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Rebooting Business Innovations and Sustainability Practices in the Digital Age: Agenda of Action for Shared Prosperity

Pooran Chandra Pandey*

Abstract

The role of business in society is not new and has existed in the form of philanthropy through the course of human history but in various manifestations. Its scope, coverage and impact also continued to evolve. Over time, community, however, expected from businesses an "obligatory" role through a "social compact." Subsequently, sovereign states introduced laws, regulations, frameworks and provisions to mandate businesses responsibility in support of societal purposes and well-being covering a swathe of areas, among others, education, health, livelihoods, environment, air, water, biodiversity, green growth, and sustainable development.

The history of societal transformation has kept pace with changing paradigms and changes that shaped its relations both with the businesses, the state, and the civil society –independently and interdependently. These benign and sometimes adversarial relations between and among the stakeholders accelerated actions towards frameworks, treaties, and goals and came to redefine the future of human welfare that set-in motion a renewed focus on co-creation and collaboration.

Over the years, sustainability, in all of these, has remained a common strand and now discourse is more about collective and joint actions both within and beyond national boundaries to re-set the pathways of relocating new grounds for a just and a fair course of green growth. This would essentially determine societal progress led by business transformation in harmony with nature, consistent with new role that science, technology, and innovation would contribute to making development more people-centric in times ahead.

Keywords: *Sustainability, Climate Diplomacy, Net Positive, 1.5 Degrees, Paris Agreement, G20, COP 26, Multilateralism*

Introduction

Relationship and interactions between business and the community has been as old as human history, dating back to Athens of 500 BC when Greek businesses and their societies had seamless interface for welfare and well-being of the communities. Right throughout, and for certainty, this embedded interaction become clearer since 1600 when British empire began to expand its territories, introducing a new element of public-private partnerships in the process, resulting into a specter of interdependence between the profits of commercial entities and people who lived within those territories. The intensity of a closer collaboration between the business and communities got more nuanced after the industrial revolution of 18th century, with social scientists beginning to theorize this interface, resultant outcomes, and growth and prosperity

* *Dr. Pooran Chandra Pandey, Board Member, United Nations World Food Programme, Trust for India*

issues of the society depending on what businesses did and how and whether or not it resulted in any down side including businesses growing much stronger, leveraging their responsibilities towards communities as a tool for transaction and interface between their profits and support from the state actors, overall. At a global scale though, the history of role of business in society, as an integral force, has been complex and there are diverse historical records contesting and supporting the role of business within societies that they operated in from angles of varied theories that came to be defined in the body of literature of corporate social responsibility from 1900 onwards.

As the discourse of role of business in societies began to develop internationally in the UK and the US, with local and global variations of events shaping commercial strength of businesses and development of business-led welfare initiatives in the form of general societal well-being, instances of businesses using their growing influence also became more evident with a few business owned corporations taking a note of an unequal society and adverse business and society relations. They began to mend their operational strategies to focus on overall welfare of the people across and throughout workplace, market place, and community, which, later on, with founding of the United Nations in 1945, got a universal articulation with the involvement of businesses in welfare and human rights issues, and this continues to expand even in contemporary times.

Business globally continued to find their ground through the Economic Depression of 1930 that shook their foundations, later only to be further triggered by two world wars, causing deep-rooted disenchantment of public with capitalism. In the aftermath of the world wars, companies began to grow their wealth again and became more powerful, often attracting support from their states, for instance, in the UK and the USA. This sharp wealth creation by companies began to interfere with climate and environment with a large number of emissions generated, attracting the first attention of the United Nations (UN) finding the first global voice in Stockholm Environmental Conference, 1972. By the 1990s, the age of globalization had begun resulting in the era of globalization and the birth of multinational corporations, with their wealth far exceeding those of their governments in some 50 developing economies around the world.

Balancing Corporate Wealth with Social Equity

Since 2000, the UN has been running a program called the United Nations Global Compact (UNGC), the 10 key principles of which are designed to encourage businesses worldwide to adopt sustainable and socially responsible policies, and to report on their implementation through an annual matrix – Communication of Progress. In its first 20 years of operations, the initiative has managed to sign up more than 12,000 businesses from 158 countries with over 75,000 public reports.

On the one hand, the economic approach, broadly referred to as capitalism has been awe-inspiringly transformative. The world has never been more effective at bringing people out of poverty or coming up with innovative ways to solve structural challenges of income inequality. But our societies are growing more unequal, not less, and our environment continues to suffer.

It is also noteworthy to mention that these developments in corporate social responsibility (CSR) and corporate sustainability were taking place at the cusp of a felt need to deploy and leverage technology and innovations. The period also characterized a gradual yet visible change over from traditional philanthropy to responsibility to

sustainability across the spectrum, highlighting a full display of collective actions among businesses, governments, and civil society organizations to advance a larger goal of a fair development and equitable growth with a sense of collaborative responsibility along the shared interests.

It is in this backdrop that contextualizes today's challenges and dilemmas in no less uncertain manner. We need to consider how we can have a large pool of "hero businesses" that would have a more mutual relationship with their stakeholders – businesses that recognize and act upon the implied social contract as much as any formal commercial arrangements and which accept environmental and civic issues as part of their basic model of trade.

Transitioning from Corporate Responsibility to Business Sustainability

While businesses continued to gather steam of their work for and partnerships in varying degrees with communities in different locations, regions, and geographies, there were no standard formats, provisions, and reporting mechanisms. Such a stray scenario warranted a credible firmament to consolidate and harmonize business-led philanthropy into a structured system with directed reporting and mechanisms of incentivized transparency and governance.

Thus UNGC, world's largest non-binding UN corporate sustainability pact to encourage businesses worldwide to adopt sustainable and socially responsible policies and to report on their implementation, was launched in 2000. It is a principle-based framework for businesses, stating 10 principles in the areas of human rights, labor, the environment, and anti-corruption. Under the UNGC frameworks, companies are brought together with UN agencies, labor groups and civil society.

The UNGC was announced by the then UN Secretary-General, late Kofi Annan, in an address to the World Economic Forum on 31 January 1999 and was officially launched at UN headquarters in New York City on 26 July 2000.

> There is enormous pressure from various interest groups to load the trade regime and investment agreements with restrictions aimed at reaching adequate standards in the three areas I have just mentioned. These are legitimate concerns. But restrictions on trade and impediments to investment flows are not the means to use when tackling them. Instead, we should find a way to achieve our proclaimed standards by other means. And that is precisely what the compact I am proposing to you is meant to do…. We have to choose between a global market driven only by calculations of short-term profit, and one which has a human face.
>
> Between a world which condemns a quarter of the human race to starvation and squalor, and one which offers everyone at least a chance of prosperity, in a healthy environment, between a selfish free-for-all in which we ignore the fate of the losers, and a future in which the strong and successful accept their responsibilities, showing global vision and leadership. [Late Kofi Annan (1938–2018), the then Secretary General (1997–2006), UN in his inauguration speech during the Global Compact launch on 1 February 1999 at the World Economic Forum, Davos.]

The UNGC currently has over 12,000 corporate participants and other stakeholders in over 158 countries. with twin objectives: "Mainstream the ten principles in business activities around the world" and "Catalyse actions in support of broader UN goals" such as the Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs).

It is also a founding member of the UN Sustainable Stock Exchanges (SSE) initiative along with the Principles for Responsible Investment (PRI), the UN Environment Programme Finance Initiative (UNEP-FI), and the UN Conference on Trade and Development (UNCTAD).

Since its inception in 2000, the UNGC primarily focused on providing support to achieve the MDGs; however, after those expired in 2015, its top priority has been updated to the pursuit and progress towards achieving targeted pledges as contained in the Agreement and the SDGs, accompanying 2030 deadlines.

In its efforts to double down on the corporate sustainability targeted at societal well-being, the UNGC recently worked upon its new strategic plan 2030, acknowledging that SDGs and the Agreement work as providers for the most powerful common agenda for achieving peace and prosperity on a healthy planet – with essential role spelled out for businesses. As the largest global corporate sustainability initiative, it is both its responsibility and priority to be a leading catalyst for transformations ahead, taking into account industrial revolution 4.0, ICT, investments in improving business processes and supply chains to better serve the shareholders as well as stakeholders with fairness and equity.

The strategy puts a full focus in bringing the full weight of the private sector to meet SDGs by the 2030 deadline. The document has further spelled a global strategy in engaging businesses globally through their local focus in communities and ecosystems they operate within to deliver on both the universal goals and the Agreement at its full scale, speed, and impact.

India in G20, Rome, and COP 26, Glasgow Negotiations, 2021: Climate Diplomacy in a Multilateral World

Recently concluded G20, Rome and COP 26, Glasgow multilateral meetings further stepped up the role of governments, civil society, and businesses to be able to lay out a comprehensive agenda to combat the reversible effects of climate change, de-carbonization and thus pivoting to Net Zero in a time bound manner. Paris Agreement, 2015 had initially laid out a blueprint for the nations around the world to be able to take necessary actions to mitigate and adapt to the unfolding catastrophe of climate change and environmental degradation and keep 2 degree temperature in reach by turn of the century, taking recourse to consequential actions. The 2 degree tipping point, however, got revised to 1.5 degrees, given the scale and impact of rising climate related episodes with escalated periodicity and severity. In turn, developed nations agreed to make available USD 100 billion to developing nations along with technology transfer and capacity building. However, none of these commitments got fulfilled, raising the issue of moral imperatives and lack of trust and integrity during the climate negotiations that recently concluded in Rome and Glasgow. India has been playing a pivotal role in setting both its national agenda on climate pledges and also the global development agenda, laying emphasis of the role for Indian as well as global business entities, given their financial heft, efficiency, effectiveness, and ability to innovate and put in place new technologies, supply chain processes, and sustainability practices.

Paris Climate Agreement also, among other provisions, operate on a 5-year cycle, mandating signatory nations to improve their climate pledges. The first cycle was to be completed by the end of 2020 but global pandemic halted many countries from revising their climate pledges, also complicated by withdrawal of US from the Agreement (later joined after new Democrats took charge of the power in US). In the meanwhile, The US, the UK, EU, and Canada announced their improved climate targets though lacking on any certain firm plan, while China, India, and Russia stayed away from improving their climate pledges. It may be recalled that developed nations, making

use of industrial revolution, took full advantage of fossil fuels in securing their development and growth over centuries, emitting large swathe of carbon dioxide into the atmosphere for the rest to suffer and now asking developing economies to put a cap on their emissions. India figures low on per capita emissions after the US, China, EU, and Russia and thus has been leading climate negotiations globally on a need for unique and differentiated yet responsive capability response by developing economies without compromising their development aspirations.

UN's climate agenda has, in the meanwhile, been stepped up impressing upon signatory nations to the Paris Agreement to cut their emissions by 50 percent by 2030 and become "Net Zero" by 2050 or earlier; as given the current rate of climate change, 1.5 degrees, compared to pre-industrial age, would be mandatory to keep the global warming within reasonable limits. Given the intricacies of limiting global warming and securing development aspirations, developed and developing economies continue to lack in climate negotiations on a need for just, inclusive, and sustainable models of growth.

India, while leading the global climate negotiations in the recently concluded Rome and Glasgow meetings, agreed to improve its climate pledges with a plan to cut its emissions and reach a "Net Zero" status by 2070. India's renewed climate pledges include the following:

Between 2021 and 2030:

- Increase in non-fossil fuel capacity to 500 Giga Watt (GW)
- Fulfilling the nation's 50 percent energy requirements with renewable energy
- Reduction of one billion tons of projected carbon emissions
- Reduction of carbon intensity of economy (per unit of GDP) to less than 45 percent

And, by 2070

- Reach the target of being a "Net Zero" economy.

India's improved pledges, coming on the back of corporate responsibility, leadership role in improving supply chains, and ability to improve innovations and digital sustainability, support the climate pledges and help achieve the policy decisions at multilateral platform.

Paris Climate Agreement, 2015

Journey Forward into a Clean Future

Paris Climate Agreement (the Agreement) is a legally binding international treaty on climate change. It was adopted by 196 parties at Conference of Parties (COP) 21 in Paris, on 12 December 2015 and entered into force on 4 November 2016. Its goal is to limit global warming to well below 2^0 Celsius (C), preferably to 1.5^0 C, compared to pre-industrial levels. To achieve this long-term temperature goal, countries aim to reach global peaking of GHG emissions as soon as possible to achieve a climate neutral world by 2050 or earlier.

The Agreement is a landmark in multilateral climate change process as a binding agreement, bringing all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects. Implementation of the Agreement requires economic and social transformation, based on science and evidence. It works on a 5-year cycle of increasingly ambitious climate action carried out by the nations, having since submitted their plans for climate action known as nationally determined contributions (NDCs) before the end of 2020.

In their NDCs, countries communicate their planned actions and initiatives to reduce their GHG emissions to reach the goals of the Agreement

including building resilience to adapt to the impacts of rising temperatures.

Long-term Strategies

To better frame the efforts towards their long-term goals, the Agreement has invited countries to formulate and submit long-term low GHG emission development strategies (LT-LEDS) by end of 2020 with a long-term horizon to the NDCs. Unlike NDCs, long-term goals are not mandatory. Nevertheless, nations place the NDCs into the context of their long-term planning and development priorities, providing a vision and direction for future.

Finance and Technology

The Agreement reaffirms that developed countries should take lead in providing financial assistance to countries that are less endowed and more vulnerable, while also encouraging voluntary contributions by other Parties. Climate finance is therefore needed for mitigation because large-scale investments are required to significantly reduce emissions. It is equally important for adaptation, as significant financial resources are needed to adapt to the adverse effects and reduce the impacts of a changing climate.

The Agreement also speaks of vision of fully realizing technology development and transfer for both improving resilience to climate change and reducing GHG emissions. It also establishes a technology framework to provide an overarching guidance to well-functioning technology mechanism (TM). The mechanism is accelerating technology development and transfer through its policy and implementation arms.

Tracking Performance

With the Agreement, countries also established an enhanced transparency framework (ETF). Under ETF, starting in 2024, countries will report transparently on actions taken and progress posted in climate change mitigation, adaptation measures including on support provided or received. It also provides for international procedures for the review of the submitted reports. The information gathered through the ETF would feed into global stock take, which further assesses collective progress towards long-term climate goals, recommending countries to set more ambitious plans.

Progress so far

Although climate change action needs to be further enhanced and accelerated to achieve goals of the Agreement, the years since its entry into force have already sparked low-carbon solutions and created new markets. More and more countries, regions, cities, and companies are establishing "zero emissions" targets while zero-carbon solutions are becoming competitive across economic sectors, representing 25 percent of emissions. This trend is predominantly noticeable in power and transport sectors and has created many new business opportunities for early movers. Zero-carbon solutions thus could be competitive in sectors representing over 70 percent of global emissions by 2030.

Pivot to Digital Sustainability Framework: Scale and Impact of Technology and Innovations

The phrase "digital sustainability" refers to a holistic approach a company can take in achieving better sustainability through sustained innovations and investments in technology and innovations. Such an endeavor can influence every department and processes within a company, including its fundamental IT architecture.

The Paris Agreement and international accords like International Solar Alliance (ISA) represent

collective climate action milestones towards a cleaner and more stable planet. Targeting sustainability in a company's IT deployment and its digital processes can further support and advance initiatives in favor of a healthy planet and resilient communities – the Agreement and treaties propose. It is also estimated that "greening" companies, buildings, and cities, through digital transformations and technology investments, could yield up to a 20 percent drop in carbon emissions (CO2) between 2021 and 2030.

Moreover, pursuing sustainability through digital transformations also nets economic opportunities across the spectrum and geographies, helping smaller companies deploy their resources more optimally without blowing up their carbon footprint. It also advances twin interrelated goals of achieving a sustained bottom-line by businesses while helping communities build a resilient ecosystem to contribute to a healthier planet, in effect.

Investing in Operational Science and Technology

All types and ranges of businesses and enterprises now realize more fully the benefits of new technology tools and investments in innovations aimed at improving their efficiency and revenues in medium- to long-term horizons. Businesses, including small and medium, now find it increasingly affordable to apply Internet of Things (IoT) technologies to their existing company networks and assets. IoT is an expressway within businesses' current architecture that channels mission-critical data from one end of their operations to the other, seamlessly.

Regarding benefits of digital sustainability, the IoT can deliver significant time and cost savings. For instance, smart Heating, Ventilation, and Air Conditioning (HVAC) systems can further optimize performance across a building's physical environmental controls, turn on and off according to occupancy or interface with company or personal schedules, accelerating operational efficiency and power savings in the process. Even some older manufacturing equipment can get retrofitted with sensors enabling their preventive maintenance by monitoring for unusual temperature and vibration.

The idea that digital technologies are becoming permanently entwined with mechanical systems and stationary infrastructure means companies are increasingly building from the ground up with cyber-physical systems already in mind.

Innovations across Supply Chains and Business Efficiency

Hobbyists are discovering the delights of 3-Dimensional (3D) printing and additive manufacturing. But in business and big industry, the implications are even more inspiring. For instance, 3D printers can become a vital component in the digital transformation of companies that manufacture physical goods in small or large tranches, replace parts with demanding tolerance, relying on physical equipment to manufacture replacement parts in-house.

Projections suggest the benefits of 3D printing on environmental as well as companywide sustainability will be significant, signifying that businesses have an imperative to produce fewer goods, and to extrude fewer waste products. Additive manufacturing effectively can localize the fabrication process, which means up to 5 percent savings in GHG emissions from freight and material handling processes. Businesses that deploy 3D printers find it easier to gather and repurpose cast-off materials that would otherwise be discarded as waste in previous generations of assembly technology.

Leveraging Technology Assisted Transformations (TAT)

With a single company facility or even a series of them, the opportunities that would come with sustainability-driven transformations can be extraordinary. These innovations could get even more productive when businesses scale the concept up across the whole economy, or even within a specific supply chain.

For instance, the residential and commercial electric grids of the near future will be highly distributed and, therefore, much more resilient and reliable. Using blockchain can create community-based, "virtual" power plants that can monitor supply and demand in real time and more efficiently balance power distribution.

Bringing blockchain, IoT, and smart metering to commercial electric grid, for instance, can reduce industry's use of electricity by 6.3 billion megawatt hours, and its GHG emissions by upto 1.8 gigatons, by 2030, leading to substantial carbon emissions reductions. It is estimated that merely upgrading appliances and equipment to Energy Star-rated models can yield significant savings after the initial investment.

Circular Practices for Business–Consumer Relationships

There is another significant opportunity concerning digital sustainability in business operations. It involves the use of big data to gain a more holistic understanding of how consumers interact with their products after the sale, and whether, where, how, and why they engage with the "secondary markets" for repairs, replacement of parts, maintenance and/or modifications of goods, services, and offerings.

Companies, by leveraging data from secondary markets, are also discovering ways to better work with consumers and peer companies to extend the lifetimes of their electronic devices. From electric shavers to X-rays, there is all the reason to postpone shoving these material in the landfill if there still is some usefulness left. Businesses are also reaping the benefits of better company–customer relationship by making product services, maintenance, and repair parts easier to deal with.

I: Digital Sustainability Practices: Indian Cases

Indian businesses, over the period of the last three decades, have considerably evolved across and throughout their supply chains improvements, substantively larger investments and resultant sustainability practices at scale and impact, empowering communities across the board through partnerships, collaborations, ease of doing business and enabling public policy tools, enacted by the central and the sub-regional governments. These efforts undertaken by Indian businesses in partnerships with communities and governments have since begun to deliver the intended outcomes and India's position at international forums – both bilateral and multilateral forums – have substantially cemented its global response to combating the climate crisis in the lead up to its improved pledges at the recently concluded G20 meetings in Rome and COP 26 in Glasgow, where Indian public policy role and business sustainability practices have been lauded including by the United Nations.

To be able to aptly recognize the roles played by Indian businesses, governments, and civil society, a few case studies in point provide the current context, spirit of cooperation among key stakeholders, and resultant outcomes that pave the pathway for their leadership in addressing national and international social, economic, and environmental challenges.

Representative business cases are listed below:

Ambitious Electric Mass Transport Vehicle Policy

Delhi's ambitious electric vehicle policy proposes to reduce its carbon emissions to the tune of 5 million tonnes by 2024 while proposing a further reduction by 15 million tonnes by 2030 through planning, programs, awareness, and capacity building measures.

Efforts are afoot to reduce increasing pollution levels in the national capital by improving the transport system. Delhi government has planned that by improving the transport system as well as reducing traffic jams, harmful particles such as PM10 and PM2.5, which cause air pollution, could be reduced by up to 5 million tonnes.

India's Electric Vehicle Vision is committed to making the country the nation with 100 per cent electric vehicles by 2030. In line with the national vision, the Delhi and other sub-regional governments are taking firm actions and concrete decisions, given that the cities' transport accounts for some 25 per cent of total carbon emissions.

Delhi Transport Corporation (DTC) is installing real-time monitoring panels to record carbon emissions at their 38 stations for improving the performance of bus fleets in the lead up to being a city of Green Transport. Such best practice cases are also rapidly being replicated across and throughout the sub regions for effective results and outcomes at the national level.

"Net Zero Emissions" Status for Delhi's International Airport:

The city of Delhi has achieved the status of being a "net zero emissions" airport, the first in Asia Pacific region in November 2020 in line with Paris Agreement,. IPCC's recommendations and ICAO's Aviation Climate Change mitigation objectives. Airport accreditation initiatives will further help the airport achieve improved business performace by following various Government of India initiatives and the Airport Carbon Accreditation Guidelines.

Policies and programs such as renewable energy use (both onsite and offsite), development of green airport infrastructures, energy conservation and efficiency improvements, and stakeholder partnership programs are being implemented. Other energy efficient and environment-friendly infrastructures at the airport include electric vehicle charging facility, state-of-the-art Sewage Treatment Plant (STP) and Water Treatment Plant (WTP), energy efficient lighting systems, advanced fuel hydrant systems, Bridge Mounted Equipment (BME) such as Fixed Electric Ground Power Units (FEGP) and Preconditioned Air (PCA) supply systems. Adoption of Taxibot has resulted in reduction of significant amount of aviation turbine fuel consumption by aircrafts for ground movement.

Switching Polluting Industries to Piped Natural Gas (PNG):

As a long-term approach to curbing carbon emissions in the city, Delhi has prepared a policy blueprint in helping the polluting industries switch to Piped Natural Gas (PNG) through a combination of incentive and punitive measures. According to the government's pollution agency, air pollution in the city is the major problem, which is caused by dust from construction sites and polluting industries on the city's territories.

The Commission of Air Quality Management has stressed the need to switching over of all industries in Delhi-NCR to PNG while adding that the industrial sector is one of the major contributors to air pollution here. The agency has reviewed the progress in this during a meeting, which was attended by representatives of the city

government, the Gas Authority of India Limited (GAIL), the Indraprastha Gas Limited (IGL), and the Gas suppliers. Some 1,644 of industrial units spread across 50 industrial areas have already been identified to switch over to PNG with the target for completion of infrastructure work and switch over to PNG by 31 January 2021.

II. Global "Business" Innovations Case Practices

UN Framework Convention on Climate Change (UNFCCC), in the aftermath of businesses making commitment to the climate change and their improved pledges, during December 2020 Climate Dialogues, New York, has identified some of the leading sectoral business cases from around the world based on their good case practices at implementation levels to supplant governments' efforts in achieving a state of "zero carbon" status by 2030.

These good "business" practice cases are listed below:

Apple (United States) pledged "net zero" emissions for its supply chain and products by 2030 and announced that 95 of its suppliers have committed to moving to 100 percent renewable energy as a result of this progress.

Artistic Milliners (Pakistan), a textile company announced joining the UN Fashion Industry Charter for Climate Action and shared their actions on circular economy to reduce their carbon footprint and provide "zero emissions" energy to thousands of homes in its country context.

Dalmia Cement (India), 40 of the world's leading producers of cement as part of Global Concrete and Cement Association (GCCA) have issued an industry commitment to deliver carbon-neutral concrete by 2050. The Indian cement company has gone further and established a roadmap to become carbon negative by 2040 and is working globally to meet its 100 percent renewable energy objectives.

Godrej & Boyce (India), a manufacturing company, announced its commitments to key global initiatives including Business Ambition for 1.5C, setting science-based targets, and advancing energy efficiency, through the Climate Group Initiative EP100 (the world's energy-smart companies committed to doing more with less) for energy-smart companies, in line with their overall ambition to achieve carbon neutrality by 2050.

International Airlines Group (Spain/UK) is the first airline group worldwide to commit to achieving "net zero" emissions by 2050. The One world Alliance of 13 airlines representing 20 percent of global aviation, is investing US$400m in sustainable aviation fuels (over the next 20 years) to achieve net zero carbon emissions by 2050.

Movida-Rent-a-Car (Brazil) presented actions that will underpin its pledge of "net-zero" emissions by 2030 and becoming carbon positive by 2040. Movida is reducing emissions across its operations, offsetting carbon footprint of the company and its customers by planting trees, as well as adapting to impacts of climate change and undertaking risk analysis using methodologies of the Task Force on Climate-related Financial Disclosures (TFCFD).

Net Zero Asset Managers Initiative (Global) representing US$9 trillion of assets under its management has seen each of the 30 founding members unequivocally commit to achieving net zero emissions by 2050. This includes setting individual portfolio targets, as well as engaging companies in each member's portfolio to set decarbonization goals in line with limiting global temperature rise to 1.5^0C.

Sustainable Development Goals and International Cooperation Framework, 2015

The UN-led sustainable development goals (SDGs) were rolled out in 2015, after being ratified by 193 members of the general assembly (GA) aimed at achieving human well-being while leaving no one behind in the process. Alongside, other multilateral agreements – Paris Agreement (The Agreement) and International Solar Alliance (ISA) brought into their existence in 2015 – focused on safeguarding community through adaptation and mitigation of climate measures. The Agreement characterizes the vision of fully realizing technology development for both improving resilience to climate change and reducing GHG emissions. It also establishes a technology framework to provide for overarching guidance to the well-functioning TM while accelerating green technology development and its transfer through policy and implementation approaches. These multilateral agreements define a specific role for businesses at all levels – local, national, regional and international – to work on shared goals with collective responsibility, including through innovation and digital transformations.

Accelerating Business Participation in Global Development

In the year 2000, the UN came out with a set of 8 MDGs (2000–2015) comprising extreme poverty and hunger, universal primary education, gender equality and women empowerment, child mortality, maternal health, HIV/AIDS, malaria and other diseases, environmental sustainability, and global partnerships for development. With MDGs Declaration, 191 nations along with 22 international organizations committed to help achieve the goals by 2015. Eight goals were measured by 18 targets and each goal had specific targets with a definitive timeline to achieve MDGs by the committed partners.

These eight-fold MDGs came to an end in 2015 transitioning itself into a more elaborate, specific, measurable, process-driven, and reportable goals called the SDGs (2015–2030). These goals are a set of 17-fold universal goals having 169 targets with an aim to achieve universal well-being in the lead up to nations' joint efforts to build a more sustainable world by 2030.

The SDGs, as listed here, underscore urgency of actions and priorities by the national governments, international organizations, and businesses alike to begin to take concrete, actionable, and irreversible actions to demonstrate shared responsibility of building an equitable global order that is more sustainable.

Goal 1: No Poverty

Goal 2: Zero Hunger

Goal 3: Good Health and Well-being

Goal 4: Quality Education

Goal 5: Gender Equality

Goal 6: Clean Water and Sanitation

Goal 7: Affordable and Clean Energy

Goal 8: Decent Work and Economic Growth

Goal 9: Industry, Innovation, and Infrastructure

Goal 10: Reduced Inequality

Goal 11: Sustainable Cities and Communities

Goal 12: Responsible Consumption and Production

Goal 13: Climate Action

Goal 14: Life below Water

Goal 15: Life on Land

Goal 16: Peace and Justice and Strong Institutions

Goal 17: Partnerships to achieve the Goals

The mechanisms of reporting progress on universal goals, periodic review of the process, and measurable outcomes are since in place and nations are stepping up their efforts in fulfillment of their UN commitment to achieve SDGs, keeping in view their nationally determined goals (NDGs). Issues core to the achievement of the SDGs by 2030 include financing of these goals and global triangular partnerships by signatory nations including definitive roles of private sector, civil society organizations, and international agencies in amicably meeting out persistent socio-economic challenges.

De-carbonizing Economy for Empowered Communities

The Agreement is clearly at the top of the global agenda despite shared challenges of current global pandemic, and that the science is clear. Climate crisis is accelerating, and there remains much more to be accomplished to keep global temperature rise to 1.5C. It is beyond doubt that climate action and ambitions are on the rise, meaning that countries representing around 65 percent of global GHG emissions with 70 percent of world's economy have committed to reaching "net zero" emissions by 2050 or earlier.

Number of countries coming forward with their strengthened national climate plans (NDCs) have grown significantly, with commitments by 71 countries (all EU member states are included in the new EU NDC) on display. A growing number of countries (15) have shifted gears from incremental to major increases. Countries that have committed to much stronger NDCs include Argentina, Barbados, Canada, Colombia, Iceland, and Peru.

In another stride towards a resilient, net-zero emission's future, 24 countries have announced new commitments, strategies (plans) to reach a "net zero" state. Recent commitments from China, Japan, South Korea, the EU, and Argentina have established a clear benchmark for other G20 countries. Finland (2035), Austria (2040), and Sweden (2045) have also committed to reach "net zero" emissions.

Climate vulnerable countries are, particularly, at forefront of actions. Barbados and Maldives have also set highly ambitious targets for achieving "zero emissions" by 2030. Fiji, Malawi, Nauru, and Nepal have indicated that they are also aiming for "net emissions." Twenty countries have also indicated new commitments to protect people and nature from climate impacts. Ethiopia is taking a whole-of-economy approach (protecting people and nature), while Suriname is stepping up its implementation of its National Adaptation Plan. Developed countries, including the UK, Portugal, and Spain, have announced upping their adaptation efforts.

Israel has committed to joining a growing list of countries stepping away from coal. Fifteen countries have provided details on how they will speed up their transitions to renewable energy by 2030, including Barbados (aiming for fossil-fuel free), Vanuatu (100 percent renewables), and Slovakia (decarbonized power). Denmark has committed to ending oil and gas exploration. India announced a new target of 450GW installed capacity of renewable energy by 2030. China has committed to increasing its share of non-fossil fuel in primary energy consumption to around 25 percent by 2030, while India has committed to over-achieving its commitment, faring on top of G20 when it comes to reaching "zero emissions" by half targets by 2030 and a net zero status by the middle of the century.

In line with this momentum, the UK, France, and Sweden have further set out plans to end international financial support for fossil fuels,

while Canada announced ramping up its price on carbon to C$170 per tonne by 2030. Twelve donor countries have also highlighted their commitments to support developing countries, including about €500m in additional investment from Germany, an additional €1bn per year from France as well as a World Bank commitment to ensure 35 percent of their portfolio.

With the global pandemic impacting international climate finance flows this year, 2021 will be critical to show the finance and material support flow to meet and surpass the $100bn goal. Zurich Insurance (Switzerland) announced that the Zurich Flood Resilience Alliance will triple funding by 2025 and expand its reach from 11 to 21 countries. Mayor of Freetown (Sierra Leone) committed to planting 1 million trees between 2020 and 2021.

"Net Positive" Ecosystem and Future of Sustainability

A growing number of businesses are gradually shifting focus from only "doing less harm" to becoming "net positive," a positive impact on communities. Businesses are moving away from merely cleaning up their internal systems to delivering sustainability through their products, services, and offerings. Circular economy approaches along with tools of reporting are since gaining increasing salience.

Example of a company that produces and installs sustainable solar panels, compared to its polluting counterpart trying to reduce its emissions, can be used to illustrate the difference between a "net-positive" and a traditional sustainability approach. In a traditional approach, solar panel supplier reports only on the impact of the production of solar panels, the impact of its offices, and the amount of energy the system uses when installed.

Over time, improved operations, supply chain processes, innovations, and technology infusion through departmental interfaces have helped businesses optimize its limited resources (capital, human, and natural) while cutting substantively on carbon emissions. Improvements in business processes and practices do not only re-set supply chains but also add to its bottom-lines, incentivizing business transparency and governance.

Being aware of potential gains of innovations and technology interfaces, businesses have begun deploying resources – human and financial – to digitize their supply chains, resulting in the creation of green jobs and improving systems efficiency and productivity levels in tandem with national and international protocols. Businesses are further committing to leverage the impact of improved "operational architecture" to achieve a "net zero" emission level across complex supply chains by 2050 or earlier to reach a "net positive" stage soon thereafter or even earlier.

A "net-positive" approach – covering processes, operations and supply chains through a circular systems' approaches – can help businesses in re-align their products, services and offerings with their "net positive" footprints on society, voluntarily, combining agility of technology, and improved sustainability practices. The bottom-line – net positive footprint of businesses on society – will however be subject to intense scrutiny as years roll by through to 2030 and beyond, consistent with national pledges, business commitments, and a need for accelerated societal well-being and sustainable development for all.

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