style-type: none"> <li>Governance &amp; Integrity </li> </ul>
	19: Join initiatives to reduce the leak of plastic into waterways and oceans.	<ul style="list-style-type: none"> <li>EHSS </li> </ul>
	20: Foster multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals.	<ul style="list-style-type: none"> <li>Governance &amp; Integrity </li> </ul>

# THE WAY FORWARD

SABIC's material priorities support how our activities can positively impact the selected SDGs and their challenges as well as the identified impact opportunities that can generate business growth.

We have clustered the identified 20 impact opportunities in four themes to help provide direction for our SDG journey.

<p style="font-size: 2em; font-weight: bold; color: #0070c0;">1</p> <p style="font-weight: bold; color: #0070c0;">INNOVATIVE SOLUTION DESIGN</p> <p>Embed sustainability in product and process innovation.</p> <p style="font-size: 0.8em; color: #0070c0;">Impact opportunities 1, 2, 4, 7, 10 and 11</p>	<p style="font-size: 2em; font-weight: bold; color: #0070c0;">2</p> <p style="font-weight: bold; color: #0070c0;">CLIMATE CHANGE</p> <p>Incorporate climate resilience across our operations.</p> <p style="font-size: 0.8em; color: #0070c0;">Impact opportunities 6, 15, 16, 17 and 18</p>	<p style="font-size: 2em; font-weight: bold; color: #0070c0;">3</p> <p style="font-weight: bold; color: #0070c0;">CIRCULAR ECONOMY</p> <p>Reduce resilience on the linear increase in resources demand for our economic growth.</p> <p style="font-size: 0.8em; color: #0070c0;">Impact opportunities 5, 8, 12 and 13</p>	<p style="font-size: 2em; font-weight: bold; color: #0070c0;">4</p> <p style="font-weight: bold; color: #0070c0;">PARTNERING</p> <p>Foster the vital multi-stakeholder partnerships to advance the SDGs.</p> <p style="font-size: 0.8em; color: #0070c0;">Impact opportunities 3, 9, 14, 19 and 20</p>
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1. The first of these is to embed sustainability in our product and process innovation – particularly where the need is most urgent, including, but not limited to:

- the development of agri-nutrients that are resilient to climate change in order to secure the food supply chain;
- pipe materials and solutions to ensure availability and sustainable management of water and sanitation;
- product design to address the demand for clean energy, make the process of urbanization more sustainable and to advance packaging design to extend shelf life of perishable foods;
- solutions to advance the circular economy.

2. Our second theme is to incorporate climate resilience across our operations. From improving energy efficiency – we have set ourselves targets to reduce our energy intensity and greenhouse gas emissions intensity by 25% by 2025 from 2010 levels – to decarbonization initiatives and reducing the footprint of our products, to assessing to the deployment of renewable sourced energy as part of our energy mix.

3. Reducing our reliance on the linear increase in resources demand for our economic growth is our third theme. We will do this by reducing waste through prevention, reduction, reuse and recycling. For instance, we have set ourselves a target to reduce material loss by 50% by 2025 from 2010 levels. Additionally, we will advance the global circular economy through the creation of innovative new circular solutions.

4. The fourth theme of our SDG roadmap is to foster the vital multi-stakeholder partnerships that will accelerate the advancement of the SDGs. We are already actively engaged in ongoing programs to mobilize and share knowledge, expertise, technology and financial resources among governments, the private sector, NGOs and civil society.

Finally, it will be important for SABIC to communicate regularly and transparently to all our stakeholders on the progress we are making in order to continue enhancing our brand, reputation and trust.



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