Supporting China's Goal of Achieving a Net Zero Future

March 2021

Nestlé policy recommendations to CDF Engagement Initiative

Executive summary

The world is in a race to reach "net zero" emissions in the coming years and achieve the 1.5°C goal set in the Paris Agreement on climate change. Unfortunately, countries have fallen behind on the agenda set by the landmark accord. In the absence of strong action now, global temperatures could rise by an additional 2-5°C by the end of this century, with potentially catastrophic consequences for humanity in the coming decades.

As the world's second-largest economy, China will play an indispensable role in supporting the global drive towards a sustainable future. Last fall, President Xi announced China's bold new goals of having carbon emissions peak by 2030 and achieving carbon neutrality by 2060. With a long-term path set for decarbonization, the momentum behind China's national sustainability drive and its push to build an "ecological civilization" looks set to pick up significantly.

But this will be a challenging transition given the sheer scale of the Chinese economy and its emissions. It is imperative that China have clear "rules of the game" for industries striving to become greener and leaner – from carbon removal and natural climate solutions to carbon pricing and environmental claims. Key sectors requiring urgent transformations – not only in China but on a global scale – include agriculture, energy, logistics, and packaging.

As China embarks upon its 14th Five-Year Plan (2021-2025), Nestlé is committed to supporting its goal of achieving a net-zero future. Climate change is one of the greatest risks to future of Nestlé's business, and, as a company, we are following the same path towards a greener and healthier future as China. In September 2019, Nestlé set out a bold ambition to reach net zero greenhouse gas emissions by 2050, with a clear roadmap on how to get there approved by the Science Based Targets Initiative (SBTi).

Deploying Nestlé's global resources and industry expertise, we know we can make a difference at scale. Globally, our climate actions focus on three main areas:

- Speeding up the transformation of our products in line with consumers trends and choices
- Scaling up initiatives in agriculture to reduce emissions and absorb carbon, safeguarding biodiversity
- Using 100% renewable electricity in Nestlé factories, warehouses, logistics, and offices by 2025

The efforts of our net-zero GHG commitment by 2050 will not only reach our factories and vehicles, and the energy we use, but also the activities of our farmers, suppliers and business partners. In fact, more than the 95% of Nestlé's global carbon footprint occurs from these activities which is technically out of our control. This is the reason why the success of our common ambition to reach "net zero" is dependent of the design and implementation of policies to align all actors of the value chain behind this objective.

Nestlé aspires to engage in climate advocacy with authorities to set and execute those policies that are important to achieve the turnaround in key sectors and help contribute to China's sustainable transition.

As such, Nestlé recommends that the Chinese government enacts policies which prioritize the establishment of clear rules and standards for industries requiring transformation, including:

- **Carbon pricing:** Develop clear and consistent long-term carbon pricing as part of China's national climate-change plans
- **Carbon incentives & taxes:** Provide fiscal incentives for cleaner energies or regenerative agricultural practices as effective tools, alongside the elimination public subsidies to fossil fuel industries
- **Carbon labelling & claims:** Introduce carbon labelling and claims schemes that use independently recognized methodologies and are applied both consistently and in a standardized manner
- **Natural Climate Solutions.** Promote policies and standards to conserve, restore and improve the management of forests, wetlands and landscapes to remove or avoid emissions, increase biodiversity and protect water resources.

In addition, Nestlé also suggests that Chinese authorities take the following actions in order to achieve the necessary transformations of the highlighted sectors:

- **Agriculture:** Introduce public policies supporting a swifter transition to regenerative agriculture
- **Energy:** Set ambitious targets for shifting to renewable electricity for factories and transportation, so companies can likewise provide demand for the power sector to transform itself
- **Recycled plastics:** Encourage the development of a functioning food grade recycled plastics marketplace (in particular allowing the use of food grade rPET as food contact materials such as beverage container), to reduce dependency from oil-based virgin plastics, and to avoid plastic pollution in oceans or landfills.

Nestlé believes that these steps will have a tremendous impact in terms of facilitating China's journey towards net-zero emissions and a modern and sustainable economy. Prior to the upcoming COP26 summit, we would also like to encourage authorities to incorporate the measures suggested above into the Nationally Determined Contributions (NDCs) which will be submitted on behalf of the Chinese government to the UN Framework Convention on Climate Change (UNFCCC).

1. The race to zero emissions and why it is critical for the world

1.1 The global challenge

The world is in a race to reach "net zero" emissions in the coming years. To achieve the 1.5°C goal set in the Paris Agreement on climate change – which nearly every country has joined – global emissions must be cut by half by 2030 and achieve net-zero emissions by 2050. But five years after the signing of the Paris Agreement, the world has fallen behind on the climate agenda set by the landmark accord. In December, UN Secretary-General António Gueterres declared that, "2021 must be the year in which the world leaps forward into a net-zero future."

In the absence of strong action, global temperatures could rise by an additional 2-5°C by the end of this century. The consequences of such a scenario unfolding would potentially be catastrophic in the coming decades, upending economies, societies, and nature and wreaking an enormous toll on people's wellbeing. The effects of climate change already being felt in all regions around the world could be expected to intensify dramatically – from melting ice and rising seas to extreme weather and environmental degradation.

Fortunately, there have been encouraging signs that the world is now moving in the right direction and a faster transition towards a sustainable global future may be around the corner. China plans to achieve carbon neutrality by 2060, U.S.A has rejoined the Paris Agreement, while the E.U., along with Japan, the Republic of Korea, and over 110 other nations and districts, have promised to reach carbon neutrality by 2050.

1.2 How the world can move towards a net-zero future

While it will not be easy, reaching net-zero emissions by 2050, it is entirely feasible, provided governments and businesses adopt realistic and pragmatic plans for achieving the transition and then put them into practice. By setting policies and regulations to curb emissions, national governments will be the main driving force, but the private sector will need to play a pivotal role as well, leveraging its vast resources to fight climate change. Realizing strong collective mobilization between the government and business worlds is imperative to ensure that the journey towards net zero is a success.

In particular, there needs to be clear "rules of the game" for industries:

- **Carbon removal and NCS:** Carbon removal means activities removing greenhouse gas emissions (GHG) from the atmosphere and durably storing it in geological, terrestrial, or ocean reservoirs, or in products. These are often called "offsetting" when they happen outside the value chain of a company and "insetting" when they happen within it. Natural Climate Solutions (NCS) are conservation, restoration and improved land management actions in landscapes and wetlands that remove GHG or avoid its emissions. Carbon removal and NCS are key in the fight against climate change.
- **Carbon pricing:** Carbon pricing is an instrument that captures the external costs of GHG emissions and ties them to their sources through a price. The most common types of carbon pricing are emissions trading systems (ETS), carbon taxes, carbon credits, and companies' internal carbon pricing. Carbon pricing is important, because it provides an economic signal to emitters and allows them to decide either to transform their activities and lower their emissions or continue emitting and paying for their emission.

- **Environmental claims:** Companies use environmental claims for corporate roadmaps, specific categories, or products to show their efforts in reducing or eliminating their environmental footprints. Net zero, carbon neutral, climate positive, and carbon negative are normally valuable claims for companies and brands, but they lack clear and widely accepted definitions which has resulted in mistrust and confusion among consumers and stakeholders.

1.3 Key sectors requiring transformation on a global scale

- **Agriculture:** Transforming the world's agri-food systems will be critical to achieving the UN SDGs. In a recent keynote lecture in Italy, Qu Dongyu, FAO Director-General, said[1], "Agri-food systems are the world's largest economic system, measured in terms of employment, livelihoods and planetary impact," noting that four billion people are employed directly or indirectly in food systems. Yet today's agri-food systems are not delivering according to the FAO: as many as 690 million people are chronically undernourished, with the pandemic forecasted to add more than 100 million; three billion people cannot afford healthy diets; one in 10 people are affected by unsafe food supplies; and the scale of global food loss and waste is formidable. With 10 billion people expected to live on the planet by 2050, it is imperative that we must ensure sustainable food supply and build the resilience of agri-food systems against such crises as the COVID-19 pandemic. Harnessing the powers of innovation[2] will be essential to doing so – across policy, business models, financing, and technology.
- **Energy:** Globally, there are positive signs that energy is becoming more sustainable and widely available, according[3] to the UN. But much more work is needed to expand access to clean and safe cooking fuels and technologies for three billion people and to ratchet up the use of renewable energy beyond the electricity sector. Unfortunately, the pandemic is affecting the sustainable energy transition, although its full impact remains to be seen. This March, the International Energy Agency (IEA) reported[4] that global carbon dioxide emissions have rebounded strongly after falling sharply in early 2020, driven by the unfolding economic recovery and a lack of clean energy policies. Emissions are now already rising above pre-crisis levels in many economies. Earlier this year, the IEA announced that it will produce the world's first comprehensive roadmap for the energy sector to achieve net-zero emissions by 2050, with the aim of clearly spelling out what is needed from governments, companies, investors, and citizens to fully decarbonize the energy sector.
- **Packaging:** Packaging accounts for more than a quarter of plastic worldwide, but poor management of plastic packing is having a detrimental impact on the global environment, particularly oceans. A recent report[5] by UNEP and the Ellen MacArthur Foundation (EMF) showed that while significant progress has been made in the incorporation of recycled content in plastic packaging and the phase-out of problematic items like PS and PVC packaging and single-use plastic bags, there has been limited progress on expanding

[1] FAO - News Article: Transforming agri-food systems is powerful lever for achieving global goals
[2] FAO - News Article: Transforming agri-food systems will shape the future, FAO chief told World Economic Forum
[3] Energy – United Nations Sustainable Development
[4] After steep drop in early 2020, global carbon dioxide emissions have rebounded strongly - News - IEA
[5] Ellen MacArthur Foundation publish the Global Commitment 2020 Progress Report

recyclability of plastic packaging and reducing the need for single-use packaging altogether. Sander Defruyt, New Plastics Economy lead at the EMF, said, "This report shows encouraging progress towards the vision for a circular economy for plastic in some areas, particularly in the use of recycled plastic. But, going forward it will be crucial to also see major steps forward in rethinking what packaging is put on the market in the first place." Failure to act and facilitate the transition towards a circular economy for plastic could be dire: an earlier EMF study[6] projected that by 2040 the volume of plastic on the market could double, the annual volume of plastic entering the ocean could nearly triple, and ocean plastic stocks could quadruple.

- **Logistics:** Decarbonizing supply changes will play a pivotal role in achieving global climate goals. Last autumn, a study[7] led by UCL and Tianjin University showed that multinational companies' supply chains account for a fifth of carbon dioxide emissions, indicating the scope of multinationals' influence on climate change. More recently, a report[8] by the WEF and Boston Consulting Group highlighted the tremendous opportunity that all companies have to deliver a positive climate impact by taking action to decarbonize their global supply chains. This will be particularly important across eight supply chains which account for more than 50% of global emissions, including food, construction, fashion, fast-moving consumer goods, electronics, automotive, professional services, and freight.

2. China's Carbon Neutrality Pledge

Speaking to the UN General Assembly last autumn, President Xi announced China's bold new goals of having carbon emissions peak by 2030 and achieving carbon neutrality by 2060. With a long-term path now set for decarbonization, the momentum behind China's national sustainability drive and push to build an "ecological civilization" will pick up significantly. And efforts to achieve those headline goals will reverberate across virtually all sectors in the Chinese market.

At the Virtual Climate Summit last December, President Xi unveiled China's further commitments for 2030 to tackling the global climate challenge. These included lowering the country's carbon emissions per unit of GDP by over 65% from the 2005 level, expanding the share of non-fossil fuels in primary energy consumption to around 25%, increasing the forest stock volume by six billion cubic meters from the 2005 level, and bringing the total installed capacity of wind and solar power to over 1.2 billion kilowatts.

In February, the State Council issued[9] a guideline aimed at accelerating the development of a green and low-carbon circular economic development system. By 2025, China will see a marked rise in the scale of green industries, a continued decline in major pollutants, and a slashed carbon emission intensity, according to the guideline. By 2035, China's energy and resource utilization in key industries and for key products is expected to reach an internationally advanced level and the goal of building a "beautiful China" will have been basically achieved.

3. Nestlé's perspectives and recommendations

[6] Study confirms need for urgent transition to a circular economy for plastic (ellenmacarthurfoundation.org)
[7] https://www.ucl.ac.uk/news/2020/sep/multinationals-supply-chains-account-fifth-global-emissions
[8] www.weforum.org
[9] State Council calls for green, low-carbon and circular development (www.gov.cn)

3.1 Overview

Awareness of the threat posed by climate change continues to increase, driven by media coverage, high profile campaigns, consumer activism, company and business commitments and extreme weather events around the world. Most national governments have committed to reducing or at least curbing the increase in carbon (and other greenhouse gas) emissions caused by human activities. In 2021, governments will come together at international climate talks (COP 26) to set a path for carbon reductions over the next five years, further increasing scrutiny of the actions that have been implemented to tackle the climate crisis, as such, we have reached a pivotal moment in deciding our planet's future.

China's leaders have declared that the impacts of climate change "pose a huge challenge to the survival and development of the human race" and that China is "one of the most vulnerable countries to the adverse impacts of climate change." The Chinese government has adopted short- and medium-term goals for limiting emissions and a wide-ranging set of policies that contribute to meeting those goals.

Despite this however, China's race towards achieving carbon neutrality by 2060 faces considerable challenges and requires the introduction of rules which govern and align all actors' efforts, as well as in-depth and rapid transformation of sectors which contribute the most towards climate issues.

3.2 Setting the "rules of the game"

In order to stay on course to achieving carbon neutrality in the coming years, it is imperative to drive progress at policy making level across all markets – priorities to achieve such progress include: mechanism to reflect social costs for commercial activities, rules to enable businesses to minimize their carbon footprint, and solutions to empower consumers shift towards sustainable consumption. Therefore, Nestlé suggests the Chinese government enacts policy prioritizing the establishment of rules and standards as outlined below:

1) **Carbon removal rules (insetting, offsetting, and natural climate solutions):** Ensure clear and fair rules for carbon removals, which in turn will allow companies to invest in schemes with confidence and ultimately help China meet its climate ambitions. Specifically, insetting and offsetting efforts, as well as NCS will have an important role in the Net-Zero journey for the business community. Clear standards that legitimize high-quality insetting and offsetting as valid carbon compensation tools are critical. NCS - which could improve the economic efficiency and resilience of agriculture production, along with an improvement of crop yield, biodiversity and water quality – should be mainstreamed and promoted by governments.
2) **Carbon Pricing:** Introduce adequate carbon pricing policies to fully recognize the external cost of GHG emissions and tie them to their source. It is important that the true cost of Co2 emissions is consistently reflected in all industries to accelerate the transition to a more sustainable future. Carbon incentives & taxes, if designed and implemented properly, can be a tool used for that purpose, starting with the elimination of subsidies to fossil fuel industries
3) **Carbon claims & labelling:** Ensure consumers can play their part in choosing climate smart options, and that this is well regulated to ensure clear and fair rules for all. For example, with the introduction of carbon labeling schemes / standardized claims that allows companies and brands to communicate on environmental efforts in a transparent, comparable (leveled

playing-field) and truthful way. This would enable and empower consumer choices for environmentally friendly products.

3.3 Specific recommendations around transformation policies

In addition to clear "rules of the game", the journey to Net-Zero also depends on a holistic market transformation driven by important new technologies, innovative business approaches and low-carbon infrastructure. It also relies on supportive legislation that, among other things, reduces barriers to renewable energy markets, incentivizes innovation in the agriculture and forestry sectors to capture more carbon, and helps to boost capacity in the circular economy. In this context, Nestlé would also like to compel the Chinese authorities to take the following actions in order to achieve the necessary transformation of the highlighted sectors:

1) Agriculture: Introduce public policy supporting a swifter switch to regenerative agriculture

Context & challenges:

China is a vast country of 9.6 million square kilometers that has made great strides in feeding its population of 1.4 billion people – 18 percent of the global population – on only nine percent of the world's arable land. At the same time, it faces enormous environmental challenges related to food production, including climate change, declining arable land area, groundwater depletion, water pollution, widespread soil degradation and pollution, and over-use of chemical fertilizers and pesticides.

A combination[10] of top-down and bottom-up initiatives are contributing to the spread of productive and regenerative agriculture in China. As well as policies to curtail chemical fertilizer subsidies and promote the use of organic fertilizer, initiatives include increasing the use of crop residues, promoting crop rotations and fallowing, and establishing 40 sustainable agriculture demonstration sites around the country. At the same time, a growing number of new farmers – many of them young and college-educated are establishing ecological farms and supplying the burgeoning domestic market for sustainably produced foods.

In February, the No. 1 Central Document, China's annual roadmap for rural policies, put comprehensive revitalization of the countryside at the heart of the national agricultural strategy in the next five years. As such and in order to continue to support China's roadmap for rural policies as well as addressing key issues necessary to advance climate change goals, Nestlé proposes the introduction of a number of policy measures in relation to agriculture regeneration in terms of incentives, certification and standards, education as well as R&D investment to ultimately speed up the switch to more sustainable agriculture practices.

Recommendations:

[10] https://www.foodandlandusecoalition.org/wp-content/uploads/2019/10/China-Food_and_Land_Use.pdf

A. Support sustainable and regenerative agricultural practices at scale by reforming certification schemes, so that they provide more transparency and incorporate stronger climate change considerations.

B. Introduce targeted public subsidies to stimulate the development of regenerative agricultural methods and an active carbon credit market – helping to minimize the financial impact of the required changes on farmers.

C. Promote education schemes aimed at encouraging broad societal understanding of the current state of soils and biodiversity, the dependency of our organizations to natural ecosystems and the value of regenerative agriculture. This should also include extensive training schemes among young agripreneurs regarding regenerative agriculture practices to encourage greater adoption.

D. Increase R&D investment into low-carbon agriculture, including: seeds for regenerative agriculture purposes, and (digital) solutions for raw materials traceability (to the farm / plantation / fishing vessel level).

2) Energy: Introduce ambitious targets on transitioning to renewable electricity for factories and transportation, so companies can likewise provide demand for the power sector to transform itself

Context & challenges

Since the renewable energy law took effect in January 2006[11], China's renewable energy sector has grown into the world's largest with rapid utilization of renewable power and the advancement of related technologies. In 2018, 26.7 percent of the electricity generated in China, or 1,867,000 gigawatt hours, was from renewables, increasing 10.6 percentage points from the level in 2005. The central authorities have invested more than 3 billion yuan ($434.66 million) on research and development of renewable energy technologies during the 12th and 13th Five-Year Plan (2011-20) periods, data from the National Energy Administration and the Ministry of Science and Technology showed.

The Boston Consulting Group has projected[12] that China will need to invest up to 100 trillion yuan (US$15 trillion) on climate measures over the next three decades and enact sweeping technological changes to its energy structure in order to realize its goal of being carbon neutral by 2060. While noting that some breakthroughs will be required, the report concluded that, “the pathway is realistic considering China’s existing capabilities in relevant areas such as nuclear power, solar, wind, new energy vehicles, and future potential in scale-up and technology improvement.” For the 14th Five-Year Plan period, the National Energy Administration has said[13] that China will expand the utilization of clean energy and promote non-fossil fuel and natural gas as a major economic growth driver to help achieve the climate goals.

Recommendations:

[11] China leads in renewable energy sector - China.org.cn

[12] China's road to carbon neutrality - Chinadaily.com.cn

[13] Clean energy edging out coal as China embraces low-carbon, sustainable growth - Chinadaily.com.cn

A. Draft pledges (Nationally Determined Contributions (NDCs)) and policies to promote the uptake and acceleration of clean energy including in the areas of carbon pricing, best available technologies, energy efficiency standards and incentives for infrastructure.

B. Clear standards on methodology for calculating carbon footprint and impacts of "renewable energy" sources and alternative fuels/technologies.

C. Aligned definitions on accepted/eligible mechanisms to claim renewable energy consumption (e.g. REC etc.)

D. Invest in infrastructure: (i) increased availability of renewable electricity and renewable thermal energy, (ii) energy efficiency initiatives (iii) adoption of best available technologies, (iv) sustainable supply of energy, (v) low carbon investments

E. Encourage suppliers and research institutes to promote utilization of sustainable energy and distributed renewable generation as well as new technologies which can have a significant impact in reducing associated costs

3) Encourage the development of a functioning food grade recycled plastics marketplace, in particular allowing the use of food grade rPET as food contact material such as beverage containers

Context & Challenges

While the demand for plastic packaging continues to surge, a systematic mechanism to handle plastic waste has yet to be implemented, leading to a tremendous increase of plastic waste in urban refuse. In addition, plastic production contributes heavily to carbon emissions. According to United States Environmental Protection Agency (U.S. EPA), approximately one ounce (about 28g)- of carbon dioxide is emitted for each ounce (about 28g) of polyethylene (PET) produced. PET is the type of plastic most commonly used for beverage bottles. Other sources pin the production ratio of carbon emissions to plastic production closer to 5:1[14].

A study[15] jointly conducted by the American Chemistry Council (ACC) and the Association of Postconsumer Plastic Recyclers (APR) confirms that recycling plastics, specifically PET and HDPE, results in significant savings in energy and greenhouse gas emissions. The study used life cycle inventory (LCI) methodology to quantify the energy requirements, solid wastes, and atmospheric and waterborne emissions for the processes required to collect postconsumer PET and HDPE packaging, sort and separate the material, and reprocess it into clean recycled resin. Based on the LCI study results and data from U.S. EPA, the generation of cleaned recycled resin required 71 trillion BTU (about 75 trillion KJ) less than the amount of energy that would be required to produce the equivalent tonnage of virgin PET and HDPE resin.

Call to action globally either from a legislative or market initiative perspective, to address plastics pollution and plastics-related carbon emissions have existed for years. However, an effective plastic recycling system is still not available in most markets and faces many challenges. Indeed, statistics show that, only 14% of plastic packaging makes its way to recycling plants globally – and after processing losses, only 10% effectively gets recycled; Many markets are facing great challenges in rubbish classification and collection; Plastic recycling sometimes leads to secondary

[14] https://stanfordmag.org/contents/the-link-between-plastic-use-and-climate-change-nitty-gritty

[15] https://www.americanchemistry.com/Media/PressReleasesTranscripts/ACC-news-releases/New-Study-Confirms-Recycling-Plastics-Significantly-Reduces-Energy-Use-and-Greenhouse-Gas-Emissions.html

pollution, due to lack of industry standards, low-end facilities and high cost. Finally Small and Medium Enterprise which represents the vast majority of businesses, in most cases do not have professional pollution-processing techniques.

In China, legislations, policies and regulations in recent years have been intensively focusing on the circular economy, green packaging and plastic recycling, with the aim of further advancing China's 2035 "Beautiful China" goal. For example, China introduced enforced waste classification rules, requiring garbage recycling rates of above 35% to be achieved in 46 cities by the end of 2020. Last year also saw authorities roll out a slew of restrictions for non-biodegradable, single-use plastics, etc., which is having a tremendous impact across certain sectors in particular in E-commerce and the express delivery service sector.

While considerable policy and regulatory breakthroughs are underway in China, significant challenges persist in the recycled plastics market, especially considering the lack of capacity for resource utilization of recycled plastics creating numerous bottlenecks such as a) difficulties in effective garbage sorting, b) shortage of available technological solutions in market to provide food-grade rPET recycling and production, c) regulatory barriers limiting the usage of recycled plastics in food packaging due to food security concerns, etc.

With the current limited global supply of food grade recycled plastics and a rising demand for recycled content in packaging, the global challenge for brands to gain access to high-quality food grade recycled plastics is a wide gap to bridge – Through the introduction of the following recommendation, China can make considerable in-roads in addressing this issue:

Recommendations:

A. Introduce a food grade regulatory framework for recycled plastics in food packaging combining government regulations as well as standards to ensure a baseline for safety of food-contact materials. This way, recycled plastics in direct contact with food can be further adopted and become gradually the norm.

B. Support the design and implementation of affordable and effective mandatory Extended Producer Responsibility schemes.

C. Link suppliers with innovative / regulatory-accepted technologies with recycling infrastructure (including light plastic packaging).

4. Conclusion

While we believe these measures will have a tremendous impact in facilitating the journey towards net-zero emissions, they will also provide strong support for the sustainable development of the population and the economy in China.

Furthermore, with this submission Nestlé would like to encourage the Chinese authorities to include the above points into the latest Nationally Determined Contributions (NDC) to be submitted on behalf of the Chinese government to UNFCCC prior to the upcoming COP26.

We appreciate the opportunity given to Nestlé to share these recommendations. As the biggest global food company, Nestlé is ready to collaborate with the Chinese government and the rest of the country's stakeholders in this crucial common goal.