China's Pathway to a Sustainable Future: Enabling Social-minded Business and High-level Openness

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Executive Summary

The world is lurching from crisis to crisis: worsening climate change, a once-in-a-century pandemic, and the crumbling geopolitical order—and sustainability promises to be a globally recognized pathway out of these unprecedented challenges. As sustainability gains momentum, how to translate societal issues into economic drivers, reduce negative externalities and encourage positive ones has emerged as a new key topic across the global business ecosystem.

Meanwhile, discerning executives and entrepreneurs are waking up to the trend that sustainability is not only an embodiment of corporate social responsibility (CSR) practice but also an enabler for value creation and long-term growth. Riding this doing-well-by-doing-good trend, leading multinational firms reap handsome profits, manage risks more effectively, and build business resilience in a fast-evolving international business environment to win the future. Along the way, some of them have designed differentiated paths to sustainability based on the industries they operate in and their positions in the corporate life cycle.

As a fast-growing market, China is navigating strong headwinds as it engages with reform and development of the global governance system and drives the domestic implementation of the UN's Sustainable Development Goals (SDGs). The country is also transforming its development goals from high speed to high quality, and this transformation is expected to gather apace with its proposed carbon peaking and carbon neutrality goals (the "dual carbon" goals). Today, the world's second-largest economy needs to chart the best course to build its own sustainability business ecosystem, as it seeks to stay ahead of the global sustainability trend and meet its fundamental development needs alike.

To design an innovative approach to building sustainable business ecosystems, China should begin with a holistic assessment of value, key agendas, and stakeholder interactions. Financial profit must be balanced with the social value generated by sustainability. The "dual carbon" goals, common prosperity, sci-tech self-reliance, and other key agendas are more important than ever. In terms of stakeholder interactions, China must consider how best to exert the guiding role of government under a socialist market economy; what aspect of sustainability

financial institutions should focus on after the supply-side reform of the "new asset management regulations"[1] and how to scale up their sustainable investing and financing capabilities; and how to harness the leading role of state-owned enterprises (SOEs) in sustainable finance.

Building a reality-anchored, future-proofed sustainable business ecosystem—essential to China's high-quality development in the long run—is a key lever to enable businesses to do good and elevate openness to the next level.

Undoubtedly, a robust sustainability ecosystem should be built on the synergy of multiple actors, including regulators, financial institutions, and enterprises. Both policy guidance from regulators and investment and financing tools of financial players are a prerequisite for putting sustainability into practice. More importantly, as frontline market participants, Chinese enterprises stand to become the driving force of sustainability transformation.

From the perspective of total societal impact, Chinese businesses can formulate an end-to-end sustainability strategy embedded in their core business. In particular, they need to transform across four areas to speed up the shift towards sustainability. First, define a set of visions, strategies and roadmaps. Second, develop a resilient supply chain in sustainable ways that reshape the process from procurement through production to manufacturing, to move the core business towards sustainability. Third, build new sustainability business through sustainable investing and financing management, as well as business model or portfolio innovation. Finally, optimize sustainability data analysis and disclosure, promote partnerships for collective action, and adjust people and organization structures to enable transformation.

[1]Notice of the General Office of the People's Bank of China on Further Clarifying the Matters Related to the Guiding Opinions for Regulating Asset Management Business of Financial Institutions.

1.Prevailing Trend: Sustainability as a Lodestar for Business and Social Development

In the face of unprecedented global challenges, the age of economic growth for its own sake is over, and in its place, sustainability has become a universally recognized development pathway. In 2015, the United Nations adopted 17 SDGs as a universal call to action to end poverty, protect the planet, and ensure that all people enjoy peace and prosperity.

In recent years, crises such as worsening global warming, relentless COVID-19 flare-ups, and more multipolar geopolitics have come into focus. Encouragingly, however, sustainability has been embraced globally by almost every market actor, and is likely to spark another wave of business transformation after digitalization. This seismic change is expected to happen in the coming five to ten years[2].

In response, industry leaders all over the world are racing to ramp up their commitments to sustainability by executing CSR practices and easing sustainability challenges in resource, ecology, and climate, spurred by three key drivers. (See Exhibit 1.)

First, resource shortages loom large for the foreseeable future. For example, the supply of key metals for battery production less than one-third of what is required for 2030 demand, and a carbon asset crunch might start as early as 2024.

Second, the pace at which green technologies, for example, are evolving and the

[2]https://web-assets.bcg.com/71/68/236f977443389753b1f452071934/next-digital-unlocking-50billion-green-tech-opportunity-bcg.pdf.

rate at which their costs are falling, have been consistently underestimated . According to the World Economic Forum, projections of solar PV capacity in 2030 increased by a factor of 36 from 2002 through 2020, while projected unit costs dropped by a factor of 3, thanks to the twin forces of social and technological progress. Consider the adoption of electric vehicles (EVs): between 2016 and 2018, an international petrochemical leader has increased its estimate of the volume of EVs on the road 3 times, a cumulative increase of more than 150%.

Third, sustainability regulations are becoming more sophisticated. For companies, heightened regulatory scrutiny means that the risk of delaying is likely to be much higher than the cost of moving forward. Therefore, leaders must act knowing that more effective compliance will open the door to value creation and create advantage.[3]

Disruption is expected, but so are opportunities. In an increasingly cutthroat competitive landscape, sustainability is not just imposed upon companies; it is a strategic choice that more and more leading players embrace to gain future advantage and open up possibilities of growth. Indeed, sustainability is turning into a source of value creation and business attractiveness.

Even by conservative estimates, a shift to sustainability can still give pioneers five to fifteen years of first-mover advantage, allowing them to elevate industry standards, reshape market dynamics, and disrupt traditional business models[4]. By

Exhibit 2: Sustainability Performance Is Becoming a Source of Value Creation & Business Attractiveness

Source: BCG analysis

[3]https://www.bcg.com/publications/2022/navigating-esg-compliance-in-an-era-of-tighter-regulation.
[4]https://www.bcg.com/press/17january2022-climate-action-accelerating-early-mover-companies-seize-advantage.

doing so, they stand to earn handsome profits, reduce risk exposure, build business resilience, and above all, win the future. (See Exhibit 2.)

The sustainability trend is also sweeping China.

Over the past two years, the Chinese authorities have rolled out a series of far-reaching regulations and policies that form an institutional bedrock for the development of a sustainability ecosystem in the country[5]:

First, enshrining SDGs into China's mid-and-long-term national development planning. Every five years, the country formulates a national plan for economic and social development in line with its specific needs. To bring it to fruition, the country marshals a wide range of resources and designs development timelines, strategies, and pathways to advance national ambitions across-the-board. In alignment with the UN's SDGs, China has set a series of mid-to-long-term development goals and long-range objectives at different levels in all fields.

Second, matching SDGs to China's concrete policies. For example, China's Five-sphere Integrated Plan to promote coordinated progress in the economic, political, cultural, social, and environmental fields represents the country's long-term commitment to sustainability.

Third, deepening international cooperation to achieve SDGs together with the rest of the world. China has notched up impressive achievements in poverty reduction, contagious disease containment, and contributions to global economic growth.

Exhibit 3: China Has Enacted a Series of Key Sustainability Policies and Regulations over the Past Two Years

More concrete sustainability policies under dual carbon goals

Release time	Description
22 Sept 2020	At the general debate of the 75th session of the UN General Assembly, President Xi Jinping announced that China would scale up its Intended Nationally Determined Contributions by adopting more vigorous policies & measures, and **"aim to have CO2 emissions peak before 2030 and achieve carbon neutrality before 2060"**
1 Feb 2021	The implementation of the *National Measures for the Administration of Carbon Emission Trading (Trial)* **marks a new chapter of development** for China's carbon emission trading market
5 Mar 2021	The *Report on the Work of the Government* mentioned solid steps to be taken towards the dual carbon goals & an action plan for **carbon emission peaking by 2030**
15 Mar 2021	At the ninth meeting of the Central Committee for Financial and Economic Affairs, the work of advancing the dual carbon goals was clarified, notably **a 5-year roadmap for carbon emission peak**
24 Oct 2021	The *Working Guidance for Carbon Dioxide Peaking and Carbon Neutrality in Full and Faithful Implementation of the New Development Philosophy* was released by the Communist Party of China Central Committee & the State Council

Initiatives to facilitate listed firms for high-quality development

Release time	Regulator	Description
Sept 2018	China Securities Regulatory Commission	**Code of Corporate Governance for Listed Companies** • Listed companies are asked to disclose info on their environmental impact & social responsibility practices
June 2021	China Securities Regulatory Commission	**Standards for the Contents and Formats of Information Disclosure by Companies Offering Securities to the Public No.2 — Contents and Formats of Annual Reports; Standards for the Contents and Formats of Information Disclosure by Companies Offering Securities to the Public No.3 — Contents and Formats of Semi-Annual Reports (2021 Revision)** • All ESG-related provisions were consolidated into a new section to promote systematic disclosure of sustainable development info
April 2022	China Securities Regulatory Commission	**Guidelines for Investor Relations Management by Listed Companies** • Listed companied are required to address ESG info in investor communication

[5] Guide on Sustainability Practices of Chinese Business 2022, https://pdf.bcgpublications.cn/pdfs/430.pdf

In 2020, China announced its dual carbon goals, followed by a quick succession of policies (See Exhibit 3), pushing forward the domestic sustainability agenda. The concept of sustainability has since gained in popularity and acceptance. As its economy moves from high-speed growth to high-quality growth, China is attaching greater importance to environmental, social and governance issues and becoming more active in global sustainability discourse.

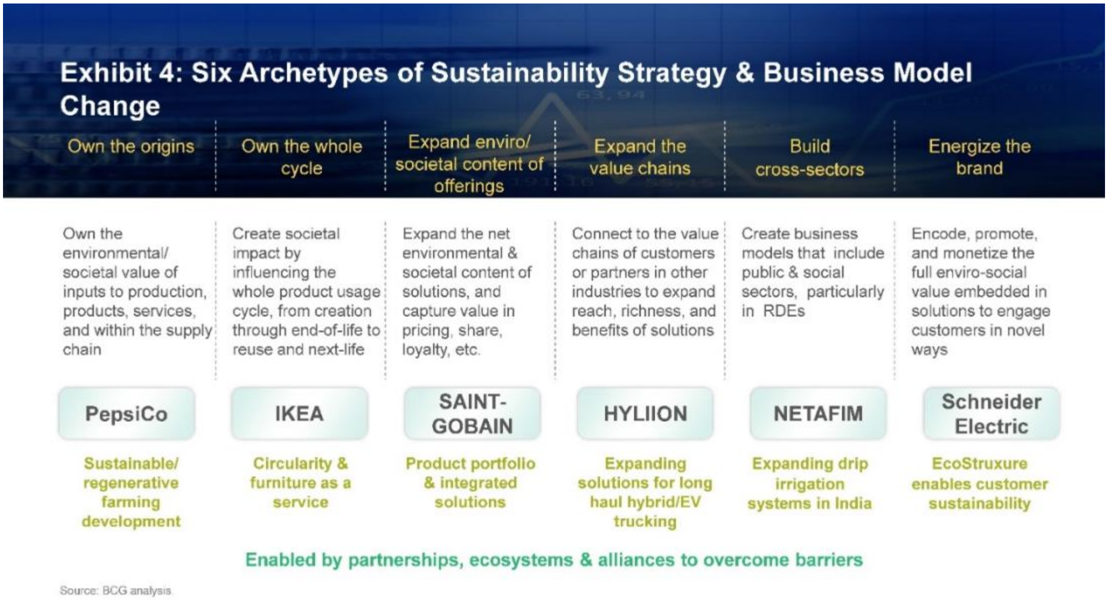
2.Global Leading Practices: Case Study on World-wide Sustainability Frontrunners

Judging from how sustainability has evolved and been received internationally, especially at early stage, many countries faced strikingly similar challenges to the ones now confronting China, such as short-term uncertainty over regulatory support, the risk of decoupling from global supply chains, a dilemma between investment in fast expansion and sustainability, and a less mature starting point.

Despite the predicament, best business practices around sustainability have sprouted up over time. The tide of sustainability transformation that began in advanced markets decades ago is sweeping other economies. Entrepreneurs have come to realize that their promises of environmental protection, CSR and transparent governance alone are not enough, as they are coming under increasing pressure from domestic and international consumers, trading partners, investors, regulators, and even their own employees. Spurred on by a renewed sense of urgency, they must prove their words with visible action towards sustainability. Business leaders who fail to deliver on this front will find themselves exposed to ever-harsher market scrutiny and punishment.

In particular, CEOs at leading companies have been quick to sense that sustainability is increasingly crucial to their overall business performance and to effective risk management and resilience building in a changing commercial landscape. They have each charted a sustainability course that fits their unique situation based on their specific industry and business life cycle.

BCG's latest research shows that leading business practices in sustainability transformation are typically built on six archetypes.[6] (See Exhibit 4.)



Among the six archetypes, expanding sustainable offerings is widely favored and adopted by early movers, spawning countless innovative sustainability business initiatives[7].

A good case in point is Thailand's SCG, a building material giant in Southeast Asia focused on investing in and developing eco-friendly cement and polymers for use in construction. It has launched the "Zero Burn" initiative to purchase agricultural waste from farmers and turn it into alternative fuels that are in turn burned to make greener cement.

Brazilian cosmetics brand Natura leads the way in sustainable beauty products: its Ekos product line stands out from its rivals by sourcing natural raw materials entirely from the Amazon rainforest. The brand has also launched the Natura Amazonia Program to uncover new natural skincare ingredients in support of its product innovation pipeline while conserving the rainforest's biodiversity, as part of its endeavor to create sustainability value.

Arçelik, a leading home appliances manufacturer, already is one of the EU's top three suppliers of white goods. Its efforts to shrink emissions throughout its value

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[6]BCG Sustainability Lab, Building a Sustainability Strategy for Advantage.
[7]BCG Virtual GA LT Meeting, Launching ESG in EMs Imperative via the Global Challengers: Climate Pioneers.

chain could ensure that the company maintains a strategic advantage if the scope of the carbon-adjustment mechanism expands. In addition to focusing on energy-efficient product designs, Arçelik has hired an accredited auditing firm to assess the sustainability of its parts and materials suppliers and help them set their own environmental targets. The company is relying increasingly on rail and ships to handle cargo so that it can cut emissions associated with highway transportation. Arçelik is the only manufacturer in the EU to have its own recycling facilities. It also has recycling, repair, and remanufacturing facilities in Turkey, its biggest production base.

Through a careful observation of leading players in developed economies and innovative stories from emerging markets, we arrive at the conclusion that sustainability transformation boosts a company's competitive edge in seven dimensions:

- Differentiated brand. Built on the positive impact of promoting environmental protection and social sustainability, businesses can leverage sustainability to strengthen or differentiate their brand positioning and value proposition. For instance, a global fashion retailer has introduced organic, sustainable, and fair-trade product lines, which garnered an enthusiastic response from the market and delivered lasting success.
- Amplified reach and scale. To scale up their business reach and presence, players can build an ecosystem by bolstering their commitment to ecological preservation, sustainability, and extensive cooperation with a larger group of partners. For instance, a consumer goods company has set up a sustainability-centered community of micro-and-small-sized enterprises which aims to improve livelihoods and access to essentials by providing products and services to millions of low-income individuals in rural areas while embedding stability into its business partnerships.
- Opened or expanded markets. Enterprises can put themselves in a better position to establish or expand their presence in new markets by catering to sustainability-related demand and goals from key stakeholders, including the government. For example, after gaining the right to operate in an emerging economy, a global food manufacturer was encouraged by the local government to contribute to socioeconomic growth (e.g., job creation) with incentives such as funding or tax reduction and exemption.
- Reinforced position in ecosystem. A company can develop partnerships with its peers in private, public, and social sectors to tackle sustainability challenges together and thus cement its role as a key pillar in the sustainability business ecosystem. For example, in collaboration with government agencies and non-

profit organizations, a technology service provider has helped a country leverage technology to enhance the quality of its healthcare system and has become an integral part of the national digital health infrastructure.

- Technological edge. As companies strive to realize their sustainability goals through innovation, new technological applications will deliver economies of scale and efficiency gains. For instance, an equipment maker has developed a unique suite of eco-friendly textile dyeing and finishing technologies, which enable production at scale and have catapulted the company to the forefront of the global market, processing more than 35% of annual jeans production worldwide.
- Accelerated learning. Through data collection, companies gain access to a wealth of first-hand information on products’ sustainability performance and customer feedback. This information enables them to accelerate the learning curve and product optimization, paving the way for future innovation. For example, a novel insurer has gained significant market traction after it begins to track policyholder health and wellness habits and use the data to personalize its policy plans and premiums.
- Strengthened resilience. Following the sustainability principle, enterprises can reshape their business model and value chain in a way that enhances their resilience against dynamic sustainability challenges. For instance, an energy player traditionally focused on oil and natural gas has embarked on sustainability transformation by spinning off coal-based assets to develop a cleaner, more robust business model. Today it stands as one of the largest renewable energy suppliers in Europe.

Inspired by international learnings on sustainability practice and methodology, BCG offers seven key success factors for companies to tap into the potential of sustainability for long-term growth. (See Exhibit 5.)

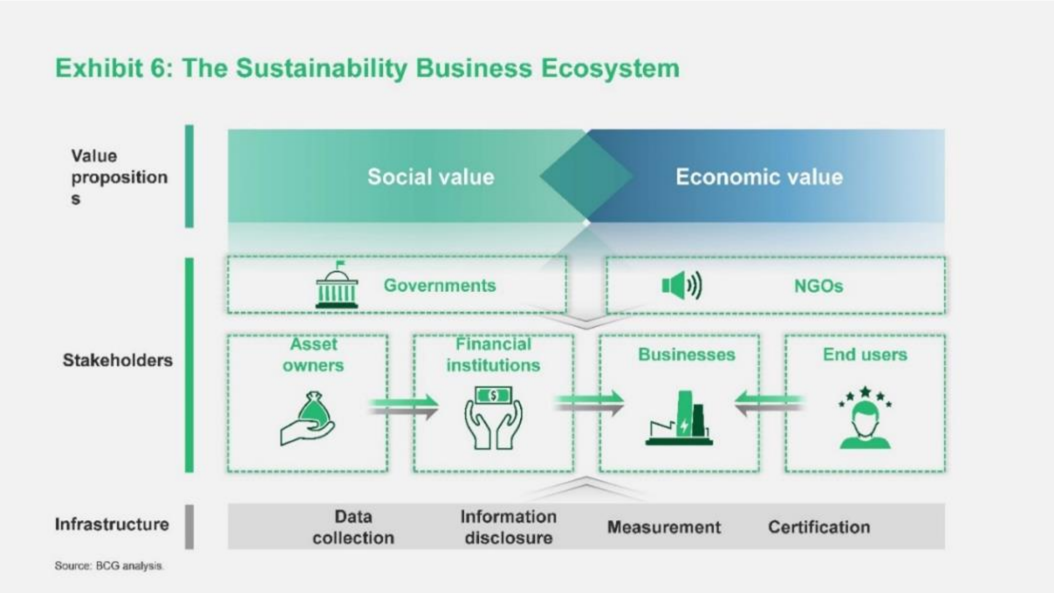
Exhibit 5: Companies Can Unlock the Value Residing in Sustainability Through 7 Key Success Factors Synthesized from Global Leading Experience

Source: BCG analysis.

3.Innovative Approach: Three Key Aspects of the Sustainability Business Ecosystem

In China today, building a sustainability business ecosystem is a long, complex, and challenging process, which demands systematic tiered enablers.

Drawing on global market practices, we believe that the building of a mature sustainability business ecosystem in China features value propositions, stakeholders, and infrastructure. This trio can interplay to drive the long-term growth of sustainability business. (See Exhibit 6.)



3.1 Value Propositions

Tier 1: Value propositions, the fundamental, long-term factor driving sustainability, involves the social and economic value sought by each stakeholder as well as the balance between the two.

China needs to consider its economic development position and balance social value, represented by sustainability, with traditional economic value. Attention to social value is the product of a certain level of economic development. Therefore, balancing social and economic value must align with a country's level of development. (See Exhibit 7.) At the current stage, China needs to achieve an equilibrium between two indispensable values: sustainability and steady economic growth.

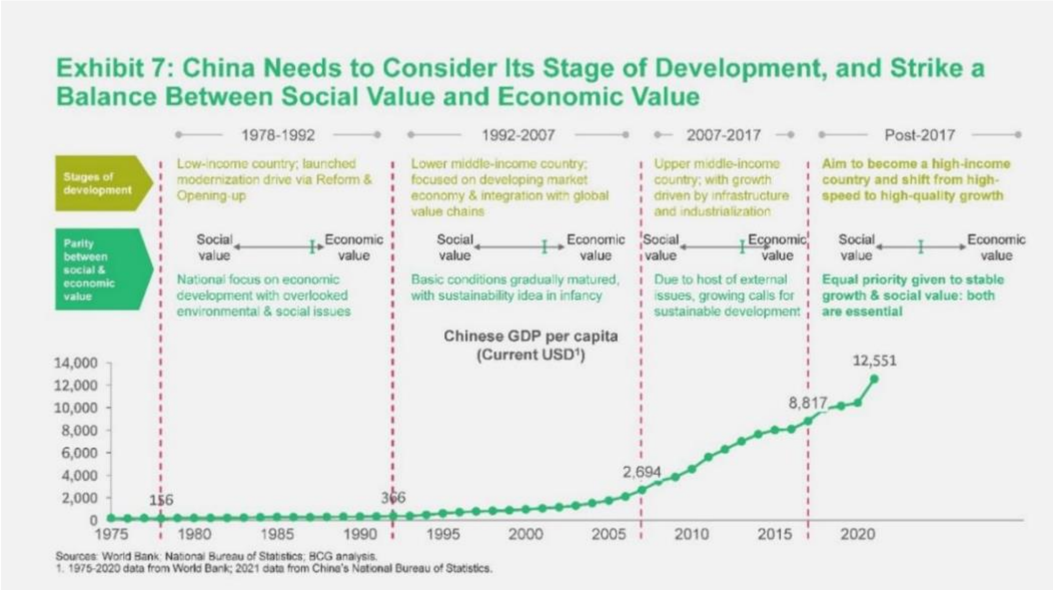


Exhibit 7: China Needs to Consider Its Stage of Development, and Strike a Balance Between Social Value and Economic Value

- 1978-1992: China was still a low-income country, with a core mission of lifting Chinese people out of poverty through Reform and Opening-up. Therefore, maintaining economic growth and improving income per capita were placed at the top of the national agenda as China sought to catch up with the global economy. Environmental and social issues began to pile up but received insufficient attention, since the national focus was on building the economy.
- 1992-2007: The achievements of Reform and Opening-up allowed China to join the ranks of lower middle-income countries, laying the basis for greater focus on social value. As China accelerated the development of its socialist market economy, the value that different stakeholders like entrepreneurs, workers and consumers brought to the business environment gained increased recognition. After joining the World Trade Organization, the nation became deeply integrated in the global value chain and began to align with international standards in CSR and other areas. All this helped incubate the idea of "sustainable development" in China, which was integrated into national strategies over time, including the "Scientific Outlook on Development".
- 2007-2017: Rapid economic growth was powered by extensive infrastructure building and industrialization, securing China's place among upper middle-income countries, and improving Chinese living standards. However, uncontrolled economic growth also spawned a host of issues in the environment, society, and corporate governance. The Chinese government promulgated a series of top-level plans and environmental and poverty relief policies to cement and embed the idea of "sustainable development" into its

socio-economic development. In this period, social value represented by sustainability became more and more important.

- Post-2017: After four decades of Reform and Opening-up, China’s economic development has astounded the world: its economy is worth more than 100 trillion RMB, its GDP per capita has surpassed the 10,000 USD milestone, and its economic development goal is shifting from high-speed to high-quality. Since China’s proposals of a “community with a shared future for mankind” and the dual carbon goals, sustainability has gained fresh momentum. However, as it is still not a high-income country, China must continue to steady the economy to bypass the middle-income trap and improve the living standards of its citizens. For these reasons, China must strive to balance social value, like sustainability, and stable economic growth, as both are indispensable.

Moreover, based on the understanding of sustainability-driven social value, we will map out the core sustainability issues in the Chinese context, from the environmental, social and governance perspectives. (See Exhibit 8.)

China is grappling with carbon emissions and other more complex and pressing environmental problems.

- Carbon emissions: Although China’s dual carbon goals are aligned with the international community, it still needs to blaze a net-zero trail that considers national realities, because China cannot completely reject coal—the country’s main source of energy—and other fossil fuels. Instead, it needs to swiftly promote the clean, efficient, and low-carbon use of fossil fuels and at the same time develop safe and reliable green energy technologies like wind and solar power, in order to gradually wean itself off fossil fuels.

- Other environmental challenges: In addition to the global concern of carbon emissions, China faces severe air, water, and soil pollution as well as water scarcity and land desertification. Therefore, more work should be done to curtail greenhouse emissions, pollutant discharge, and resource depletion.

The ongoing structural changes in Chinese society define its key social issues.

- Wealth distribution structure: China still has a relatively large wealth gap. In 2020, the country's Gini coefficient, a measure of income inequality, reached 0.468 versus less than 0.4 recorded by most high-income countries. Its per capita income structure resembles a pyramid, far from the ideal olive shape. For this reason, China has an urgent need to achieve common prosperity. As a typical symptom of wealth distribution inequality, China's unbalanced urban-rural development indicates its agriculture and rural areas are a weakness in the economy. In response, the country has launched poverty alleviation programs, lifting 800 million people, chiefly rural residents, out of absolute poverty. However, the annual disposable income per capita of 500 million rural residents remains at about 3,000 USD, equivalent to around 40% of their urban counterparts' (this proportion has thus not grown compared to the early 1990s). For China to pursue common prosperity, rural revitalization is crucial.

- Demographic structure: China has an aging population with falling birthrates. In 2020, its Seventh National Population Census found that Chinese people aged 65 and older accounted for 13.5% of the total population, up by 4.6 percentage points compared to the previous census in 2010. In a graying China, senior citizens as a share of the population are rising at a rate faster than most major economies. In addition, the 2020 fertility rate fell below 1.5, the threshold of low fertility rates, to 1.3, much lower than the replacement level of 2.1. In 2021, net Chinese population growth hit a mere 480,000, the lowest figure since 1962. As such, Chinese public attention is keenly focused on elderly care and health services that enable a comfortable old age as well as education and employment policies that encourage more births from young adults.

- Economic structure: China is transforming at a fast pace into an economy powered by sci-tech innovation. However, with its advantage concentrated in low-tech manufacturing at the downstream of global industry chains, China still depends heavily on imports of key manufacturing technologies. Particularly, it suffers from a containment on 18 cutting-edge technologies, including aircraft engines, core robotic algorithms, lidars, advanced mask aligners, and ultra-precision polishing, prompting the nation to place great importance on the contributions of domestic enterprises to technological self-reliance.

A sprawling SOE sector and an immature capital market have raised the bar for addressing governance issues in China.

SOEs have been the cornerstone of the Chinese economy for the past 70 years, and their governance system carries the legacy of historical national economic reforms. SOE governance restructuring has thus been a key topic of Chinese corporate management. Another important theme is improving governance at listed companies, since the Chinese capital market, established only 30-odd years ago, is still enhancing its own structural and institutional mechanisms.

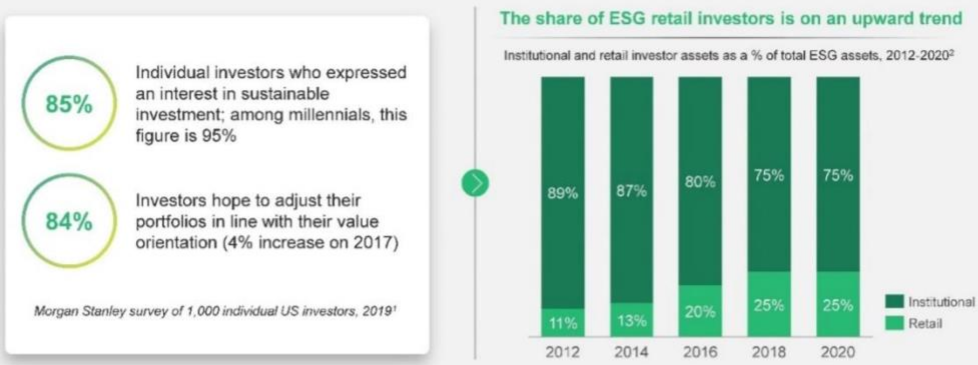
3.2 Stakeholders and Their Interactions Within the Sustainability Ecosystem

Tier 2 of China's sustainability ecosystem is composed of five types of stakeholders: government, NGOs, asset owners, financial institutions, and businesses.

- Regulators provide fertile ground for sustainability investment. According to a report released by the Organization for Economic Cooperation and Development (OECD) in 2019[8], countries around the world have 590 policy instruments (many of which are sustainability-related) in direct or indirect support of impact investing. Europe is the most active region in introducing such policy instruments. In the OECD approach, public instruments can be clustered around four areas: steer (employ or reform government structure and capacities), rule (set and enforce rules), finance (levy and grant financial resources), and inform (provide and share information). (See Exhibit 9.)

[8]Social Impact Investment 2019 – The Impact Imperative for Sustainable Development.

Exhibit 10: Retail Investor Acceptance Rose as Sustainability Caught on



Sources: Global Sustainable Investment Alliance, 2020 Global Sustainable Investment Review; BCG analysis.
1. Morgan Stanley Institute for Sustainable Investing survey carried out in February 2019 on 1,000 individual investors with investable assets of at least 100,000 USD.
2. ESG assets refer to assets invested under one of 7 strategies: negative/exclusionary screening; positive/best-in-class screening; norms-based screening; ESG integration; sustainability-themed investments; impact/community investment; corporate engagement and shareholder action). According to GSIA standards, annual data refer to the AUM at the start of the year (apart from the Japan market); key markets include Europe, the US, Canada, Japan, and Oceania. All data are adjusted data drawn from the latest reports. It doesn't include Europe and Australia market data in 2020.

- NGOs advocate for, and monitor, sustainability progress. NGOs work with and exert pressure on asset owners, financial institutions, and large companies, forcing them to confront the potential social and environmental ramifications of their investment decisions or operations. In fact, if not for the advocacy of NGOs, sustainability would likely not be on the public radar of overseas markets. NGOs are on the front line of investigating and exposing problematic companies, identifying sustainable development leaders, and driving the discussion on sustainability.
- The integration of sustainability into asset allocation rests with asset owners. Institutional investors, particularly pension and endowment funds, which are intrinsically linked to the good of society, are the main sources of impact investment as sustainability aligns perfectly with their needs. Large institutional investors have already begun to assume the role of industry leaders and standard setters, formulating stricter and more clearly defined impact investment methodologies and specific requirements for asset owners. In addition, the growing market share of retail investors reflects a public that is growing more open to impact investment. (See Exhibit 10.)
- Financial institutions are enablers of impact investing. Financial institutions, especially asset managers, use their professional investment management to meet the requirements set by asset owners, and to a certain extent, influence the thoughts and behavior of asset owners. Currently, there are two main categories of asset managers dealing with sustainable investment: traditional large entities, which have begun to build up their sustainable investment

capabilities but still need more time to expand their portfolios; and smaller asset managers, which mainly invest in sustainability to build a differentiated competitive edge. (See Exhibit 11.) At present, no one asset manager has carved out an uncontested leadership in the impact investing space, providing ample opportunity but also imperative for all asset managers to step up their comprehensive capabilities.

Exhibit 11: Asset Managers See Ample Opportunity in Sustainable Investing as No Dominant Player Exists

Sources: Expert interviews; BCG analysis.

- In the sustainable investing ecosystem, businesses are both targets and practitioners. In order to prove their sustainability credentials and meet the requirements and expectations of regulators, industrial organizations, and NGOs, as well as to achieve their own long-term financial goals, businesses have the drive to execute a strategic shift away from the pursuit of total shareholder return (TSR) and towards total societal impact (TSI).

Each stakeholder has different characteristics and advantages. China should optimize the interactions between stakeholders to let them play to their strengths in sustainability development. (See Exhibit 12.)

- Governments in China have profound policy influence at its fingertips and therefore is well-placed to build a sophisticated sustainability ecosystem and drive sustainable investing into the mainstream from the top down. Over the past few years, the Chinese government has encouraged many market players, through policy tools and incentives, to engage in poverty relief, energy transformation, waste treatment, and other social programs—a move that underscores the enormous value of the government's governance capability and its determination to promote public welfare. In some ways, the Chinese government acts as the largest sponsor of sustainable investing, by funding SOEs (whether partially or entirely public welfare-dedicated) as well as policy-oriented financial institutions.

- NGOs in China are marked by uneven development, which has led to their distinct roles in the sustainability ecosystem. China has many government-led quasi-official organizations such as the Asset Management Association of China, China Banking Association, and other self-regulating entities. Such organizations could experiment with sustainability principles in selected industries through the introduction of self-regulation initiatives and codes of conduct before the Chinese government officially integrates sustainability factors into the mainstream policymaking process. Not until the start of China's reform and opening-up in 1978 did non-governmental organizations (NGOs) emerge at scale. And as late starters, they possess limited capabilities. We hope more sustainability-focused NGOs will appear in China as a key force in public opinion shaping, external scrutiny, academic research, data collection, and sustainability performance evaluation.

- Asset owners in China have a distinctive composition, which affects the focal point of the country's sustainable investing awareness campaign. China's asset management market is dominated by retail investors, who held 55%[9] of the total assets under management (AuM) in 2020. Therefore, a key task for the state is to awaken ordinary people to sustainability issues and the meaningful impact of sustainable investing. Crucial to success are investor education campaigns from regulators and asset managers, along with public-opinion-shaping by media and civil society organizations. In parallel, institutional investors include insurers, banks, and under-tapped pension funds which are predominantly owned by the state and serve the public good by safeguarding social stability and sharing benefits with all. With more policy support and government guidance, these state-backed institutions will chart a quick-win course to drive sustainable investing penetration.
- Financial institutions (e.g., asset managers) in China are being drawn into the orbit of new asset management regulations, and they urgently need to improve their sustainable investment awareness and capabilities. Many asset managers fail to fully appreciate the broad scope of sustainability. They have thus set their sights solely on leveraging techniques and tools to secure financial returns, and either take a wait-and-see attitude to sustainable investing, or fret about the potential conflict between sustainability goals and their fiduciary duties. As such, Chinese asset managers are still testing the waters in how to access and use sustainability data and address product-wise sustainability disclosure, and they lag behind their global leading counterparts in terms of investment capabilities.
- Chinese businesses are led by SOEs, an essential pillar of the national economy. Given their mission of public value creation, SOEs can set an example for many market actors in sustainability issues and, indeed, have already done so. For example, the *ESG Blue Book of Central-Controlled Listed Companies*, published by the State-owned Assets Supervision and Administration Commission (SASAC) of the State Council in September 2021, has driven many centrally administered SOEs to focus on their sustainability performance and disclosure. In 2021, 53% of listed SOEs published sustainability reports, compared to only 16%[10] of listed private companies. Because of their natural binary value proposition of pursuing profits while assuming social

[9]BCG, China Asset Management Report 2020.
[10]21st Century Capital Institute, Southern Responsible Investment Plan, and Yinhua Fund, ESG Implementation Roadmap and Report on ESG Development Evaluation of Chinese Listed Companies (2021).

responsibility, when Chinese SOEs undertake a "national mission", such as fighting against the pandemic, alleviating poverty, or improving public welfare, they can tilt the scales to place social value above economic value.

3.3 Infrastructure

Tier 3 of China's sustainability ecosystem is its infrastructure, comprising data collection, information disclosure, measurement, and certification.

The sustainability ecosystem relies largely on the availability and comparability of data, and thus requires effective corporate information disclosure, third-party sustainability rating and sustainability product certification to help achieve continuous monitoring, assessment and tracking of companies' sustainability performance and ensure the credibility of sustainable products. Many third-party agencies, including sustainability data providers, accounting firms, rating agencies, and certification institutions, have launched these infrastructure services across the global market.

China needs more local infrastructure, such as sustainability databases, information disclosure regulations, and rating and certification systems. Globally, different international organizations, governments, exchanges, and third-party service providers have all established their own, tailored sustainability standards. If China simply copy-pastes an existing framework for sustainability data disclosure, collection, and assessment, it will be difficult for domestic companies and financial institutions to understand and implement and will also exert a clear impact on the "double bottom-line" of financial and social impact pursued by sustainable investing.

4.The Way Forward: How Chinese Players Can Accelerate Towards Sustainability

Building a sustainability ecosystem in China is a systematic project that needs the engagement and synergy of multiple actors.

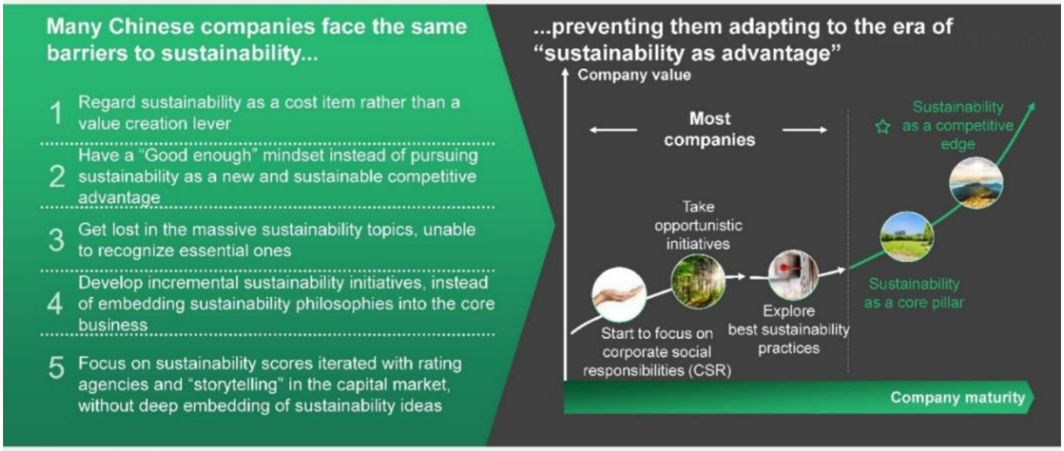
First, the government can take a two-pronged approach to promote sustainable investing. 1) Top-level planning: clarify regulatory models and bodies, adopt mandatory disclosure requirements, and refine information disclosure frameworks; 2) Supply-side policy: refine sustainability-related business regulations for financial institutions, leverage the steering effect of government-backed funds, introduce fiscal incentives, and promote research and study on sustainable investing and financing.

Second, financial institutions should constantly beef up their sustainable investing capabilities in three areas. 1) Identify sustainability as a strategic imperative and set clear sustainable investing goals; 2) Embed sustainability philosophies into the investment process, including selection of investing targets, building of sustainable investing methodologies, and enhancing of sustainability governance at portfolio companies; 3) In the long run, shore up the gaps in organization & talent and digital infrastructure necessary for sustainable investing.

Lastly, businesses are sustainability practitioners, so how they shift towards sustainability is the focus of this report.

We have observed a series of common barriers that hinder Chinese companies from enacting a holistic sustainability transformation, putting them at a disadvantage in an era of “sustainability as advantage”. (See Exhibit 13.)

Exhibit 13: Five Common Barriers to Chinese Companies Embracing the Future



Source: BCG analysis

- Regard sustainability as a cost item rather than a value creation lever
- Have a “Good enough” mindset instead of pursuing sustainability as a new and sustainable competitive advantage
- Get lost in the massive sustainability topics, unable to recognize essential ones
- Develop incremental sustainability initiatives only, instead of embedding sustainability philosophies into the core business
- Focus on sustainability scores iterated with rating agencies and “storytelling” in the capital market, without deep embedding of sustainability ideas

To overcome the barriers above and stay at the crest of the sustainability wave, Chinese companies should launch a comprehensive sustainability transformation as soon as possible. In the long term, there are five common paths.

First, drive value from upstream. Add environmental or social value to upstream production, products, or services (e.g., regenerative agriculture and clean energy) along the value chain. For example, agricultural companies can teach farmers sustainable ways of livestock management, which will increase farmers' income and deliver benefits for society and environment alike.

Second, full lifecycle coverage. Integrate sustainability across the product lifecycle, from production to scrappage, reuse, and next lifecycle, to create social impact.

Third, localization. Make comparisons of the quality and cost of local and global purchasing, and shorten or reconfigure global value chains accordingly, thus cutting logistics costs and delivering more social benefits for users.

Fourth, cross-sectoral integration. Apply existing technologies in public and social sectors for sustainability, while discovering and creating new business models in new sectors, especially fast-growing markets.

Fifth, enable new brands. Promote and communicate the value of environmental and social solutions in an innovative, platform-based, commercialized way to effectively improve customer engagement. Companies can use their products' sustainability as a unique selling point, provide clients with solutions to social and environmental issues, and systematically deliver value for client sustainability.

In the short term, Chinese companies can leverage four quick wins to scale up their sustainability transformation. (See Exhibit 14.)

Exhibit 14: Chinese Companies Should Accelerate Sustainability Transformation from Four Fronts to Win the Era of "Sustainability as Advantage"

来源：BCG分析。

1) Define vision, strategy and roadmap. The top priority for companies is to formulate an end-to-end sustainability strategy that can be integrated into their core business.

This requires companies to identify the most important sustainability topics based on national goals, industry context, and the company's development stage to maximize their cross-societal impact. They should define concrete and specific business goals, explore potential solutions, and design actionable roadmaps according to these topics. They also need to disclose relevant content on key topics, exercise more standardized and disciplined practices, and build a sustainability-related management structure.

For example, BCG has helped a global pharmaceutical company to prioritize six sustainability topics that can greatly affect company value and shareholders' reputation, and assess each topic's maturity, the company's status quo, and shareholders' expectations. Based on these efforts, we helped the client establish its sustainability vision and strategic direction.

2) Make the core sustainable. Companies can start off with transforming the operation of their core business from the following two fronts to make a more positive social and environmental impact and build greater resilience.

   - Sustainable procurement and supply chain. Companies can customize their code of conduct and due diligence process for downstream suppliers as hard instruments in line with some global standards on sustainable procurement like ISO 20400, and decide on supplier selection or orders allocation according to their sustainability risks. They can also conduct training and communication activities as soft instruments to encourage suppliers for better sustainability performance. For example, in Pakistan, PepsiCo trained more than 600 farmers in sustainable farming practices and reduced water usage by 30% while lowering PepsiCo's business costs; the farmers' incomes also increased 30%.[11]
   - Sustainable production & manufacturing. Companies can focus on two fronts: product design and manufacturing. Design-wise, companies should explore ways to improve material utilization, save energy, prolong the product lifecycle, and reduce processing costs with continuously iterated designs across the full product lifecycle from manufacturing to usage. Manufacturing-wise, companies should transform their factories into green facilities and minimize the negative impact on the environment and society by improving productivity, upgrading manufacturing techniques and technologies, using clean energy, and recycling pollutants. For

[11]https://www.bcg.com/publications/2020/supply-chain-needs-sustainability-strategy.

example, SSAB aims to achieve carbon neutrality in steelmaking in 2026 by replacing traditional coal and coke with fossil-free electricity and hydrogen to reduce CO_2 emissions.[12]

3) Build new sustainable business. Besides transforming their existing core business, companies should also explore new sustainable business through investment or innovation.

   - Sustainable investing and management. Companies can play a new role as asset owners to further integrate sustainable investing and financing philosophies into their asset management strategies. They can enter the market in multiple ways, such as building self-run funds, investing in third-party sustainability funds or establishing charity foundations. For example, Danone has set up the Danone Communities Mutual Fund to invest in five social businesses in Bangladesh, China, France, and Senegal in an effort to address child malnutrition and ensure access to safe drinking water.[13]

   - Sustainability portfolio innovation. Companies can innovate on business models or create new business in line with their sustainable goals to accelerate the penetration of sustainability philosophies in new business. For example, BCG has launched a new business model called BCG Green Ventures, in which its multidisciplinary team of experts in climate change and sustainability collaborates with large companies, in the form of joint venture, incubation or co-building, to develop new business and technologies on emissions reduction. Thanks to the deep partnership and engagement throughout the process of starting sustainable businesses, both BCG and its clients achieved innovations in sustainability.[14]

While developing new sustainability business, companies should deepen collaborations with upstream and downstream players along the value chain or with clients from other industries, because such collaborations can help them expand the breadth and richness of sustainability initiatives while receiving benefits with lower costs.

4) Enable transformation. The following three enablers are key to comprehensive sustainability transformation.

   - Sustainability data analysis and disclosure. Companies should employ digital and smart tools to strengthen capabilities in sustainability data collection, analysis, monitoring and report generation, thus improving data-based corporate governance and disclosure. For example, PingAn's

[12] https://www.bcg.com/publications/2020/green-factory-of-future.
[13] https://www.danone.com.cn/impact/people-communities/100-000-strong-united.html.
[14] https://www.bcg.com/publications/2021/next-generation-climate-innovation.

AI-ESG platform maps more than 500 indicators from different regulators, stock exchanges and rating agencies to streamline its sustainability data collection and regular reporting processes across over 40 subsidiaries.[15]

- Sustainability partnerships for collective action. Companies can consider at least three types of collaboration opportunities: value chain partnerships for complementary capabilities, technologies, and resources; collaborations with leading players from other industries in designing new industry standards and specifications; collective action against challenges along with various stakeholders like governments and NGOs. For example, the Microsoft Airband Initiative, along with regulators worldwide, is developing distribution relationships with local telecoms and Internet service providers to expand broadband access to low-income populations and rural areas. The Initiative is expected to cover about 40 million new users around the world by 2022.[16]
- Sustainability in people and organization. Weaving sustainability into the company requires multi-facet efforts, including adjusting the organizational structure and governance mechanism, selecting and nurturing talent, reforming KPIs and compensation schemes, and building leadership and corporate culture. For example, the UK-based online fast-fashion retailer Boohoo has announced that 15% of its executive directors' annual bonuses for the year through February 2022 will now depend on whether certain sustainability milestones are achieved. The remuneration committee will have the discretion to scrap the entire bonus if the company's sustainability progress is too lackluster.[17]

Winter cannot stop the arrival of spring, and darkness can never shroud the light of dawn. No matter what challenges lie ahead, China will be unwavering in its determination to pursue sustainability. Sustainability as an emerging concept worldwide and a highly sought-after initiative in China brings up many topics, like scale-up and localization, worth exploring in business and academic circles. We hope all parts of society can work together to develop theoretical and practical insights, from both global and local perspectives, into China's pathway to sustainability from dimensions such as disclosure guidance and assessment criteria to drive high-quality growth and high-level opening-up.

[15] http://www.pingan.com/app_upload/images/info/upload/abca57e2-1e7d-47ba-9cce-7833c47224fe.pdf.
[16] https://www.bcg.com/publications/2021/keys-to-being-a-leader-in-sustainable-business-model-innovation.
[17] https://www.bloomberg.com/news/articles/2021-05-19/boohoo-links-bonuses-to-sustainability-and-governance-targets.

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