www.pwc.com/me

Delivering the Sustainable Development Goals

seizing the opportunity in global manufacturing

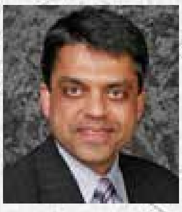
pwc

GMIS Global Manufacturing & Industrialisation Summit

Taking a Transformational Approach

UNIDO

Table of contents



Dr. Anil Khurana
Organizing Committee Member,
Global Manufacturing & Industrialisation Summit (GMIS),
Partner, Strategy & Innovation
PwC Middle East and US,
ME Lead - Consumer & Industrial Products & Services

Badr S. Al-Olama
Organising Committee Member,
Global Manufacturing & Industrialisation Summit (GMIS),
CEO Strata Manufacturing PJSC (Strata),
Associate Director - Mubadala Aerospace &
Defense Services

Executive summary

This white paper, developed jointly by PwC, GMIS and UNIDO, sets out the business imperative for manufacturing businesses of achieving the United Nations Sustainable Development Goals (SDGs), and why global manufacturing organisations must align their strategy with the SDGs.

Of course businesses cannot achieve the SDGs by themselves. That is not their role. That is the role of government. But individual businesses – including global manufacturers - can help (or hinder) governments in achieving them.

Governments will also turn to business to help them achieve the SDGs, not primarily through donations or philanthropic activity (although that will help too), but by reviewing and seeking inputs that help shape government policies and procedures impacting businesses.

For global manufacturing players, this means (a) recognising the relevance of the SDGs to their business activities, and then (b) moving away from “business-as-usual” in the way they deliver and create products and services.

Manufacturers should look closely at the targets that underpin SDG goals 7, 8, 9, 12 and 13 in particular, as these may well be where their greatest opportunities (and their biggest contribution) lie. UNIDO, which focuses particularly on SDG 9, believes that the structural shift toward more innovation and technology-oriented industrial activities will significantly change the nature of competition, redefine work and redraw traditional industrial boundaries. As such, the arrival of the new industrial revolution promises considerable opportunities for inclusive and sustainable development for manufacturers as they align their business models with the achievement of the SDGs.

The recent ‘Better Business, Better World’ report revealed that pursuing sustainable and inclusive business models could unlock economic opportunities worth at least US$12 trillion a year by 2030 and generate up to 380 million jobs, mostly in developing countries. But the total economic prize from implementing the Global Goals could be two to three times larger still, assuming that the benefits are captured across the whole economy and accompanied by much higher labour and resource productivity.

Executive Summary

Ludo Alcorta
Director, Development Policy, Statistics and Strategic Research, United Nations Industrial Development Organization (UNIDO)

الملخص التنفيذي

تم إعداد هذه الوثيقة بالتعاون مع برايس ووترهاوس كوبرز، والقمة العالمية للصناعة والتصنيع، ومنظمة الأمم المتحدة للتنمية الصناعية (يونيدو)، وفيه يبحث أهمية تحقيق شركات التصنيع للأهداف العالمية للتنمية المستدامة (SDGs) وأسباب حاجة المنظمات الصناعية العالمية إلى مواءمة استراتيجيتها مع هذه الأهداف.

ويعد تحقيق الأهداف العالمية للتنمية المستدامة من ضمن دور الحكومات وليس الشركات والأعمال ، كونها لا تستطيع القيام بذلك من تلقاء نفسها. ولكن، يمكن للشركات - بما في ذلك شركات التصنيع العالمية - أن تساعد (أو تعيق) الحكومات في تحقيق تلك الأهداف. كما أن الحكومات ستسعى للحصول على المشورة من الشركات لمساعدتها على تحقيق الأهداف العالمية للتنمية المستدامة، ليس فقط من خلال التبرعات أو النشاط الخيري (على الرغم من أنه من شأنه أن يساعد أيضاً)، وإنما عن طريق استعراض والبحث عن المدخلات التي تساعد على تطوير السياسات والإجراءات الحكومية التي تؤثر على هذه الشركات.

استناداً لما سبق، فإن شركات التصنيع العالمية الكبرى ستدرك أهمية الأهداف العالمية للتنمية المستدامة لأنشطتها التجارية، وتبتعد عن اتباع طريقة أداء «الأعمال كالمعتاد» عند تقديم أو خلق منتجاتها وخدماتها. وعليه، ينبغي على شركات التصنيع الاطلاع عن كثب على المستهدفات الخاصة بأهداف التنمية رقم ٧ و٨ و٩ و١٢ وعلى وجه الخصوص الهدف رقم ١٣، حيث أنها تمثّل أفضل الفرص المتاحة لهم (وأكبر المساهمات).

تركّز اليونيدو بشكل خاص على هدف التنمية المستدام رقم ٩، وتعتقد بأن التحول الهيكلي نحو مزيد من الابتكار والأنشطة الصناعية ذات التوجه التكنولوجي سوف تغيّر بشكل ملحوظ طبيعة المنافسة، مع إعادة تعريف العمل والحدود الصناعية التقليدية. وعليه، فإن وصول الثورة الصناعية الجديدة يحمل معه فرصاً كبيرة للتنمية الشاملة والمستدامة لشركات التصنيع التي بدأت بمواءمة نماذج أعمالها مع تحقيق الأهداف العالمية للتنمية المستدامة.

وقد كشف تقرير «أعمال أفضل، لعالم أفضل» أن السعي نحو اتباع نماذج عمل مستدامة وشاملة يمكّن أن يفتح الأبواب لفرص اقتصادية بقيمة ١٢ تريليون دولار أمريكي على الأقل سنوياً بحلول عام ٢٠٣٠، بالإضافة إلى خلق ما يصل إلى ٣٨٠ مليون فرصة عمل، معظمها في الدول النامية. ومع ذلك، يمكن أن تكون الفائدة الاقتصادية الكلية من تنفيذ هذه الأهداف العالمية أضعاف ذلك، على افتراض أن يتم تسجيل الفوائد على جميع قطاعات الاقتصاد إضافةً إلى وجود قدر أكبر من الإنتاجية لدى العمالة والموارد.

Foreword – introducing the SDGs

Driving sustainable change

When 193 governments come together - as they did when signing up to the SDGs in 2015 - and agree to face world issues head on, you know that there is appetite for change. In 2015, countries worldwide adopted 17 goals[1] , with 169 underlying targets, that tackle major issues impacting the world, from ending poverty, to protecting the planet, to ensuring prosperity for all as part of a new sustainable development agenda.

Each of these 17 United Nations Sustainable Development Goals (SDGs) has specific targets that need to be achieved by 2030. For the goals to be reached, everyone needs to do their part: governments, the private sector (i.e. business), civil society and individuals. In this report, we focus primarily on the role of governments and businesses, with a special emphasis on global manufacturers.

Source: Preliminary results from the PwC SDG selector.

[1] See http://www.un.org/sustainabledevelopment/sustainable-development-goals/ for more on each of the 17 goals.

The SDGs both build upon and go way beyond the earlier Millennium Development Goals (MDGs) – launched in 2000 to make global progress on poverty, education, health, hunger and the environment. The MDGs had been an expression of solidarity with the world's poorest and most vulnerable. They translated principles and aspirations into a set of time-bound, shared targets, and mobilised the world to tackle poverty's many dimensions, forming a framework for a global partnership that ushered in a new era of development cooperation.

Although the MDGs were not achieved in their entirety, significant inroads were made: extreme poverty was halved in 15 years; 43 million more children now go to school; new HIV infections went down by 40% and over two billion more people got access to clean drinking water. But there is still much to do.

In part, the SDGs encompass the unfinished business of the MDGs, but they go well beyond poverty eradication, breaking significant new ground covering economic and environmental challenges as well. Crucially, the 17 goals and their underlying 169 targets are interconnected rather than stand-alone and they apply equally to the developed and developing world.

For over 20 years already, governments have also been coming together to discuss climate change, its impact on the planet and how to address it. 2016 saw a major new agreement on their approach and ambition, evidencing the ability and current appetite of governments to convene and commit to driving real change. This "Paris Agreement" feeds into SDG 13 (Climate action) rather than competing with it.[2]

The agreement has now been ratified by 132 countries. The UAE government, which ratified in September 2016, sees this agreement as a 'way for countries to contribute to climate actions in line with their economic and development priorities*. For the UAE this means solutions which create new social and economic opportunities and support our ambitious agenda towards economic diversification', according to Dr Thani Ahmad Al Zeyoudi, Minister of Climate Change and Environment.

"The 2030 Agenda for Sustainable Development, adopted by world leaders two years ago, is a blueprint for making our world more equitable, sustainable and liveable.

To implement this plan - and its 17 Sustainable Development Goals - we need to broaden the circle of action to include governments, bilateral and international organisations, and international financial institutions"

Antonio Guterres, UN Secretary General[3]

***Source:** http://www.thenational.ae/uae/environment/uae-to-monitor-greenhouse-gas-emissions.

[2]For more on the Paris Agreement, see http://unfccc.int/paris_agreement/items/9485.php
[3]See http://www.newsweek.com/2017/01/20/davos-2017-un-secretary-general-antonio-guterres-opinion-540326.html?rx=us

1. The SDGs – the role of governments

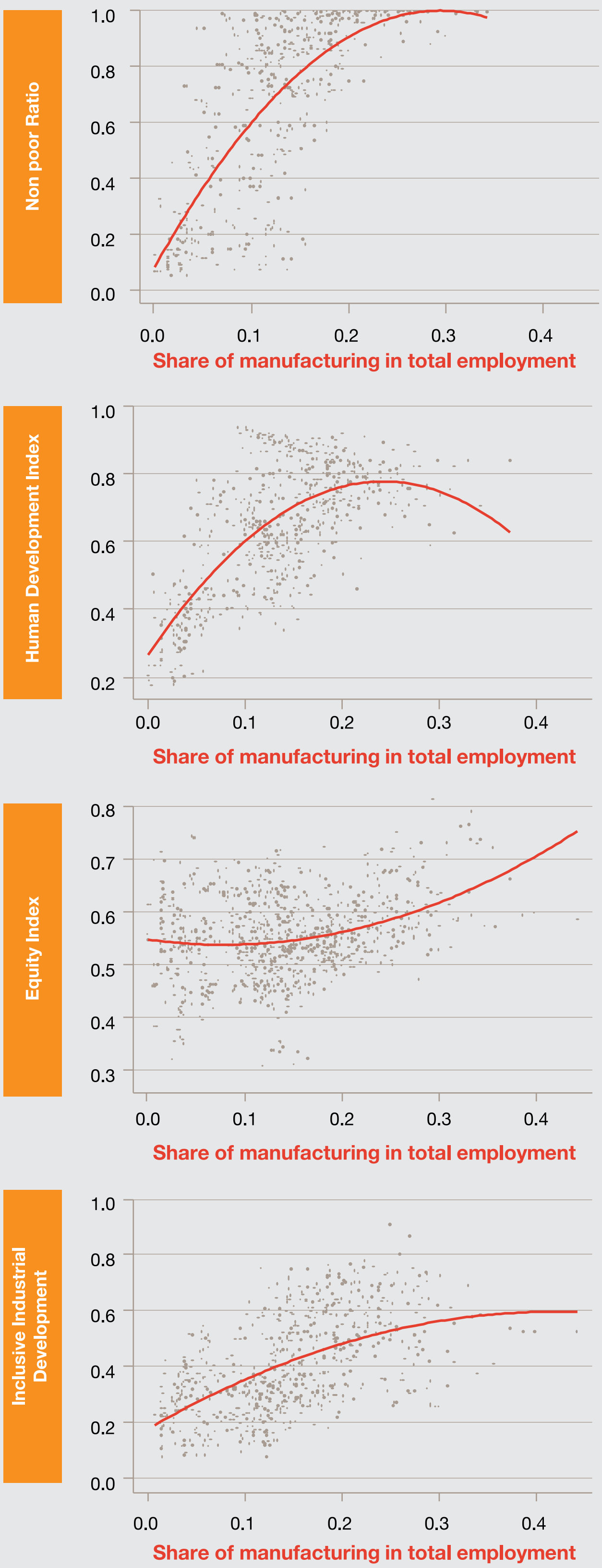
Governments around the world are getting serious about the SDGs

It is clear that primary responsibility for achieving the SDGs lies with governments, but it is also now widely recognised that they will not be able to make the dramatic level of change without the help of business. After all, business activity has an impact - both positive and negative - that touches upon all the goals.

Industrialization is critical to economic growth and employment in all countries. There is ample empirical evidence that industry and manufacturing provide greater opportunities to exploit economies of scale, drive investment and innovation, create formal employment, and facilitate global trade. This recognition is based on its ability to drive the structural transformation of economies, which is key for realizing the economic growth rates and decent job opportunities needed to achieve shared and sustained prosperity.[4]

For instance, recent analysis conducted by UNIDO shows the positive correlation between manufacturing and indicators of social inclusiveness. (See Figure 1: Inclusiveness indices by share of manufacturing in total employment). Data from the Non-Poor Ratio, Human Development Index and Inclusive Industrialization Development index all demonstrate strong linkages between manufacturing and lower levels of poverty, better income distribution, and better human development rankings.

Figure 1: Inclusiveness indices by share of manufacturing in total employment, 1970-2010.



Source: UNIDO Industrial Development Report 2016.

[4]The role of manufacturing as a significant engine of growth was particularly important in developing and emerging countries where MVA (Manufacturing Value-Added) growth outpaced GDP growth in the past 20 years, resulting in a share of MVA growth in 2014 that is 25 per cent higher than that of GDP. (UNIDO Statistical Database)

The consensus among economists and policymakers has grown wider on the need for governments to put forward strong policies directed both at facilitating the growth of existing and emerging industries, and addressing the unaccounted and unintended impacts on society of growth. For business to contribute effectively to sustainable development, proactive action must be taken by policymakers.

49%

According to PwC research, government is seen as having prime responsibility for achieving the SDGs by 49% of business responders and 44% of citizens ranked government first.

Source: Make it your business: Engaging with the Sustainable Development Goals, PwC 2015

Delivering the SDGs requires all countries to ensure that their policies are on track nationally and internationally. By early 2017, after a relatively low-key start, we are beginning to see growing evidence of governments getting serious about the goals. For example, in advance of the next UN High-level Political Forum on Sustainable Development later this year, 43 UN Member State governments have announced their interest in presenting voluntary national reviews of their SDG implementation.

A recent paper synthesised a number of case studies on early governmental experience regarding implementation of the SDGs. It focused on OECD countries, all of which were still at an early stage of implementation. One challenge so far has been to ensure that the SDGs become a 'whole-of-government' programme, not one confined to one or two ministries. All the countries studied also reached out to civil society and the private sector to consult them, even while the 2030 Agenda was still being negotiated for adoption by Heads of State and Government.

CEOs recognise the significance of a government agenda

According to PwC 19th Annual Global CEO Survey, 69% of CEOs say that governments and regulators have a high or very high impact on business strategy, so when it comes to the SDGs, it is natural to assume that business will be keeping a watchful eye on government initiatives to achieve the 17 goals by 2030. However, 79% of CEOs also said that they are concerned about over-regulation being a threat to business growth, so it is a fine balance.

Governments have a strong incentive to achieve the SDGs, as successful delivery is expected to "shift the needle" forward as regards GDP growth. Governments around the world are beginning to walk the talk on the SDGs:

- The US Government committed to develop a SDG Data Revolution Roadmap by June 2017 to serve as an outline of the government's commitments-to-action over the next two years.
- An Asia-Pacific committee agreed to a framework for strengthening governments' ability to produce and use statistics for tracking progress on the 2030 Agenda for Sustainable Development. Meanwhile, China recently released its national plan for implementing the SDGs.
- The UN SDG Action Campaign established a Global Campaign Centre in Germany, which will provide big data analysis and expertise and advocacy support to Member States and partners globally.

Many other countries are also now engaging seriously with the SDGs, as the following illustrative examples show:

- In Africa, an SDGs centre for Africa launched in Rwanda. Meanwhile, in Ghana, the SDGs are recognised as representing an unprecedented opportunity to deliver high quality development: for example, US$5 million was awarded to the Safe Water Network to develop a market for small water enterprises, to increase reliable access to safe and affordable water for households, health facilities and schools.

- In Asia, the Government of India and state governments have taken full ownership of the SDG agenda. Many of the central and state governments' existing flagship schemes and policies, and their strategic vision for achieving prosperity for all, link clearly to the SDGs.

- In Europe, Finland established a long-term SDG implementation plan (see below). It selected a few politically relevant and nationally critical thematic focus areas for urgent implementation and it intends tracking success through a range of "Findicators".

- In South America, Colombia was heralded as a poster-child for the SDGs after a decree establishing the creation of an Inter-Agency Commission for the Preparation and Effective Implementation of the SDGs was passed in early 2015, i.e. even before the goals were formally endorsed.

Progressing towards an SDG-aligned economy: Finland's approach

Some countries are already writing their visions for 2030. For example, the implementation of Agenda 2030 in Finland builds on two themes: the aim is a carbon-neutral, resource-wise and competent Finland where non-discrimination and equality are secured. It has started to make plans to identify key projects and funding, all of which will touch on business directly or indirectly. Carbon neutral and resource-wise Finland will:

- Prepare an energy and climate strategy aiming at the year 2030 and develop related measures allowing the attainment of the targets of the Government Programme and the obligations imposed by the EU. Total resources €100 million.

- Accelerate the introduction of new bio-economy innovations through pilot projects and innovative public procurement. Total resources €5 million.

- Prepare regulation and other solutions that promote recycling. Total resources €1 million.

Indeed, by the end of their first year of implementation, governments around the world were busy integrating SDGs into their plans, budgets and policies.

Forging partnerships for the SDGs – A government perspective

Productive activities are central to development. A strong private sector is a key driver of local economic growth, knowledge and technology generation, jobs creation, and the provision of fundamental goods and services. Inclusive and sustainable industrialisation is associated with the development of robust and diversified manufacturing industries, including a resilient industry-related services sector and a strengthened small and medium-size enterprise (SME) sector that succeed in providing opportunities accessible to all people, including the most vulnerable groups.

Transformative developments in industry solutions can have profound impacts on areas including climate change, agriculture and food, water, human rights and corruption. The private sector has traditionally been the driver of technology development and innovation, representing a hub for technological progress. It has further proven its considerable ability in combining inventive capacity with access to finance.

As emphasized in UNIDO's Industrial Development Report, the current structural shift toward more innovation and technology-oriented industrial activities will significantly change the nature of competition, redefine the nature of work, redraw the traditional boundaries of industries and sectors, and create significant new sources of value for citizens, firms and entire economies. As such, the arrival of the new industrial revolution promises considerable opportunities for inclusive and sustainable development.

But these potential gains will only be achieved if governments take sufficient actions to help put in place the conditions necessary for the growth of a strong and dynamic industrial base. This will require a broad set of policies at the national level, including infrastructure, skills, access to finance, and institutional frameworks; as well as new forms of partnerships that put forward innovative business models that respond to commercial imperatives while contributing to the attainment of global development objectives - thus shaping the next stage of globalisation.

Thus, there is an urgent need to be agile and flexible in the way government leaders advance economic growth and sustainable development with the support of manufacturing industries.

According to UNIDO, governments may consider, the following policy options for national, regional and global action:

1. **Supporting the integration of SMEs and their clusters into national, regional and global value chains** through the establishment of supportive business environment conditions and regulatory frameworks. As SMEs remain the backbone of the industrialisation process in most developed and developing countries, strengthening their positioning in the fast-evolving manufacturing era should remain central. Supporting a vibrant industrial ecosystem will require placing greater emphasis on innovation and skills upgrading in SME policies. Incentives and targeted support to the sector may take many forms, including technology transfer, access to finance, capacity building and entrepreneurship development.

   For complementary know-how, measures to promote knowledge and technology sharing platforms for SMEs and micro-enterprises should be further strengthened, with the important participation of large-scale companies in a supply-chain relationship as well as with local R&D institutions. Furthermore, investing in technical and vocational training programmes to complement funding in basic education and to enhance specific skill-sets related to individual industries and value chains will remain pivotal, particularly towards promoting rural, women and youth entrepreneurship in underserved areas. Measures to facilitate networking and partnerships for financing and cross-sectoral, cross-industry collaboration should too be given appropriate consideration.

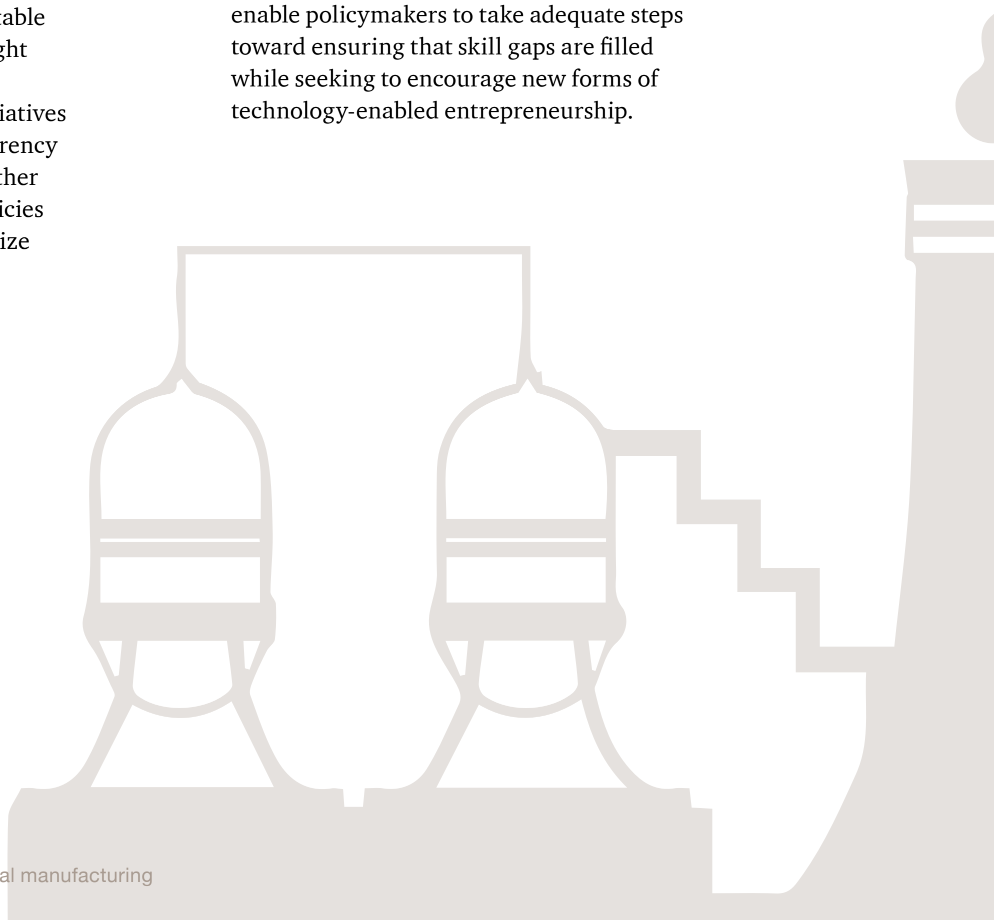
3. **Strengthening global financing and domestic resource mobilisation around the infrastructure-industrialisation-innovation nexus**, aimed at deepening regional and economic integration in developing countries. This may include, promotion of transport and industrial corridors, industrial agglomerations and innovation systems. Ensuring that quality infrastructure such as roads, ICTs, transport and electricity is widely accessible and reliable is fundamental for boosting the kind of industrial activity that ultimately leads to higher employment, economic growth and enhanced living standards.

4. **Fostering public-private cooperation in smart cities and the circular economy** to deliver more sustainable development models, particularly in least developed countries. This will entail more than improving energy efficiency but rather shaping synergistic ecosystems of services that increase asset and resource productivity. Accelerated progress on aspects of urbanisation policy related to inclusive and sustainable industrialisation remains pivotal to reducing inequality within urban and rural areas and the urban-rural gap in living standards and economic conditions, as well as enhancing climate resilience. In this context, governments and city planners can play an important role by providing a long-term perspective and investing in large-scale solutions. Additional incentives and suitable policy instruments will need to be brought forward in order to encourage industry retrofits on the scale required. Also, initiatives that promote sustainability and transparency on the utilisation of resources could further lead to more accountability through policies and market pricing designed to incentivize compliance and good stewardship by industry.

5. **Building national capacities at policy, institutional and enterprise levels** for the creation and continuous improvement of a business environment that enables the private sector to contribute to inclusive and sustainable industrial growth, decent employment and the economic empowerment of vulnerable groups, including women, youth, migrants and minorities.

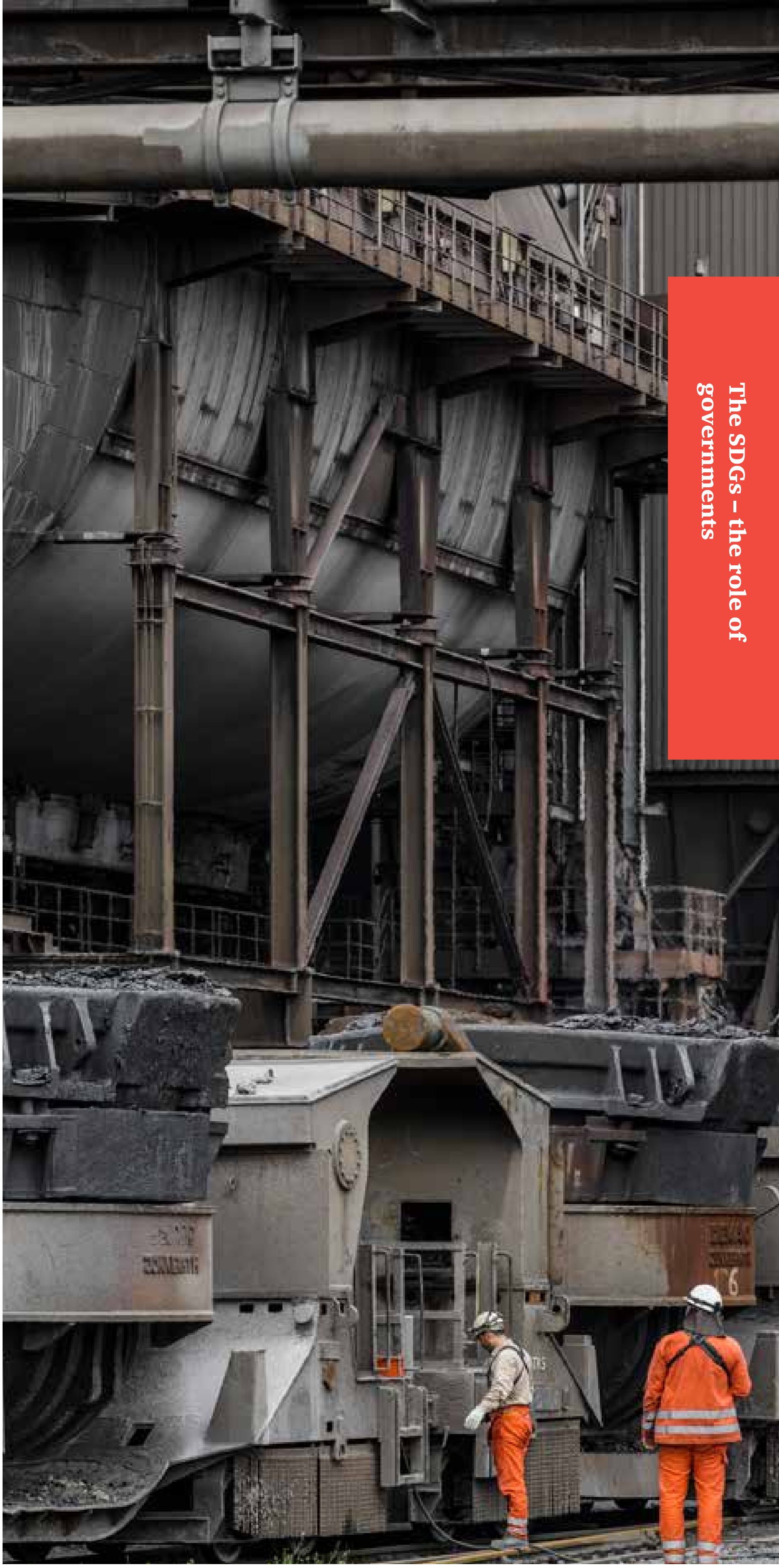
   As the gradual technology-driven shift in skillsets over the next decades will call for higher-skilled and higher-waged resources, the education system will need to be continuously updated to provide knowledge and skills that reflect current industry and employment realities. Cooperation between public and private actors should be strengthened in this context so as to reach an acceptable level of alignment between basic education and specialized technical and vocational training to be later expanded by the private sector.

   One of the main concerns about the new industrial revolution is its effect on jobs, both in developing and developed economies. Due to the limited ability of governments to anticipate the emergence of new industries and types of jobs, it will be necessary to further foster dialogue between the public and private sector in identifying capacity gaps in those areas that need special attention and policy action. This will further enable policymakers to take adequate steps toward ensuring that skill gaps are filled while seeking to encourage new forms of technology-enabled entrepreneurship.



6. **Putting forward policy measures to incentivize greater implementation of voluntary sustainability regimes.** These may include tax breaks, access to export credits, promotion of best practices in the realm of sustainability, and integration and prioritization of sustainability criteria within transparent procurement tender contracts, among others. For instance, financial incentives and support for resource productivity can be considered. Taxation could be shifted from labour to natural resource use, together with the removal of harmful subsidies.

7. **Improving the availability and reliability of industrial statistics** worldwide, including those on industry-related services. Special priority should be given to the building of statistical capacities in developing countries, and in particular Least Developed Countries[5] (LDCs). Also, more reliable gender-disaggregation of industrial data, as well as statistics on the environmental impact of industries should be considered for yielding a more precise understanding of the needs of the most disadvantaged segments of the population, and hence channeling sufficient financial and technical support into them.



[5]LDCs are low-income countries confronting severe structural impediments to sustainable development. They are highly vulnerable to economic and environmental shocks and have low levels of human assets. There are currently 48 countries on the list of LDCs which is reviewed every three years by the UN's Committee for Development Policy.

Contribution of Inclusive and Sustainable Industrialisation to each of the SDGs

Sustainable Development Goal	*Industry's contribution*
1. End poverty everywhere	Manufacturing and productive activities crucially impact job creation, sustainable livelihoods, food security and equitable growth- key requirements for eradicating poverty
2. End hunger, improve nutrition and promote sustainable agriculture	Support value addition in agro-industrial output, while generating job opportunities and increasing food security for rural communities
3. Attain healthy lives for all	Support industrial SMEs in the local manufacturing of essential drugs, medical supplies, and optical products
4. Provide inclusive and equitable quality education and life-long learning opportunities for all	Development of entrepreneurial culture and skills, as well as young peoples' technical and learning capability, laying the groundwork for private sector development
5. Achieve gender equality and empower women and girls everywhere	Creation of enabling environment for women entrepreneurs, and promotion of clusters & partnerships that facilitate access to information, technology and markets for women
6. Ensure availability and sustainable management of water and sanitation for all	Transfer of best environmental practices to protect water resources and support the sound management of resource use in industrial activities
7. Ensure sustainable energy for all	Promotion of energy-efficiency policies, technologies and production processes, along with enhanced utilization of renewable energy sources
8. Promote sustained, inclusive and sustainable economic growth, full and productive employment, decent work for all	Building capacities of local industries for value addition, economic diversification, export promotion and employment creation
9. Build resilient infrastructure, promote inclusive and sustainable industrialisation, and foster innovation	Strengthening national capacities at the policy, institutional and enterprise levels in SME and entrepreneurship development, economic diversification, industrial upgrading, technological uptake and trade
10. Reduce inequality within and among countries	Support the provision of equitable and decent employment opportunities through substantial increases in industrial output, value-addition, and transition to higher-tech production

Sustainable Development Goal	*Industry's contribution*
11. Make cities and human settlements inclusive, safe and sustainable	Promotion of industrial clusters in urban industrial zones that spur innovation and industrial competitiveness while linking local business with global markets and supply chains
12. Promote sustainable consumption and production patterns	Promotion of green industries and environmental sustainability policies in industrial production and consumption, as well as support implementation of specific industrial waste reduction agreements
13. Combat climate change and its impacts	Promotion of renewable energy and the uptake of energy-efficient technologies in industrial processes
14. Conserve and sustainably use the oceans, seas and their resources for sustainable development	Help reduce the degradation of marine and river basins through sound water management methodologies and system introduction, and strategic partnerships
15. Protect and promote sustainable use of terrestrial ecosystems, sustainable management of forest, and halt and reverse land degradation and biodiversity loss	Promotion of biomass for power generation, and support adaptation and adoption of Resource Efficient and Cleaner Production[6] (RECP) methods, technologies and systems by enterprises
16. Achieve peaceful and inclusive societies, access to justice for all, and effective and capable institutions	Promotion of productive rehabilitation and reconstruction of post-conflict countries, and thus build sustainable livelihoods
17. Strengthen the means of implementation and the global partnership for sustainable development	Reinforcement of business partnerships; global trade national capacities, as well as technology exchange mechanisms, technology policy coordination measures and related investment opportunities

[6]RECP builds upon cleaner production in accelerating the application of preventive environmental strategies to processes· products and services to increase efficiency and reduce risks to humans and the environment·

So how is the United Arab Emirates government approaching the SDGs?

The then UAE Ministry of International Cooperation & Development (MICAD), now part of the Ministry of Foreign Affairs, and the Dubai Carbon Centre of Excellence formalised, in 2016 their agreement on reviewing areas of collaboration, identifying synergies and developing joint initiatives to further the UAE's sustainable development. With specific regard to the SDGs, the two parties worked closely in outlining the country's sustainable framework and success stories for relevant sustainability goals.[7]

The subsequent State of Sustainability: UAE 2016 report highlighted how each participating country is implementing sustainable measures and working towards realising the goals in the next 15 years. The report analyses the UAE's progress in key areas – including water and energy, gender equality, education, health, lifestyle, tourism and climate change.

Developing a more diversified economy founded on green growth principles has become a core element of the country's keystone development initiatives, including the UAE Vision 2021, which aims to build an innovative, inclusive and resilient economy that raises standards of living and ensures environmental sustainability. Under this vision, the UAE is targeting to derive 24% of its energy from clean energy sources by 2021.

To achieve this and other priority targets across sectors of the country's economy, the UAE has adopted several policy frameworks to support the development of a sustainable and diversified economy, including the National Green Growth Strategy (NGGS). Adopted by the UAE Cabinet in 2015, the NGGS serves as the primary vehicle to deliver the sustainability targets of the UAE Vision 2021, and will drive the implementation of 12 comprehensive green growth programs that aim to accelerate the UAE's transition to a green economy.

Another sign of the UAE's commitment to sustainable growth is of course this Global Manufacturing & Industrialisation Summit (GMIS), which will showcase UAE and Gulf Cooperation Council (GCC) manufacturing capabilities as well as technologies that have been introduced by global organisations that have revolutionised the manufacturing sector, and which will encourage partnerships and raise awareness of industrial achievements and investment opportunities in different industrial sectors.

Where business can partner with governments on the SDGs

How governments reflect the SDGs in their national policies could have a significant impact on private sector organisations' "business-as-usual". Companies that have an understanding of the priority SDGs for the countries in which they operate may also have insight into how the policy and regulatory environment in which they operate may evolve, helping them to develop more resilient business models.[8]

Businesses also have the opportunity to align their strategy and goals with the goals of their host governments, especially if such an alignment is more likely to strengthen their licence to operate in those countries – with the opposite being true if their actions are seen to be hindering a government from achieving its ambitions.

We believe that the goals that a government will be most likely to focus upon - and will therefore be most relevant for businesses in that country to understand their position in relation to – may well be those that are currently performing worst in that country. For example, the UAE should prioritise SDGs 2,6, 12,14 and 15 based on preliminary analysis carried out by PwC . (See Figure 2: Key SDGs for the UAE).

[7]http://dcce.ae/news-home/uae-sdg/
[8]https://www.pwc.com/gx/en/sustainability/publications/PwC-sdg-guide.pdf

Figure 2: Key SDGs for the UAE

Source: PwC SDG Selector (see pwc.com/globalgoals)

Key questions for businesses aligning with governments

- Which are the most relevant SDGs in your home country and in the international markets in which you operate?
- What impact will priority SDGs have on regulations, policy and other governmental influence?
- Do you know how to align your strategy and goals with the goals of your host government(s), especially if such an alignment is more likely to strengthen your licence to operate in those countries?
- Can you help governments achieve the SDGs, by reviewing and changing your business practices to be fit for purpose in an SDG-centric economy?

2. The SDGs - the role of business

No more business-as-usual – why the SDGs matter for business

> ***"There's a realm of difference between those who are trying to make sustainability part of their core business strategy and those who still see it as an "add-on"***
>
> Mark Malloch-Brown, chairman of the Business and Sustainable Development Commission

Perhaps the biggest difference between the MDGs and the SDGs is the role of business, which played a key part in creating the latter. While governments are primarily responsible for overseeing the goals, businesses can significantly help or hinder their progress. Most governments are not directly responsible for production or manufacturing and it is businesses that provide labour, exchange of goods and services, and that impact wider society through their activities (positive and negative). Large companies can also have a longer- term outlook than many governments around the world and are often less impacted by changes in governance structure.

Government therefore needs to ensure that the right conditions for business are established on a sustainable basis. This means ensuring that public goods such as quality infrastructure, affordable energy, and strong education and training institutions can support the growth of businesses.

By analysing their alignment with the SDGs, companies can better understand and respond to the risks and opportunities they face in a world characterised by rapid change and disruption. Indeed, working towards a thriving society in a thriving environment is in the best interests of business. Understanding the relationship between business, government and wider society is therefore fundamental.

[9] https://www.pwc.com/gx/en/sustainability/publications/PwC-sdg-guide.pdf
[10] https://www.pwc.com/gx/en/sustainability/SDG/SDG%20Research_FINAL.pdf
[11] https://www.pwc.com/gx/en/sustainability/SDG/SDG%20Research_FINAL.pdf

The 17 SDGs, and the 169 targets that underpin them, are a blueprint

The SDGs can be a blueprint, for good growth at the national level, and also for how companies can create more positive economic, social and environmental outcomes across their core business activities, which should ultimately drive value for their investors and other stakeholders as well. Forward thinking companies are already going further and developing business strategies that embrace the growth potential of responsible environmental and societal policies and drive sustainable business practices right through their value chains. This is a big shift from the time when businesses saw sustainability as a side issue, useful only for reducing energy or waste disposal costs or supporting worthy community causes.[9]

Outlining the opportunities - the SDGs as competitive advantage

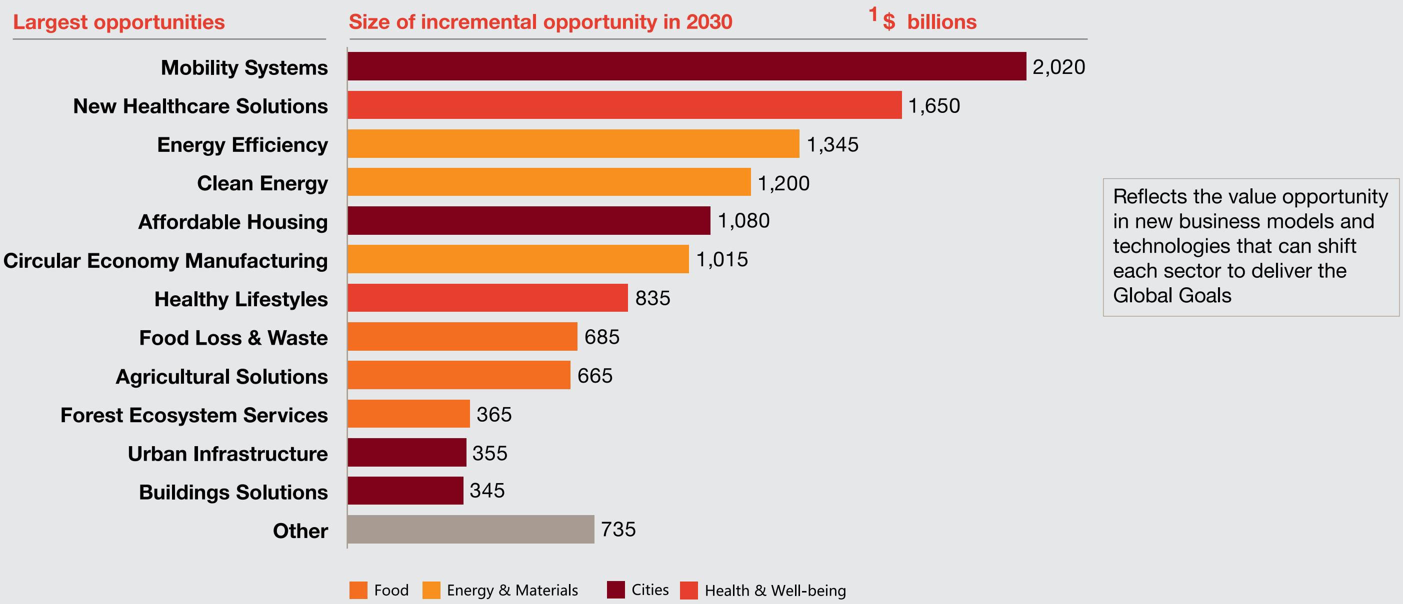
We believe that when global companies align with the SDGs they will also have a competitive advantage over those companies that do not understand their contribution or use the knowledge to revise their strategies accordingly.[10] 71% of businesses say they are already planning how they will respond to the SDGs, so the remaining 29% should avoid becoming laggards.[11]

Is 2017 the year that the SDGs really take off in business?

- A recent report from GreenBiz, Is this the year smart businesses tackle the SDGs?, argued that 2017 is when many corporate SDG plans will be implemented and that companies that skip the effort could find themselves playing catch-up to the early adopters.
- The SDGs: Who Is Leading the Way One Year Later? report from Sustainable Brands looked at organisations who are paving the way in the SDGs.

The Business and Sustainable Development Commission recently released a major report[12] that identified 60 sustainable and inclusive market "hotspots" in energy, cities, food and agriculture, and health and well-being. The report, 'Better Business, Better World', revealed that pursuing sustainable and inclusive business models could unlock economic opportunities worth at least US$12 trillion a year by 2030 and generate up to 380 million jobs, mostly in developing countries.

Figure 3: The SDG market opportunity



Source: http://report.businesscommission.org/uploads/BetterBiz-BetterWorld_170215_012417.pdf.

[12] As well as its flagship report· the BSDC also published a series of detailed reports by leading experts which take a deep dive into some of the key issues around business' role and opportunity in realising the SDGs· including looking at breakthrough business models·

> ***"The SDGs cannot be achieved without business. This report [Better Business, Better World] presents a quantifiable and compelling economic argument for taking action, and convincingly makes the case for systemic change in the way we do business. It is written in a language that will allow business leaders around the world to take tangible, meaningful action at scale. At company and sector level, we must drive system change in order to realize sustainable and inclusive economic growth across the world"***
>
> Peter Bakker, President and CEO, WBCSD

Think about government policies/taxes designed to halt harmful practices – if you are not thinking ahead on these then your business could be adversely affected and if you are seen to be hindering government action, you could even lose your licence to operate. Where a country is performing particularly poorly on a goal, for example, on SDG 6 (Clean Water and Sanitation), how might this affect an operation that is heavily dependent upon water? The World Economic Forum (WEF) predicts that globally, based on current trends, water demand is predicted to exceed sustainable supply by 40% in 2030.[13] What could that mean for your own business?

Meanwhile, investor pressure and action may mean that funding is harder to come by. Investors are not only becoming more vocal, but more organised and active too. Many pension funds are divesting away from fossil fuels. Nordea is no longer investing in companies associated with the Dakota Access Pipeline[14] and Royal Bank of Scotland has reduced its global lending to oil and gas companies and doubled its green energy loans.[15]

Furthermore, the international Financial Stability Board is keen for corporates to identify, value and disclose climate-related risks. This process could expose behaviours out of alignment with SDG 13 and the Paris Agreement, which could ultimately result in investors, banks and insurers making alternative decisions about investing or changing the premiums/rates offered.[16]

Citizens worldwide believe that business is about profit…and more besides

90% of humanity is not yet aware of the SDGs, a top UN official told Gulf News recently. However, according to PwC's 'Make it your business: Engaging with the Sustainable Development Goals' report, 90% of citizens made aware of the SDGs say that it is important for business to sign up to the goals and 78% say they would change their buying behaviour because of the SDGs. (See Figure 4: What citizens think out SDGs).

[13] http://www3.weforum.org/docs/GRR/WEF_GRR16.pdf
[14] http://www.nordea.com/en/press-and-news/news-and-press-releases/news-en/2017/%20Exclusion-of-Dakota-Access-Pipeline-companies.html
[15] https://www.theguardian.com/environment/2016/apr/17/rbs-pulls-fossil-fuel-investments-green-energy
[16] This is not restricted to the energy sector, but applies to all those industries using carbon products or carbon-based energy in their manufacturing.

Figure 4: What citizens think about the SDGs

90%

Business should sign up

78%

More likely to buy

Source: Make it your business: Engaging with the Sustainable Development Goals, PwC 2015

PwC's 19th Annual CEO Global Survey found that there is an increasing recognition among CEOs that they need to address wider stakeholder needs and that their business success is being judged on more than just financial profit. (See Figure 5: CEO perspectives).

On the flipside, consumers have given the green light to business to make a profit at the same time as it does good, accepting that profit is a key driver of business. In Edelman's Trust Barometer 2017, 75% agreed that 'a company can take specific actions that both increase profits and improve economic and social conditions in the community where it operates.[17]

Figure 5: CEO perspectives

84% of CEOs said that they are expected to address wider stakeholder needs

76% of CEOs say business success is about more than just financial profit

52% of CEOs say creating value for wider stakeholders drives profitability

Source: PwC19th Annual CEO Global Survey

[17] http://www.edelman.com/global-results/

Making the SDGs relevant for leaders and for other corporate functions

The key to capitalising on the opportunities SDGs offer and mitigating the risks they pose is through integrating the SDGs into businesses' core strategy. SDGs should not only be aligned to core business activities such as operations, strategic planning, innovation and business development but also indirectly with investment, marketing and talent management.

Figure 6: Empower the right team to drive the delivery of your SDG strategy across your business

Leadership	Employee engagement	SDG focus
Is it from the top? Does it see value in long term investment?	Create awareness and encourage bottom up initiatives	Where is your impact? Consider materiality (by geography, by product by sector)
Understand relevance	**Prioritise interventions**	**Incorporate this learning**
The key issues for the countries you operate in	Which work best to reduce negative and to increase positive impacts (in line with government tragets)?	Embed into future business planning and strategy
Measurement and reporting	**Stakeholder engagement**	**Consider collaboration and align vested interests**
Evidence your contribution and impact on the SDGs	Create awareness and understanding	Suppliers, consumers, business partners, cross sector, government and NGOs

It is important to empower individuals within the organisation to drive its SDG strategy (see Figure 6). Some companies even appoint a board member who is accountable for leading on the SDG opportunities and priorities. Ericsson has gone a step further still and assigned each SDG to a member of the executive leadership team. That person is responsible for championing and instilling action within his/her SDG. By assigning individual responsibility, each SDG becomes more relevant to day to day priorities and helps Ericsson seize new market opportunities that align profit with public benefit

How businesses can get started with the SDGs

We believe that successful engagement with the SDGs needs to cover at least seven steps:

1. Agree which SDGs your business and its value chain have an impact on directly and indirectly, in the countries in which you operate
2. Agree a methodology and measure your business impact across all these SDGs
3. Understand where your business has a positive or negative impact on each SDG (businesses should try and examine all of the SDGs initially and then act upon and measure those most relevant to them)
4. Understand the priorities of the governments your business operates under
5. Prioritise reducing negative impacts and increasing positive impacts according to what needs to be achieved by governments
6. Incorporate this learning into business planning and strategy
7. Evidence how you impact on the SDGs and your contribution.

We recognise that there are multiple good sources of thought on the SDGs and we recommend, for example, that you review the recent Business and Sustainable Development Commission report, which suggests the following practical steps:

1. Building support for the Global Goals as the right growth strategy
2. Incorporating the Global Goals into company strategy
3. Driving the transformation to sustainable markets with sector peers
4. Working with policy-makers to pay the true cost of natural and human resources
5. Pushing for a financial system oriented towards longer-term sustainable investment
6. Rebuilding the social contract.

Meanwhile, the SDG Compass - a partnership between UN Global Compact, World Business Council on Sustainable Development (WBCSD) and Global Reporting Initiative (GRI) - suggests a related four step approach:

1. Familiarising yourself with the SDGs
2. Assessing the positive and negative, current and potential impact of the SDGs across your own value chains
3. Setting goals to demonstrate your commitment to the SDGs (e.g. by embedding appropriate development targets across all functions within your business)
4. Reporting and communicating on your progress.

Useful SDG-related tools

Whichever steps you choose to take, the good news is that there are now some powerful tools that can help businesses along their SDG journey. One practical place to start is PwC's SDG Selector, which helps organisations identify their top five SDGs, looking at not only the top issues by country, but also at the impact an industry has on each goal and the opportunity the SDG represents to that industry.

The SDG Selector taps into our ground-breaking database model that is the PwC Business Navigator, which pulls together over 240 performance indicators drawn from numerous global databases to create a country score against each SDG.

When it comes to dealing specifically with climate-related challenges (SDG 13), a good place to start might be the Low Carbon Technologies Partnership initiative (LCPTi), which brings together companies and partners to accelerate the development of low-carbon technology solutions to stay below the 2°C ceiling. LCTPi has gathered over 150 global businesses with 70 partners to work collaboratively on the climate challenge.

Meanwhile, the Global e-Sustainability Initiative (GeSI) argues that, by 2030, technology will provide benefits across the triple bottom line, from reducing CO2 and resource use, to generating additional revenues, cost savings, as well as wider societal benefits.

Last but by no means least, the world also needs an independent system for the private sector to be able to assess and report on their contribution to the SDGs. The United Nations Global Compact (UNGC) and the Global Reporting Initiative (GRI), are partnering on a two-year programme to shape the future of SDG reporting. The aspiration is that businesses will be able to measure their contribution to the SDGs through one single, clear framework.

[18] http://www.un.org/esa/desa/papers/2015/wp141_2015.pdf

In summary – the key messages for business about the SDGs

Governments have primary responsibility for achieving the SDGs

As we saw above, business alone cannot achieve the SDGs. That is not its role. That is the role of government. But individual businesses can align their strategy with the SDGs - and help (or hinder) governments in achieving them. Governments will also turn to business to help them achieve the SDGs, and not through donations or philanthropic activity (although that will help too) but by reviewing and changing business practice to be fit for purpose in an SDG centric economy.

Business needs to change its business-as-usual

To achieve the SDGs, business will have to implement change at scale. We don't need "sunshine stories" – we need business to change its "business as usual" – either in how it delivers its products/services or how it is changing the products and services themselves.

Interconnectedness highlights the need for collaboration

Remember that the goals are interconnected. So collaboration will be needed, not just within value chains, but also, potentially, between them. This is an opportunity to think outside the box – as who knows where it might lead? PwC research shows manufacturers citing SDG 8, SDG 12, SDG 9, SDG 13 and SDG 7 as where they believe they can have the greatest impact (in that order). UNIDO's priority goal goes further, pushing for the manufacturing industry to focus on SDG 9 – i.e. by building resilient infrastructure, promoting inclusive and sustainable industrialisation and fostering innovation. Goal 9 links directly to other goals – goals 10, 12 and 13.[18]

Look at the underlying targets that make the SDGs relevant

Some businesses find the SDGs themselves to be high level and impenetrable. Where possible, look at the targets that underpin the goals. For example, instead of talking about SDG9 and industry, innovation and infrastructure, talk about target 9.3 and "access of small-scale industrial and other enterprises…to financial services, including affordable credit…", or 9.4 "increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes". These are the things that CEOs and business understand and can act upon.

Have a national level SDG strategy

The SDGs will be achieved at the national or sub-national level – so don't think about a global SDG strategy – that doesn't make sense when different countries will have different challenges and different priorities.

Key questions for business leaders

- Which are the most relevant SDGs for you – 7, 8, 9, 12, 13, others?
- Have you identified the tools you will need to establish which SDGs your business has an impact on?
- Are you clear on how you'll assess your impact?
- Have you identified your internal stakeholder groups and are they on board to deliver the strategy that supporting the SDGs involves?

3. The SDGs – opportunities for global manufacturing businesses

The manufacturing industry worldwide

Manufacturing is an extremely important employer. As recently as 2013, it was estimated that there were more than half a billion jobs in manufacturing. Small and medium-sized enterprises that engage in industrial processing and manufacturing are the most critical for the early stages of industrialisation and are typically the largest job creators.

According to UNIDO, while a large number of developing countries at their earlier stages of development are yet to make full use of the capacity of complex manufacturing industries and industry-related services, advanced countries are shaping their development policies in line with the opportunities and challenges posed by the third and fourth industrial revolution. UNIDO also believes that the structural transformation associated with the development of a robust and more diversified manufacturing sector and a strengthened agro-industry plays an important role in increasing the ability of countries to constantly generate new and dynamic activities based on upgrading to higher levels of value addition, higher productivity, or higher returns to scale, thus providing decent jobs for a growing share of the population.

Manufacturing and the SDGs

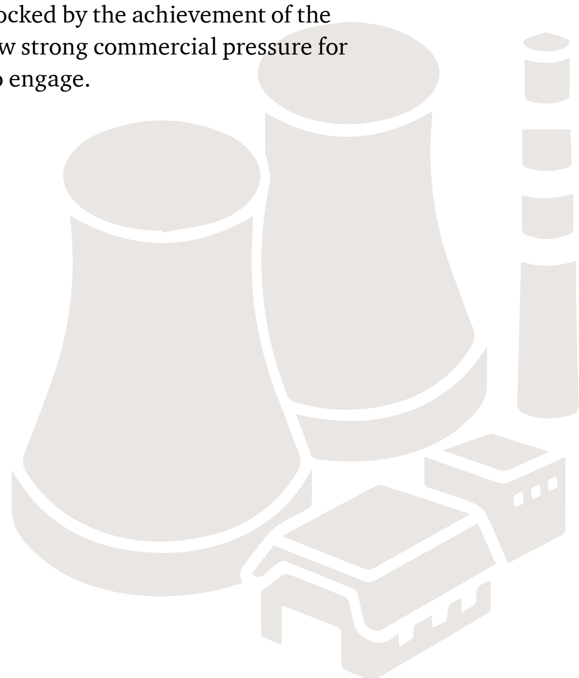
The SDGs come at a time when there is much talk of megatrends, disruption and erosion of trust. Meanwhile, technology is driving innovation at an unprecedented pace, spurred on by changes in demographics and increasing resource scarcity. In the emerging "sharing economy", access is viewed to be just as relevant as ownership and business models are changing as a result. This means that at the heart of the SDGs is a need for manufacturers to rethink not only how products are made but also which products are made. There is also a challenge embedded in the SDGs for manufacturing businesses to take responsibility for the full length of their product cycle from the integrity of their supply chain right through to disposal.[19]

Unfortunately, many manufacturers have been focused on more immediate concerns than the SDGs. In early 2016, only 27% of industrial manufacturing CEOs expressed optimism to PwC about the global economy. Industrial manufacturers' estimated mean revenue growth, moreover, declined to 1.8% in 2015, from 5.2% in the prior year.

In response to persistently low growth in manufacturing, enterprises and policymakers introduced some structural reforms. However, the results of these reforms are yet to be seen. Major industrialised economies with significant contributions to global manufacturing output, such as the US, Japan and Germany, continue to record low growth rates. In China, the world's largest manufacturer, comparably lower growth rates are now more prevalent, thus pushing the average industrial growth of emerging industrial economies downward. Manufacturing growth rate in developing and emerging industrial economies has remained below 5 per cent since the beginning of 2015.

However, there may be some light at the end of the tunnel: world manufacturing output rose by 2.4% in late 2016 compared with the same period of the previous year.[20] The positive trend was observed across all country groups, including industrialised countries. In fact, global manufacturing production maintained a positive growth across nearly all industries in late 2016: manufacture of motor vehicles rose by 6.4%, the production of computers, electronics and optical products grew by 4.6% and that of pharmaceutical products by 3.4%.

Looking further ahead, with estimates of economic opportunities worth at least US$12 trillion a year by 2030 unlocked by the achievement of the SDGs, there is now strong commercial pressure for manufacturing to engage.



[19] There is of course also a role for wider society, especially in an age of instant feedback via social media. Much recent disruption and innovation has come from individuals rather than large corporations or governments. Furthermore, digital disruptors – the likes of Facebook, Google, Tesla etc. - are having a major and growing global impact on individuals, businesses and governments.

[20] Source: World Manufacturing Production Statistics for Quarter III, 2016, UNIDO

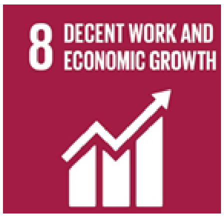
Which SDGs matter most for manufacturers?

In PwC's research paper, (Make it your business: Engaging with the Sustainable Development Goals)*, manufacturing companies told us that they see that they can have the greatest impact on SDGs 7, 8, 9, 12 and 13.

SDG 7 is about ensuring universal access to affordable and reliable energy by 2030. This means businesses significantly increasing the amount of energy generated by renewables and then switching to them as part of their business energy mix, thereby decreasing dependence on traditional fossil-fuel sources. Energy efficiency also plays an important role in avoiding energy deficits and ensuring long-term energy sustainability across countries.

Business contributing positively to SDG 7

CEMEX UK launched a new facility to turn waste into fuel. The new Solid Recovered Fuel (SRF) facility will supply the CEMEX Rugby Cement Plant with a sustainable alternative to fossil fuels for the next 25 years, using nothing but regionally sourced waste from the English Midlands Area. The fuel, known as Climafuel®, replaces traditional coal as an energy supply and SUEZ will supply CEMEX with up to 240,000 tons of the fuel every year to help meet the significant energy needs of the CEMEX plant and improve its environmental performance. In 2015, this facility was recognised by the Global CemFuels Awards as CemFuel Project of the year.



SDG 8 is about ensuring full and productive employment for all, regardless of age, gender, or disability, with parity of pay for all. Work should be safe, secure, and contribute to sustainable economic growth across industries. Policies that encourage entrepreneurship and job creation must be implemented.

Business contributing positively to SDG 8

The recently established apparel sector initiative Action, Collaboration, Transformation (ACT) describes itself as an "initiative between international brands and retailers, manufacturers, and trade unions to address the issue of living wages in the textile and garment sector. It aims to improve wages in the industry by establishing industry collective bargaining in key garment and textile sourcing countries, supported by world class manufacturing standards and responsible purchasing practices"

Microsoft YouthSpark helps young people develop computer skills.

Improving Job-Search Efficiency tackles the inefficient labour matching system in India, where college graduates have trouble finding employment and employers complain that they cannot fill positions.[21]

***Source:** https://www.pwc.com/gx/en/sustainability/SDG/SDG%20Research_FINAL.pdf.

[21]See also Greenbiz on How the SDGs can help remove child labour from supply chains

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

SDG 9 is about ensuring that infrastructure is reliable, resilient and fit for purpose, to achieve economic growth and overcome environmental challenges. Investment in research, technology, telecommunications and enabling reliable internet access are instrumental to achieving this goal. Capacity building must occur across industries such as global manufacturing to ensure sustainability and a supportive policy environment that promotes innovation and inclusive growth.

Business contributing positively to SDG 9

Ford addressed SDG 9 through redeveloping an existing industrial facility to make it more efficient and sustainable. Its plant underwent a major redevelopment including modernisation of the production line, making the plant more "employee friendly", increasing light and creating a "living roof". This benefits Ford through reduced energy costs, lower maintenance needs and offsetting CO2 emissions. Not only does this example address SDG 9 but it has knock-on effects to other SDGs such as SDG 6 – Clean water and sanitation, through its water management and SDG 15 – Life on land, by providing a thriving habitat for nesting birds, butterflies and insects.[22] Ford is also aiming to reduce its use of the world's most precious resource – water – by nearly three-quarters as it takes its next step toward using zero drinking water for vehicle manufacturing.

Pirelli aims to further reinforce its commitment to research and development – headquartered in Milan with 10 regional centres employing 1,600 engineers – in all business segments in order to achieve the results of its new 2013-2017 sustainability plan. The plan sets a number of targets for 2020 and foresees revenues from "green" products in 2017 being equal to 48% of tyre revenues, with significant development of certain green performance product lines. The plan also outlines the maintenance of investment in research and development, equal to 7% of premium revenues, dedicated to the development of safer, lower environmental impact products. As well as significantly increasing the product portfolio, Pirelli has started to introduce other technological innovations such as the PNCS system (Pirelli Noise Cancelling System) to reduce noise pollution and new materials and geometries that aim to reduce the rolling resistance of car products by 40% by 2020.

At Mars, sustainable sourcing is a commitment to drive down the environmental impact of its priority raw materials, advance respect for human rights across its value chain and help to lift farmers out of poverty. This will be defined through five impacts; (greenhouse gas (GHG), water, land, human rights and income) and priority raw material sourcing commitments.[23]

[22]https://www.pwc.com/gx/en/sustainability/publications/PwC-sdg-guide.pdf
[23]See also 11 must-reads on the ethics of the Fourth Industrial Revolution | World Economic Forum

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

SDG 12 is about encouraging industry, business and consumers to reduce waste, reuse packaging and products, and recycle the rest. Policies must be implemented which promote sustainable procurement, and compel businesses to optimize their processes through the adoption of sustainable practices and the reduction of wastage at all levels.

Business contributing positively to SDG 12[24]

P&G has over the past three years increased the number of zero manufacturing waste to landfill (ZMWTL) sites from 10% to nearly 50% of manufacturing sites globally. P&G now has over 70 sites that have achieved the ZMWTL criteria. One example of innovative thinking to drive progress is the reuse of scrap absorbent materials from P&G's Feminine Care plant in Belleville, Canada. One of P&G's external partners blends P&G's high-tech absorbents with other raw materials that make up emergency spill containment and control products. In 2014, the plant was called upon to help provide additional material above and beyond its typical supply to help the local community with emergency response and oil cleanup after the Lac-Megantic train disaster.

Nike uses recycled materials in most of its gear.

Sodexo Singapore announced its commitment to source 100% physical certified sustainable palm oil (CSPO) for its cooking oil by 2017.[25]

Barry Callebaut uses a 'cascade approach' starting with training managers of cocoa cooperatives at a centre of excellence, after which qualified farmers "share knowledge with farmer academies, then model farms", and then via an outreach to 575 field schools.

13 CLIMATE ACTION

SDG 13 is about solving the pressing challenge of climate change, a task that requires collective, coordinated action. Strengthening the resilience and adaptive capacity of all countries must go hand-in-hand with efforts to integrate climate change measures into national policies, strategies and planning. Awareness raising and education are key levers to reduce and mitigate the impact of climate change.

Business contributing positively to SDG 13

Siemens announced plans to slash its carbon emissions in half by 2020, and become carbon neutral by 2030. To become carbon neutral, companies need to identify their emissions, invest in projects to reduce them, and also invest in external projects that offset any emissions a company can't eliminate. To achieve its goals, Siemens, plans to make its company vehicles greener, and also invest in new energy efficient manufacturing technologies.

Dell has focused on making its packing and computers use more recycled materials. It uses for example wheat straw, a by-product of wheat harvesting - the wheat straw packaging uses 40% less energy to produce, 90% less water, and costs less to make than traditional packaging. Beyond recycling, Dell has invested in using information technology - like big data and analytics - to reduce energy consumption in its facilities.

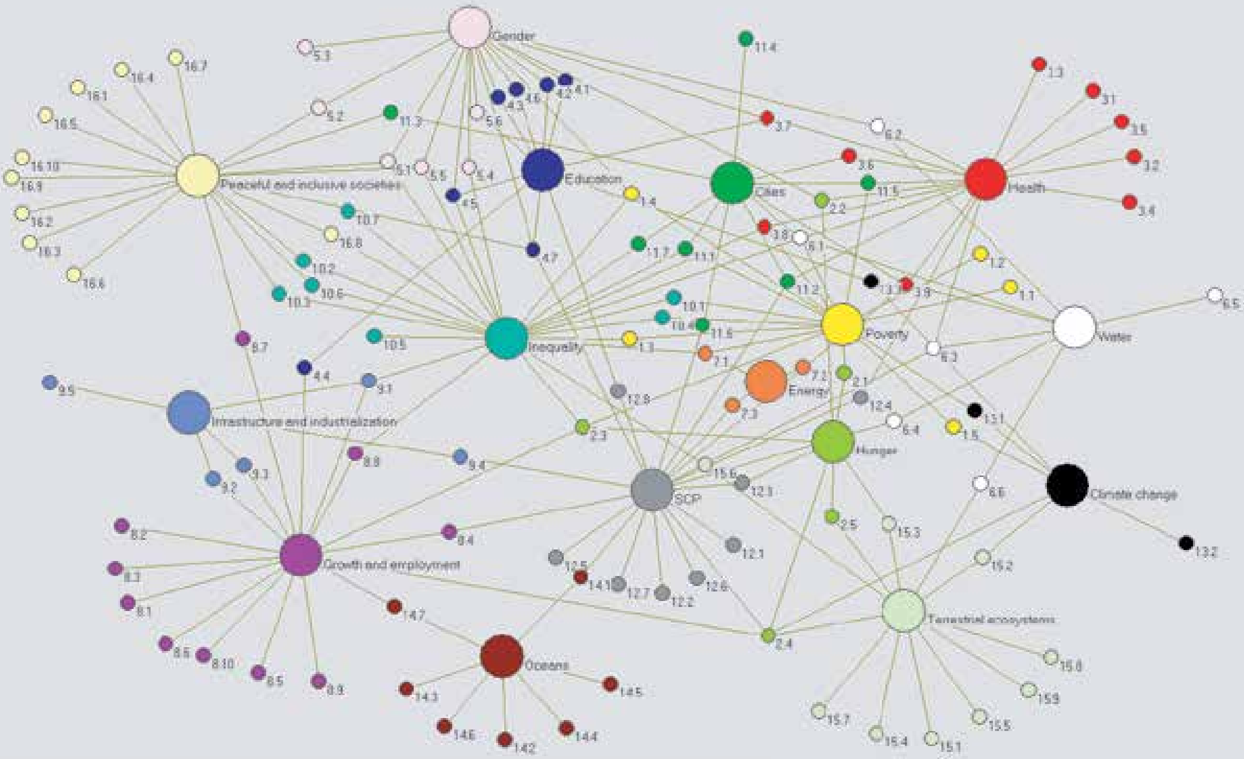
Automotive companies including General Motors, Volkswagen, and Ford also invest in renewable energy projects. Some schemes fall in line with the development of an infrastructure for electric vehicles; others look towards the future to guarantee energy security or to meet regulatory pressures.

[24] See also General Motors Rakes in Revenues from Recycling and Unilever commits to 100% recyclable plastic packaging by 2025
[25] See also Responsible Business on Time for food companies to commit to carbon-restorative agriculture?

Connecting the SDGs

Ultimately, the SDGs have been intentionally designed as an interconnected system – with the goals linking with each other through their underlying targets. For example, under SDG 9, target 9.1 with its focus on affordable and equitable access for all, links closely with SDG 10, which covers reduced inequality. Targets 9.2 and 9.3 link with SDG 8 and target 9.4 links with SDG 12 etc. (See Figure 7: The SDGs as a network of targets)

Figure 7: The SDGs as a network of targets



Source: Towards integration at last? The sustainable development goals as a network of targets, David Le Blanc, UNDESA, 2015.
Note: targets labels are the numerals which refer to them in the report of the Open Working Group on SDGs.

Still, with 17 goals to consider, it can be difficult for businesses to address them all. PwC's SDG engagement research* found that only 1% of companies would assess impact across all 17 SDGs, let alone tackle them all. Many of the goals are closely linked and some will generate more value than others, so prioritising goals can also be difficult for manufacturers. Nevertheless, the companies that are already most engaged with the SDGs are the ones that stress their interconnectedness: Unilever, for example, sees the global goals as a framework for action, and therefore focuses on SDG 17.

In short, the SDGs are not mutually exclusive. In many cases creating a positive impact in one will have benefits across others, amplifying the impact for the effort made. It also follows that a positive impact in one may cause unintended negative consequences in another, so the manufacturing industry needs to understand how the SDGs are connected and take a holistic approach to addressing them.

While many manufacturers have clearly been having a rocky time and there is deep anxiety around the world about the impact of automation on manufacturing jobs, the 'Better Business, Better World' report identifies the potential contribution of emerging trends like additive manufacturing and the circular economy as being among the biggest market opportunities for manufacturers:

- There is a massive opportunity (US$165-605 billion), for renewable generators and equipment manufacturers. A washing machine, for example, typically contains 30-40 kg of steel, so a refurbished machine could reduce material input costs by 60%. Businesses could shift from selling to leasing appliances or making performance-based arrangements with consumers, to make sure collection and refurbishment captures as much value as possible. This shift would also encourage manufacturers to design products with lower risks of obsolescence.
- Circular models in automotive alone could be worth US$475-810 billion. Collection rates for vehicles at the end of their life are generally very high, over 70 percent in the EU for example. However, most collected vehicles are recycled into their base materials, which is energy intensive and results in loss of value. In fact, only a small number of "weakest-link" components are typically responsible for ending a vehicle's useful life, which can be significantly extended if these components are remanufactured and used to refurbish cars.

Focusing on the SDGs can also yield large cost savings to manufacturers

Dow cut its 2014 energy consumption by 110 trillion British Thermal Units (BTUs) – nearly as much as all the energy used by households in the American state of Illinois. It also reused 344 million pounds of manufacturing by-products in the same year.

In Brazil, waste company Veolia works with paper and pulp producer Fibria to turn 90 percent of the mineral wastes from cellulose manufacture into a corrective for soil acidity.

Desso, a Dutch global carpet tiles company, aims to make all of its products "cradle to cradle" by 2020. Already more than 50 percent of yarn used to produce Desso tiles worldwide is recycled from previously used yarn.

BMW is repositioning itself over the longer term as a provider of mobility services such as car-sharing, while it continues to manufacture increasingly efficient cars.

***Source:** http://www.pwc.com/gx/en/services/sustainability/sustainable-development-goals.html.

So what are the biggest SDG-related opportunities for manufacturers?

The manufacturing industry's greatest impact can come from how it manages small scale industrial and other enterprises, particularly in developing countries where they are a fundamental part of the economic fabric and play a crucial role in furthering growth, innovation and prosperity.[26]

According to UNIDO analysis, industrialisation has a multiplier effect on other areas of development. Its job multiplication effect, for example, means that every job in manufacturing creates 2.2 jobs in other sectors. With an estimated more than half a billion manufacturing jobs worldwide in recent years, it is easy to see how a focus on SDG 9 might create far reaching impact.[27] Ways in which the manufacturing industry could help build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation include:

- Collaborating with governments and others to create industrial zones which unlock complementary investments in infrastructure, technology and production.
- Researching, developing and manufacturing more environmentally sensitive material alternatives to traditional cement and concrete products and developing improved methods of reusing by-products and waste from building materials.
- Developing innovative financing to enable people on low incomes to buy materials.
- Forging linkages with local firms and engaging with local institutions, such as industry associations and universities, in the development of local industry and workforce.
- Engaging with governments in high-growth markets to explore how more sustainable building products, transportation solutions and manufacturing techniques can help develop local[28] infrastructure and economies, thereby creating new markets.[29]

As we saw above, PwC's survey of manufacturers revealed that the latter's top five SDGs are 7, 8, 9, 12 and 13. However, when we drill down and look at the targets that sit beneath these goals (see Annex A) it becomes clear that many can be achieved by manufacturing businesses through targeted interventions and strategic revision. Alongside the individual targets that underpin these SDGs, outlined in Annex A are practical approaches and interventions, manufacturing might implement to drive a more positive impact on the SDGs.

Key questions for manufacturers

- How can you make products and create production processes that are more sustainable, renewable, circular and resource efficient?
- Have you identified your internal stakeholder groups and are they on board to deliver the strategy that supporting the SDGs involve – e.g. in terms of energy mix, water use, recycling and innovation?
- Once developed and shared within your own company and sector, are you willing to be a thought leader and share SDG best practice with others in your supply chain, and even with manufacturing companies/sectors?

---

[26] https://www.pwc.com/gx/en/sustainability/publications/PwC-sdg-guide.pdf.
[27] http://www.un.org/sustainabledevelopment/infrastructure-industrialization/.
[28] See also 17Goals – Toolbox for Localising the SDGs.
[29] https://www.unglobalcompact.org/docs/issues_doc/development/SDGMatrix-Manufacturing.pdf.

4. Conclusions

Aligning with the SDGs is a major opportunity for both manufacturers and governments

On the one hand, we see the SDGs as a significant opportunity for those businesses, including manufacturers, who are willing to commit and invest for the long-term. There is a huge amount of room for business to step in - with technology, innovation, partnerships – to help deliver the goals.

However, investing for the long term is not always straightforward. With the SDGs having a timeline of 15 years, will it be the CEOs of today sharing their achievements against the SDGs in 2030? Perhaps not. According to the PwC 17th Annual Global CEO Survey, most companies work to a three-year planning horizon, not a good start for a 15-year project demanding significant investment. With the added complication, that CEO tenure was 10.8 years in 2015 (for S&P 500) fluctuating from a low point of 7.2 in 2009 (The Conference Board, CEO Succession Practices: 2016 Edition), it can be hard to see how CEOs might operate in an environment conducive to delivering against the 2030 ambition of the SDGs.[30]

Even a three-year time horizon is difficult for many CEOs in today's markets, where analysts are vigilant if a CEO does not reach short-term (e.g. quarterly) targets. Such external influences can have a dramatic impact on the strategic course of a given company and its long term strategy and potential. There is therefore a risk that long-term agendas like the SDGs could suffer if few investors are considering a 10 years+ time horizon.

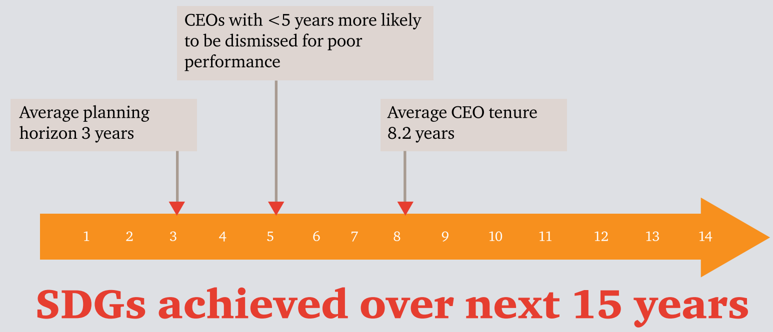
Even those with the vision to invest now may be unlikely to see the fruits of their labour during their tenure. That can be a difficult message for a CEO to accept and then drive forward, and it demands strong leadership to look beyond the horizon, especially when, according to the Conference Board, CEOs with less than five years in their current position are more likely to be dismissed for a company's poor performance than CEOs with longer tenure. So supporting the SDGs may become a legacy initiative for many CEOs. (See Figure 8: Do CEOs have time for the SDGs?

So what is the incentive for leaders in manufacturing and other businesses to really get behind the SDGs? Well, as we have seen, the 'Better Business, Better World' report revealed that pursuing sustainable and inclusive business models could unlock economic opportunities worth at least US$12 trillion a year by 2030 and generate up to 380 million jobs. However, the total economic prize from implementing the Global Goals could be two-three times bigger still, assuming that the benefits are captured across the whole economy and accompanied by much higher labour and resource productivity.

Consider, for example, that achieving the single goal of gender equality could contribute up to US$28 trillion to global GDP by 2025, according to one estimate.

The countdown has already begun in the race to achieve the SDGs, but global manufacturing businesses should see it as a long-term play, demanding their ongoing strategic focus from now until 2030. The effort should be worth it: recent research shows that from 2001 to 2014, the revenue of long-term focused firms grew cumulatively on average 47 percent more than the revenue of other firms, and with less volatility.[31] Long-term firms also invested more than other firms and added nearly 12,000 more jobs on average than other organisations.

Figure 8: Do CEOs have time for the SDGs?



Sources: PwC 17th Annual CEO Global Survey & the Conference Board CEO Succession Practices: 2016 Edition

[30]See also PwC's Global Goals Business Challenge.
[31]See Where companies with a long-term view outperform their peers· McKinsey & Co.

CEOs therefore have much to consider and many moving parts to assimilate when it comes to the SDGs, but if they can meet these challenges, the rewards that await them are considerable indeed. The SDGs offer businesses – including manufacturers – a unique opportunity to set their course towards a genuinely sustainable long-term strategy, one in which they can align better with governments and regulators, use energy and other resources much more efficiently, lower their costs and improve their innovation in terms of both products and production methods.

There will be bumps in the road – economic, competitive, political, regulatory, demographic and certainly technological - from now until 2030, of that there is little doubt, but for the brave and forward-thinking manufacturing leaders willing to align with the SDGs now, the prize that awaits them is very real and very substantial.

On the other hand, governments are urged to design policy measures to provide the right incentives for sustainable business action, to increase their transparency and lead by example, and create the necessary trust for further engagement of businesses, when needed. The private sector is now seen as a major development partner, therefore, it is pivotal for governments and businesses to engage in a collaborative approach to sustainable development, respecting and valuing the roles and capacities of one another.

Also, policymakers will need to carefully look at the broader picture of global manufacturing when revisiting existing industrial strategies or designing new ones. As we move into the implementation of the SDGs, governments will face difficult choices in deciding how to best address the SDGs, especially as they will be challenged and tested on their ability to effect policies that respond to pressing economic imperatives such as profit and growth, while equally taking into account environmental protection and collective wellbeing. One of the main challenges ahead will revolve around how to align government priorities to those of industry, how to find the right balance between a country's long-term capabilities and strategic direction, and short-term corporate and political returns.

Key takeaways

- Business cannot achieve the SDGs. That is the role of government. But individual manufacturing businesses can align their strategy with the SDGs - and help (or hinder) governments in achieving them. Governments will also turn to business to help them achieve the SDGs, by reviewing and changing business practice to be fit for purpose in an SDG centric economy.
- To achieve the SDGs, businesses will have to implement change at scale. Companies need to change their business-as-usual – either in how they deliver products/services or how they create the products and services themselves. Remember the goals are interconnected. So collaboration will be needed, not just within value chains, but also, potentially between them.
- Remember too that many of the SDGs will be achieved at the national or sub-national level – so do not think only about a global SDG strategy – that does not make sense when different countries will have different challenges and different priorities.
- Where possible, try to focus on the specific and attainable targets that underpin the goals. For example, rather than talking about SDG 6 on water, talk about target 6.3 "minimising release of hazardous chemicals", or 6.4 "increase water use efficiency". These are things that CEOs and business understand and can act upon.
- The engagement of industry and business in designing and implementing growth and development policies and actions is key for a successful global development agenda. Public-private partnerships are vital to gaining the shared buy-in necessary for achieving the SDGs.
- Spaces for policy dialogue should be created to enhance, strengthen and create effective partnerships toward a shared global development agenda. A collaborative relationship between governments and business should set the guidelines of engagement and responsibilities for mutually reinforcing partnership initiatives.

Annex A

Annex A – achieving key targets for SDGs 7, 8, 9, 12, and 13

SDG 7 - Affordable and clean energy	*How can your industry perform differently?*
7.1 By 2030, ensure universal access to affordable, reliable and modern energy services	• Consider the impact of your use of energy directly, through your supply chain, and through the use of your products. • Consider sharing waste heat from your facilities with local communities. • Consider investing corporate funds in energy projects in your countries of operation to help meet local need, as well as delivering a return on investment.
7.2 By 2030, increase substantially the share of renewable energy in the global energy mix	• Review your energy mix to include more renewable energy. Could you aim to source %100 of your energy from renewables and sign up to RE100 campaign, alongside the likes of google, Johnson & Johnson, NIKE, Inc., Procter & Gamble, Starbucks, IKEA Group, BT Group, H&M, Nestle, Philips, Unilever and Walmart. • Invest in financial products aimed at driving clean energy action, e.g. green bonds.
7.3 By 2030, double the global rate of improvement in energy efficiency	• Develop and implement firm wide policies to improve energy efficiency in your manufacturing process and distribution systems. • Set a target rate of improvement of energy efficiency per unit of output.

SDG 8 - Decent work and economic growth	*How can your industry perform differently?*
8.1 Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries.	• Consider the impact on employment, direct and indirect, in your investment decisions as well as in your strategic decision-making. • Support capacity building and job creation for local people in new markets, particularly where unemployment is high and skills low such as in sub-Saharan Africa or South Asia.
8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors	• Consider the costs/benefits of adopting latest technology (in materials, business processes) in your sector.
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	• Consider the benefits to your business of promoting supplier diversity (in terms of ownership/ management composition and size of organisation) by actively encouraging companies to source from SMEs. • Consider the demographic mix of your target customers and look at how you expect this to change in the next 5–10 years.
8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the -10 year framework of programmes on sustainable consumption and production, with developed countries taking the lead	• Value environmental impact across your supply chain and take steps to reduce it.
8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value	• Review pay structure. • Support equal opportunities for all regardless of gender, age, race, beliefs, sexuality and disability. • Develop a disability action plan to promote fair and equal employment for people living with disability within your operations as well as your supplier chain.
8.6 By 2020, substantially reduce the proportion of youth not in employment, education or training	• Consider youth schemes (apprentice, internships, trainee programs). • Put programmes in place to support the employment and training of young people in your business.
8.7 Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms	• Embed human rights policies, making sure they address forced labour, modern slavery, human trafficking and child labour in your own operations as well as in your supply chain. • Integrate and support the upholding of human rights in your supplier and third party operations as well as due diligence practices. • Consider human rights risks to local communities where you operate – can you help to address?
8.8 Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.	• Address the issue of fair working hours in your operations, supply chain and with your contractors. • Address workplace safety in your own operations by embedding policies and programmes to reduce workplace accidents and reduce the incidence of work-related disease. • Encourage your suppliers and contractors to support freedom of association and collective bargaining.
8.9 By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products	• Provide training or job opportunities for young people from disadvantaged backgrounds.
8.10 Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all	• Consider the provision of support to your employees to make access to health insurance more affordable

SDG 9 - Industry, innovation and infrastructure	*How can your industry perform differently?*
9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all	• Develop policies and programmes for resilient human, physical, social, natural and/or economic infrastructure formation. • Upgrade your own infrastructure (buildings, access roads or docks) to make it resource efficient, sustainable and clean.
9.2 Promote inclusive and sustainable industrialisation and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries	• Seek to leave an increasing amount of local value added (E.g. building local capacity in skilled construction) to support industrialisation in developing countries when sourcing.
9.3 Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets	• Review your suppliers, and have programmes in place that actively support small enterprises to be part of your supply chain.
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	• What will this mean for your existing processes and assets – investment required to upgrade them? • Consider contributing to improving local municipal services through strategic or in-kind support, or via financial investments.
9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending	• Focus on research to innovate – how can your organisation drive the agenda? • Look out for opportunities to get involved in infrastructure public private partnerships, and explore the potential grants, tax breaks or other incentives that might be available.

SDG 12 - Responsible Consumption and Production	*How can your industry perform differently?*
12.1 Implement the -10year framework of programmes on sustainable consumption and production, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries	• Is your business net positive? Or do you take more than you give back?
12.2 By 2030, achieve the sustainable management and efficient use of natural resources	• Work to reduce the resource (incl. energy, water, metals): a) intensity of the manufacture of your products and/or the delivery of your services including waste relating to the disposal of your products. b) inefficiency and eliminate waste in your operations as well as your supply chain.
12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses	• Address food waste in the manufacture and/or retail of your products and work with suppliers to address food waste in the supply chain.
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	• Have management systems in place to address the risks to human health and the environment relating to use of hazardous chemicals and air, water, and soil pollution and contamination: a) in and around your directly owned facilities b) which may arise in the use of your products c) may arise in the disposal of your products. • Actively manage the reduction of air emissions (e.g. CFCs, GHGs, and industrial gases) associated with your products across their lifecycle.
12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse	• Transform your business model to one that supports a circular economy. • Support your employees and/or customers to adopt and maintain behaviours that will reduce environmental impacts through greater resource efficiency and waste reduction.
12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle	• Report on your response to, as well as your impact upon economic, social and environmental issues.
12.7 Promote public procurement practices that are sustainable, in accordance with national policies and priorities	• If you purchase or hire laptops or smartphones for the use of your staff, require suppliers to improve their performance on reducing e-waste through product design.
12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature	• Engage with employees, customers, the local community and/or the general public to raise awareness of sustainable development and promote lifestyles in harmony with nature.

SDG 13 - Climate action	*How can your industry perform differently?*
13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries	• Identify opportunities arising from climate change action, both in your operations and supply chain that have potential to generate a substantive change in your business operations, revenue or expenditure. • Make sure your business has operations and supply chain based plans and measures in place to prepare for and manage disasters and build resilience to climatic shocks and disasters and has risk assessment and risk management processes in place for potential future climate change impacts. • Consider how climate change might impact the needs of your customer and regularly review your risk assessments.
13.2 Integrate climate change measures into national policies, strategies and planning	• Manage your business's CO_2 emissions (e.g. through investment in low-carbon technologies, or through energy efficiency measures etc.) • Support the development of public policy in the transition to a low carbon climate resilient economy.
13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning	• Support public policy on the transition to a low carbon climate resilient economy. • Ensure that your managers and employees are climate aware. Be confident of their capacity to address the impacts climate change will have on your business.

Contacts:

Malcolm Preston
Global Sustainability leader
PwC (UK)
T: +44 20 7213 2502
E: malcolm.h.preston@uk.pwc.com

Louise Scott
Director
PwC (UK)
T: +44 20 7804 5068
E: louise.a.scott@uk.pwc.com

Andrew Thurley
Director
PwC (Middle East)
T: +971 4 304 3100
E: andrew.thurley@pwc.com

Adot Killmeyer-Oleche
Chief, Research and Capacity Development Division
United Nations Industrial Development Organisation (UNIDO)
T: +431 26 026 5287
E: a.killmeyer-oleche@unido.org

Bob Sorensen
Director
PwC (Middle East)
T: +971 2 694 7450
E: bob.sorensen@pwc.com

Nadia De Marco
Senior Manager
PwC (Middle East)
T: +971 4 304 3957
E: nadia.de.marco@.pwc.com

www.pwc.com/me

At PwC, our purpose is to build trust in society and solve important problems. We're a network of firms in 157 countries with more than 208,000 people who are committed to delivering quality in assurance, advisory and tax services. Find out more and tell us what matters to you by visiting us at www.pwc.com.

Established in the Middle East for 40 years, PwC Middle East has firms in Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Oman, the Palestinian territories, Qatar, Saudi Arabia and the United Arab Emirates, with around 4,000 people. (www.pwc.com/me).

Creative Design Centre CDC 1388 032017