

# European Green Deal and the Prospects of EU-China Climate Change cooperation

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*Abstract : European Green deal, a major development strategy launched by the new President of EU new committee, clearly proposes that the EU will become the first "carbon neutral" world continent in 2050, and accelerate the transformation of EU to green and low-carbon. Given the influence of EU's global climate governance, this strategy will have an impact on China EU cooperation on climate change in the medium and long term. Looking forward to the prospects of China EU cooperation on climate change, there are several points worthy of paying attention: the first, both China and the EU are seriously impacted and affected by the new epidemic, but strengthening China EU cooperation on climate change is still the main topic of Sino-EU summit and the key area of Deepening Sino-EU relations; second, European Green Deal will bring new challenges to China EU cooperation on climate change, and China should carefully consider it. Third, the European green new deal will promote the transformation of EU climate governance system from market regulation to legal regulation, leading a new round of regulation development in the field of global climate change; fourth, "the Just Transition Mechanism", set up by the European green deal will accelerate the industrial transformation and decarbonized process in high-carbon areas, and provide new opportunities for fair development in different resource endowment areas. China and the EU have potential for cooperation on climate change under the new green deal.*

*Keywords: EU-China Partnership on Climate Change; Paris Agreement; global climate governance, European Green Deal, low carbon emissions*

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## 1. Introduction

Cooperation in tackling climate change has been one of the most prominent achievements in strengthening the China-EU relation, as highlighted by Mr. Wang Yi, the State Councilor and the Foreign Minister of China, in the press conference held at the European Policy Center (EPC), referring climate change as one of the most threatening issue in the world at the moment, but also as a great opportunity for further China-EU cooperation (Xinhua, 2019). The EU have a shared understanding with China on the issue of global climate change. In the remarks made by Mr. Nicolas Chapuis, the Ambassador of the Delegation of the European Union to China, in an interview on 7 January 2020, described the year of 2020 as a pivotal year in EU-China cooperation, because it is the time when the two parties could put concerted efforts into tackling climate change. China and the EU were expected to hold Leaders' Summits at the end of March and mid-September this year respectively (Zhou, 2020). The global outbreak of the COVID-19 pandemic in January 2020 has severely disturbed people's living and unraveled tremendously the world's economy and society order, with China and the European countries being epicenters of this crisis. Hence, the top priority for both sides has been to actively prevent the spreading of the virus and speed up the R&D of the vaccine against COVID-19. In response, China and the EU (hereinafter referred to as 'the two sides') have reappraised their priorities and adjusted their consultation agenda in a timely manner. For example, the China-EU Leaders' Summit, which was originally scheduled to be held at the end of March 2020, was postponed, which is believed to leave an negative impact on the China-EU climate change cooperation only in the short run, while the long-term pattern of their cooperation on climate change, which is believed to be stable and consistent, it will neither be interrupted, nor thwarted by this pandemic. Since the China-EU partnership on climate change was established in 2005, the two sides have carried out a series of fruitful

cooperation initiatives in tackling climate change and both sides have been vital partners in the global governance of climate change. The joint efforts made by the two sides to fight against this recent public health crisis will build up mutual trust and help relieve other global crises in a more positive manner. As soon as the regular epidemic prevention and control measures are getting normal in China, the advancement of the China-EU cooperation agenda on climate change will be restored, to be again the heart concern in the development of China-EU relations. The latest growth strategy proposed by the new European Commission i.e. the European Green Deal brings up both opportunities and challenges to the future cooperation between China and the EU on climate change.

## **2. Combating the climate change: China and the EU as two major international actors**

The negative effects inflicted by human activities on global climate do not simply induce the slowing down of the economic growth, but they also endanger the living conditions of humankind. This is the source from which the driving forces stem for all the countries to strengthen cooperation to mitigate climate change. It is imperative to realize the limitations of the approach that is purely relying on theories to deal with climate change, ignoring its impact on politics, national security, economics and environment, which must also be addressed.

China and the EU have long been considered the two major partners in the governance of climate change, although China and EU are different in terms of their respective levels of economic growth and have different political systems. Both have been active players and action bodies in combating the global climate change. China and the European Community are founding members of the Intergovernmental Panel on Climate Change (hereinafter referred to as 'IPCC'). Subject to the laws of the United Nations Framework Convention on Climate Change, which came to effect on 21 March 1994, signed by more than 150 countries and regions around the world, China and the EU have successfully kept the atmospheric temperature at an appropriate level by the adoption of various mitigation and adaptation measures. The EU has consistently shown its leadership and taken actions to deal with climate change during a series of enlargements between 1995 and 2013. Most recently, the EU expanded to 28 member states in 2013, with the accession of Croatia. However, the historical moment of the United Kingdom formally leaving the Union on 31 January 2020, which brought the total number of the EU member states back to 27, was considered evidence of an EU disintegration trend. Still, the EU's dominating position and its solid leadership in the governance of climate change will not be fundamentally undermined by this rupture.

On the other hand, as the largest developing country in the world, China has a high degree of concern over climate change and has been playing an important role in IPCC and other multilateral organizations. As pointed out in the IPCC AR5 Synthesis Report: Climate Change 2014, which was completed by 259 researchers worldwide, including 18 Chinese scholars, "...the globally averaged combined land and ocean surface temperature data as calculated by a linear trend show a warming of 0.85°C over the period 1880 to 2012", "Many of the observed changes since the 1950s are unprecedented over decades to millennia" etc. and the scientific evidence of global warming is strong and concrete. The president of the IPCC AR5 report working group, Dr. Thomas F. Stocker, spoke highly of China's contribution to this assessment: "Since the founding of IPCC in 1988, progress has been made in capacity building and the propagation of knowledge with the engagement of developing countries and transition economies. In the past 15 years, Chinese experts have indeed made great contributions" (Qin, 2013). China has been a member of IPCC for over 30 years. On 9 November 2018, at the commemorative event marking the 30th Anniversary of China's membership in the IPCC, Mr. Xie Zhenhua, China's Special Representative for Climate Change, acclaimed the crucial role of IPCC in terms of upholding multilateralism. In addressing the challenges of global climate change, China has been actively contributing China's wisdom and plan to implement the United Nations Framework Convention on Climate Change constructively, strove to control the global temperature at the level of 1.5°C by speeding up the process of emission cut, improved its industrial structure as well as innovating clean energy techniques.

## **3. China and the EU anchoring pledges of the Kyoto Protocol, encouraging the post-Kyoto agenda**

China and the EU are key members that agreed on the Kyoto Protocol, and both sides are also the main parties to implement this treaty. The withdrawal of the US and Canada gave rise to tremendous uncertainty to the future of Kyoto Protocol. The EU has actively communicated and consulted with other countries in order to abate doubts and concerns over "sign or not" and has mobilized them to join. With the joint efforts of the EU and China,

the Kyoto Protocol entered in force on the 16th of February 2005 and effectively thwarted the unilateralism pursued by the United States. The Kyoto Protocol marks the first move in human history to legalize the emissions reduction targets and the global warming controlling standards.

EU has shown positive signs and has taken concrete actions on climate change, acting both as a keen advocate, as well as the rule-maker in the policy area of mitigating global climate change (Zhang, 2015). In order to fulfill the commitments laid out in the Kyoto Protocol, in 2005, the EU has established the EU Emissions Trading System (EU ETS). In 2007, the European Commission proposed an integrated energy and climate change package to achieve the '20-20-20' key targets by 2020. The 2030 Climate and Energy Framework was presented by the European Commission in 2014 and, following that, all the member states have formulated their own national emissions reduction action plans, specifically targeting the cutting of greenhouse gas emissions, developing clean energy and improving energy efficiency. According to the 2019 EU statistics, the 28 member states have cut emissions by 22% in 2017, the equivalent of 1.24 billion tones of CO<sub>2</sub>, suggesting the EU has accomplished its 2020 reduction task ahead of time (European Commission, 2020).

The Chinese government has made early preparation to meet the carbon emissions reduction targets. According to the Kyoto Protocol, developing countries should start the emissions reduction actions from 2012 (CCCIN, 2003), and China took actions at least 5 years earlier. Since 2006, the Chinese government has considered combating climate change as a major economic and social issue and, as such, it has been embodied in the medium and long-term plan of economic growth and social development. In 2006 China proposed as obligatory targets that the level of energy consumption per unit of GDP shall be shrank by approx. 20% by 2010, as compared with the level in 2005. China is also pioneering in designing as well as enforcing state plans on tackling the climate change. In 2007, China became the first developing country to formulate and implement a national program to address climate change. In 2009, China put forward the goal of reducing the per-unit of GDP greenhouse gas emissions level by 40%-45% in 2020, as compared to that of 2005. China earnestly performs its duties stipulated by the UNFCCC and Kyoto Protocol, the China Initial National Communications on Climate Change, released in 2004, and the National Plan for Coping with Climate Change and China's Special Sci-Tech Campaign to Cope with Climate Change, issued in June 2007 (Information Office of the State Council of China, 2011).

China's responses to climate change have been synchronized at multiple levels including mechanisms, policies and actions. In details, those emissions reduction tasks are achieved by various measures, including industrial structure re-adjustment, increasing of the renewable energy proportion in the overall energy consumption, setting up the first Chinese carbon trading market, energy saving and energy efficiency improvement. To better serve the implementation of the climate policy, moderation and adjustment in the functioning mechanisms of relevant Chinese institutions and departments have been put in place. In 2007, the National Leading Group to Address Climate Change was set up, and in 2008, the NDRC set up a department to coordinate and supervise the relevant work. Following that, the relevant departments under the State Council have founded supportive organs such as the National Center for Climate Strategy and International Cooperation of China and the Research Center for Climate Change, while some universities and scientific institutions have opened their own climate change research organizations (Information Office of the State Council of China, 2011).

#### **4. The entry into force of the Paris Agreement signifying that China and EU are leading the global governance of climate change**

China and the EU are the main promoters of the Paris Agreement and the Paris Climate Change Conference has created a number world records in global governance. The importance of the Paris Agreement is intensively reflected in the content of the negotiations including all the major issues in the global governance of climate change, e.g. the establishment of the fundamental principles on mitigation, adaptation, losses and damages, funding, technology transfers, transparency and capacity building etc. (Dong, 2017).

The Paris Agreement succeeded by adopting a fresh bottom-up governance structure for emissions targets, placing the so-called nationally-determined contributions (NDCs) at its core (Teng, 2018). In terms of governance, the agreement has also constructed a comprehensive system with three functions, including: encouraging participation by making independent commitments, building mutual trust and encouraging mutual learning by a high level of transparency, and finally, strengthening cooperation by carrying out periodic checks and revisions. As the largest developing economy, China has committed itself to accomplishing high level reductions of the greenhouse gas emissions, in a responsible way. In June 2015, China announced its nationally-determined emission cut targets by 2030 as it follows: to achieve the peaking of carbon dioxide emissions around

2030 and making best efforts to peak early; to lower carbon dioxide emissions per unit of GDP by 60% to 65% from the 2005 level; to increase the share of non-fossil fuels in the primary energy consumption to around 20%; and to increase the forest stock volume by around 4.5 billion cubic meters as compared to the 2005 level (Xinhua News Agency, 2016). China has been partaking its major-nation responsibilities and is indeed a responsible country urging developed countries to take greater responsibilities in emissions reductions, with real actions. China has also been coordinating the progress of North-South relations in studies of the global climate, growing greater awareness of global climate change. It bears no doubt that both developed and developing countries have obligations and responsibilities to respond to this global challenge. The targets set up by China can be regarded as a new paradigm by which China can develop a new norm of North-South cooperation in tackling climate change and achieving global greenhouse gas emissions reduction tasks. These targets were both the key enabler accelerating the negotiation process of the 2015 Paris Agreement, and the main driving force to build stronger mutual trust between parties (Cao, 2015).

China has always persisted to negotiate the 2015 agreement under the UN Framework Convention on Climate Change, and upheld the provisions of the convention as basic principles. The outcomes of negotiation shall be in accordance with the principle of common but differentiated responsibilities as well as the principle of respective capabilities, while considering different level of historical responsibilities, national circumstances, development stages and the capabilities of both developed and developing countries. It should also reflect elements including the mitigation, adaptation, finance, technology development and transfer, capacity building, transparency of action and support, in a comprehensive and balanced way. The negotiation process should be open, transparent, inclusive, party-driven and consensus-based (Xinhua News Agency, 2016). The above principles advanced by China not only reflect its respect and adherence to multilateralism as it considers appeals from both developed and developing countries in a balanced way, but it also ensures equity and fairness in the emission-cut targets of the developing countries.

EU's stance in the negotiation, as stressed by the EU Commissioner for Climate Action and Energy, Miguel Arias Cañete, should contain a dynamic five-yearly review mechanism as EU stands to be the rule-maker, rather than the rule-taker to the Paris agreement. Without falling behind previous levels of commitment, or resubmitting the existing ones, in order to stay below 2°C global greenhouse gas emissions need to peak by 2020 at the latest, they will be reduced by at least 50% by 2050, as compared to 1990 and be near zero, or below, by 2100. EU has always been eager to design an ambitious, durable and legally-binding international agreement on climate change. Many scholars consider EU's position as a key mediator and propeller of negotiations of the Paris Agreement, since the EU has exhibited its role just as crucial as a ratchet during the process and has pushed the global governance of climate change to a new era (Fu, 2016).

#### **4.1. A review of China-EU cooperation on climate change between 2005 and 2020**

The consistent deepening of China-EU relations has laid the foundation for the China-EU climate change cooperation partnership. So far, China-EU relations have had multiple remarkable milestones including the 21st Century-Oriented Long-Term and Stable Constructive Partnership Joint Statement (1998), and the first EU policy document issued by the Chinese government in 2003, suggest a strategic upgrade of China-EU relations. The two sides agreed to build a comprehensive strategic partnership. In 2013, the EU-China 2020 Strategic Agenda for Cooperation was released, a partnership featuring four key elements i.e. peace & security, prosperity, sustainable development and people-to-people exchanges was planned. During the same year, the second EU policy document was issued by the Chinese government. In 2018, the third EU policy document was published and more than 70 mechanisms for consultation and dialogue have been established so far, covering various fields such as politics, economy, trade, humanities, science and technology, energy and environment. On the other hand, China-EU cooperation on climate change continues to forge ahead, becoming one of the highlights of China-EU relations. In the period of 2005 to 2020, the cooperation on climate change had various features.

#### **4.2. The establishment of the China-EU partnership on climate change**

The start of the cooperation between China and EU in the area of climate change falls behind their cooperation in other fields, such as politics, trade, economy and technology, even if 20 years have passed since the establishment of the diplomatic relations between the two. The year 2005, when the EU and China Partnership on Climate Change was agreed upon (European Commission, 2005), marked the beginning of China-EU partnership (Ministry of Foreign Affairs of China, 2020). This is a common achievement of both sides, as the partnership is not only reality-based, it is also a reflection of both parties' fundamental interests. On the other hand, the EU believes that China, as a developing country, should closely follow the steps of the EU to implement the Kyoto Protocol. In fact, China is the world's largest energy consumer and producer, as well as the biggest consumer in coal, thus China suggests strengthening cooperation on climate change with the EU, expecting the

emissions reduction targets can be reached and the structure of energy production and consumption can be shifted and adjusted.

The partnership aims to give better communication and introduce more dialogues in the area of climate change between China and the EU (European Commission, 2005), it also helps both sides to fully observe their commitments under the UN Framework Convention on Climate Change and the Kyoto Protocol. As a result, two targets for cooperation have been put forward. The first one is about both sides having to develop and demonstrate “zero emissions” coal technology, while the second refers to significantly lowering the cost of key energy technologies and to promoting their deployment and dissemination.

#### **4.3. Establishing a ministerial dialogue mechanism and deepening partnership in climate change**

To further improve the China-EU partnership in climate change and create more opportunities for policy dialogues, the China-EU Ministerial Dialogue Mechanism on Climate Change comes in (European Commission, 2020). The Joint Statement on Dialogue and Cooperation on Climate Change between China and the EU was released on 29 April 2010, after the ministerial dialogue between Mr. Xie Zhenhua, the Vice-Chairman of the National Development and Reform Commission (NDRC) of China, and Ms. Connie Hedegaard, the European Commissioner for Climate Action, suggesting the official establishment of China-EU ministerial dialogue mechanism on climate change (European Commission, 2010). The dialogue will facilitate the exchange of ideas on the development and implementation of key issues in the international negotiations on climate change, the better understanding of each party’s domestic policies and measures, and on specific cooperation projects of climate change between China and the EU. Moreover, the dialogue mechanism reflects the willingness to further coordinate and strengthen communication regarding climate change between parties. Besides the consensus reached, some differences between partners still persist on specific issue related to climate change. It is believed that such differences can be coordinated and overcome through regular communication and that more agreements may be reached. Furthermore, China and the EU have reaffirmed the principle of common and differentiated responsibilities according to their respective capabilities, and the aim for the full, effective and efficient implementation of the UNFCCC and of the Kyoto Protocol, to reach a positive outcome and meaningful progress at the next climate change conference.

The over ten-years long bilateral cooperation between China and the EU has resulted in a more strategic and vibrant manner of their future cooperation in climate change. The EU-China Joint Statement on Climate Change released in June 2015 in Brussels indicates that further engagement into the global climate change will be made. This statement was made public at a critical moment with several implications:

The statement was soon after the release of the 2014 Sino-US Joint Declaration on Climate Change, expressing the strong intention of both sides to play a leading role in the global governance of climate change. It also prevented the United States from being divisive and aggressive in negotiations of the Paris Agreement, to seek a common position for both parties;

The joint statement has played an important role in the finalization of the Paris Agreement. The national interests differed between both sides and both parties were eager to reach an ambitious and legally-binding agreement at that moment;

In terms of climate finance, both sides have acknowledged the complementary support by other countries; More investment into the low-carbon industry will be channeled through cooperation under this agreement; China fully recognized the critical role of EU played in characterizing the carbon trading system of China. Also the benefits of their collaboration in the research of climate-related topics, including Carbon Capture and Storage (CCS) technology, sustainable cities, as well as other environmental and energy issues.

Since then, China and the EU have solidly implemented the joint declaration. In September 2017, the first ministerial meeting on climate action co-hosted by Canada, China and the European Union was held in Montréal, Canada. The second ministerial meeting was held in Brussels, Belgium, in June 2018. In the same year, the EU-China leaders’ statement on climate change and clean energy was presented at the 20th China-EU Summit on 16 July, in Beijing.

The China-EU cooperation on climate change has been the major force to institutionalize and legalize global governance in this field, leading the emissions reduction. The two sides enhance consensus in fulfilling the commitments of the Kyoto Protocol and the Paris Agreement via cooperation. Two major projects have been launched to tackle climate change in line with the ongoing cooperation. For instance, the EU-China joint project on emissions trading (2014–2017) allowed the EU to share its schemes with the seven ‘pilot emissions trading locations’ in China, specifically experiences in the setting of emission caps, allowances; the creation of market; supervision, reporting, verification and certification systems, supporting the establishment of a carbon trading system at the national-level. The EU has invested 5 million euro in this project. Another project named the

Dialogue on China-EU Carbon Trading Market Cooperation that was launched in 28 June 2018 with a total investment over 10 million euro (more than 70 million RMB) runs over a period of three years. The project will promote China-EU regular dialogues on emissions trading and will support the functioning of China's nationwide carbon trading market. It will also build on the existing cooperation between the two parties.

At the moment, the ongoing Dialogue on China-EU Carbon Trading Market Cooperation (2017-2020) is coming to its end. Since the start of the project, training and seminars have been held in several provinces and cities across China on a regular basis. On the 10th and the 11th of December 2019, the 23rd training session took place in Yunnan Province with a theme on Capacity Building Training for Enterprises in Environment and Power industry.

In 2020, China-EU cooperation on climate change has been disrupted by the outbreak of COVID-19 pandemic which added to the announcement of multiple new policies after the election of the European Commission since the end of 2019. However, the impact of the pandemic is believed to be temporary and the prominence of China-EU cooperation on climate change in China-EU relations will be restored soon after the crisis. What is noteworthy at this stage is the 'Carbon Neutrality' goal proposed by the European Green Deal, which is believed to have an impact on China-EU climate change cooperation in the medium and long term.

Soon after she took office, the new president of the European Commission, Ursula Von der Leyen, has launched a major development strategy named the European Green New Deal, aiming at turning the EU and Europe into the first carbon-neutral continent in the world, no later than 2050. The core of the deal is to transform Europe towards an all-round greening, industrial recycling and carbon neutralization continent so that comprehensive sustainable development could be achieved. To meet the carbon neutrality target, the EU countries must continue to increase their efforts in emission reduction, to expand the scope, and to speed up the general process of the reduction. In the next three decades, the carbon neutrality goal will penetrate and be reflected in all the EU policy areas, demanding advanced technological innovations. The new deal targets on those heavy-emitters i.e. energy industry, manufacturing, and construction; areas such as production & consumption, infrastructure, transportation, food and agricultural industry, taxation and social welfare are also included. The European Green Deal will be the New Policy orientation of the EU's sustainable development, as it will not only facilitate the achievement of the UN Sustainable Development Goals (SDG 2035) in the EU, but it will also help Europe as a whole to succeed in becoming the world's first carbon-neutral continent.

The European Green Deal is a long-term development strategy with achieving carbon neutrality in Europe as its core, which entails major changes in at least eight policy areas:

Speeding up the progress in moderating global climate change and increasing EU's ambitions for 2030 and 2050, in this realm. The target for the EU reductions in greenhouse gas emission is to be adjusted in a responsible way, from 40%, to at least 50% to 55% by 2030 and the target for 2050 will be lifted to 100% (carbon neutral), from at least 80% to 90% if compared with the 1990 levels;

Supplying clean, affordable and secure energy. Improving energy efficiency will be placed as the top priority by the EU, and the power sector will be largely based on renewable sources, complemented by the rapid phasing out of coal and by de-carbonizing gas;

Mobilizing industry for a clean and circular economy to address the twin challenges of the green and the digital transformation. Europe must leverage the potential of the digital transformation, which is a key enabler for reaching the Green Deal objectives;

Engaging in a 'renovation wave' of all buildings and renovating in a resource-efficient way. It is an effective way to boost the construction sector, as well as an opportunity to support SMEs and local jobs;

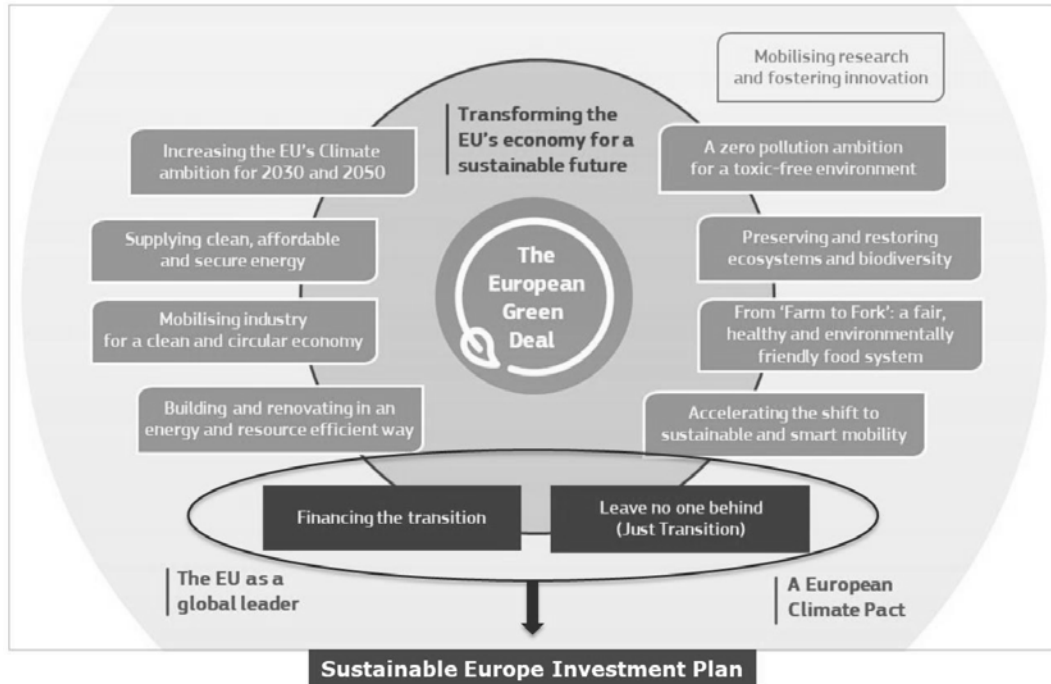
Accelerating the shift to sustainable and smart mobility. In 2020, the Commission will adopt a strategy for sustainable and smart mobility that will address this challenge and tackle all emission sources;

Adopting the From Farm to Fork strategy to design a fair, healthy and environmentally-friendly food system. To further protect human lives, the EU will transfer the existing production into a greener mode with lower emission, creating a food consumption system that is nutritious, healthy and eco-friendly;

Preserving and restoring ecosystems and biodiversity. The EU is currently not meeting some of its most important environmental objectives for 2020 - such as the Aichi targets under the Convention on Biological Diversity - and, as the EU holds responsibility to protecting biodiversity, the Commission will present by March 2020, a Biodiversity Strategy, to be followed up by specific actions in 2021;

A zero pollution ambition for a toxic-free environment action plan. The EU must stop pollution from the very beginning and to better monitor, report, prevent and remedy air, water, soil, and consumer products pollution. To address these interlinked challenges, in 2021 the Commission will adopt a zero pollution action plan for air, water and soil.

**Figure 1. The Investment Plan within the European Green Deal**



Source: European Commission (2019, 11 December). The European Green Deal, COM(2019) 640 final, [https://eur-lex.europa.eu/resource.html?uri=cellar:b828d165-1c22-11ea-8c1f-01aa75ed71a1.0002.02/DOC\\_1&format=PDF](https://eur-lex.europa.eu/resource.html?uri=cellar:b828d165-1c22-11ea-8c1f-01aa75ed71a1.0002.02/DOC_1&format=PDF)

The implementation of the greening and de-carbonization policies must be sustained by massive funding and investment by the EU, which will subsequently increase the burden of the EU and its member states, particularly considering the huge cost of maintaining economic growth at the same time. According to the estimates, to meet the goals in the 2030 Climate & Energy Framework proposed in 2014, an additional 260 billion euro, equivalent to 1.5% of the EU's 2018 overall GDP, have to be invested every year. Therefore, the motive for the European Commission to launch such a deal at this special moment is worthy of attention and three significant aspects may be considered.

The EU has always been pursuing a model of development coordinating the society, economy and the environment, which is regarded as 'the European model', indicating a non-distortionary and non-sacrificing way of development, that is, to bolster economic growth and to support the fair and equitable development of the European society without harming the environment. The European Environment Agency (EEA) believes a green economy enhances the resource efficiency by introducing low-carbon policies and encouraging green innovations, complemented with a focus on the ecosystems' resilience and on the people's well-being, in an inclusive manner. As cornerstones of the European values and principles, Green GDP, together with a low-carbon and environmental-friendly society, have been thoroughly and comprehensively reflected in the European Green Deal.

According to the European Green Deal, the EU will engage extra efforts in the emissions reduction field, to meet the goals laid out in the Paris Agreement and, more significantly, to consolidate its leadership in the global governance of climate change. After the withdrawal of the United States from the Kyoto Protocol, the EU has had a louder voice on issues related to climate change. The EU has been the prime mover of the 2015 Paris Agreement, which is the milestone of the global governance of climate change. The emissions reduction target listed in the EU's 2030 Climate & Energy Framework, that is, the EU's greenhouse gas emission should be at most 60% compared with 1990 level, is not consistent with the targets set by the Paris Agreement and the EU may fail to fulfill its Paris commitment (Yang, 2020). Thus, the European Green Deal empowers the EU to confirm its leading position in the global governance of climate change, particularly in the Paris Agreement, through additional efforts into the adjustment of emission cutting targets made by the green deal.

The European Green Deal will be the general action plan applied by the EU to retain its global influence and to obtain better internal cohesion. On 31 January 2020, the UK officially left the EU - "Brexit" - and three short-term effects have been induced. Firstly, Brexit harmed the overall power of the EU as well as its global influence, it has also resulted in power imbalances within the EU and, eventually, it may exacerbate the disintegration of the Union. To support the EU as global leader, the Commission was eager to design a long-term strategy which

can be shared between all member states so that more consensus and mutual trust would be built, its internal cohesion could thus be improved, and the principle of solidarity could be better upheld.

## **5. The implementation of the European Green Deal in response to the potential challenges of climate change**

The European Green Deal imposes changes in areas of food production, industry, transportation, construction and energy consumption, and the EU will undergo institutional changes and policy reforms in regulation, investment and specifically in those addressed to the high-emission industries. The specific measures include:

The European Climate Law, meant to help legally monitor and control the progress of pursuing carbon neutrality in each member state;

A Just Transition Mechanism has been established to make sure the EU leaves no one behind during the process of transforming its high-emission industries. The Multiannual financial framework 2021-2027 lays out a 1.1-trillion euro plan to support Green Deal, to weather the financial and social costs of moving away from fossil fuels;

Undergoing policy reforms and encouraging technological innovation in high-emission activities, including energy, construction, industry and transportation. The production and use of energy across the economic sectors accounts for more than 75% of the EU's total greenhouse gas emissions. Energy efficiency must be further prioritized.

Building sector renovation. Currently, 40% of the total emission is produced by construction. Hence, a 'renovation wave' will be widely promoted around Europe as a higher rate of building renovation and refurbishment will cut spending for families and also reduce energy consumption;

Only 12% of the material resources used in the EU in 2016 came from recycled products and recovered materials. Thus, digitalization and green technological innovations are critical for maintaining the EU's leading position in the world green economy;

The emission of the transportation industry accounts for 25% of the EU's total emissions. The Commission will help provide more affordable, healthier and cleaner alternatives to the current mobility habits, by creating opportunities to undertake digitalization and technological revolution in transportation.

Since the presentation of the European Green Deal, in November 2019, the EU has published several policy documents. In 2020, the European Green Deal Investment Plan and Just Transition Mechanism were released on the 14th of January, the draft of the European Climate Law was made public on the 4th of March and, between the 10th and the 11th of March, the new EU Industrial Strategy together with the EU Circular Economy Action Plan were presented. All these policies and plans are designed to support the EU economy turn carbon-neutral, with a strong digital component, and to generally improve its global competitiveness.

It is for sure that more policies and plans will be introduced later on, to better serve the implementation of the European Green Deal. In the long run, achieving the carbon neutrality goal will greatly accelerate the EU's transition to a low-carbon economy & society. In the short run, it will force major energy-intensive and high-emissions industries to undergo a series of adjustments. To those who rely heavily on fossil fuels - i.e. the Eastern European countries -, these adjustments will raise costs and limit their potential of economic growth. Therefore, only by reaching consensus between the EU and its member states on topics of methods to achieve carbon neutrality, can the Green goals be met. Also, countries have to work together to promote policy innovation and development. For example, Poland and other Eastern European countries with strong fossil fuels reliance, have vehemently opposed the deal claiming that those goals will severely restrict their potential of social and economic growth. Barriers and challenges may persist.

## **6. China-EU cooperation on climate change facing challenges and opportunities**

a) Both China and the EU have been seriously impacted and affected by the new epidemic, but strengthening China EU cooperation on climate change is still the main topic of the summit and the key area for deepening China EU relations

On June 22, 2020, the summit of China EU leaders was held for the first time in the form of online video. At the meeting, both China and Europe indicated that they would actively adopt economic recovery plan to deal with the economic crisis and global climate change, and promised to continue to promote and implement the Paris Agreement, so as to deepen the China EU Climate Partnership and promote the transformation of clean energy. In this regard, all parties have great expectations for the prospects of China EU climate cooperation,



especially some Western non-governmental organizations in the field of climate change. On the day of the video summit, Wendel Trio, chairman of the European Climate Action Network (European climate and energy non-governmental Union), held on the same day "It is particularly important to strengthen international cooperation and fulfill commitments in the field of climate in 2020. According to the Paris Agreement, this year is the deadline for all countries to commit to achieving new and substantially higher emission reduction targets by 2030. Deepening China EU partnership on climate crisis is an important signal to the world. Now China and the EU must fulfill their commitment to achieve the 1.5 °C temperature control target of the Paris Agreement by 2030. The next China Europe summit must be held as soon as possible to make concrete and effective commitments by the end of 2020, so as to persuade other big emitters to do the same."(CAN, 2020). The new outbreak delayed the progress of China EU cooperation on climate change to a certain extent, but failed to change the confidence and willingness of China EU leaders in the field of climate change cooperation. On September 14, 2020, the leaders of China, Germany and Europe met to focus on global climate change. Promoting China EU cooperation in the field of climate change will also be one of the important issues to be discussed and implemented during Germany's current EU presidency. German Chancellor Angela Merkel commented on China on several public occasions as "an active participant in world affairs in this century", and said that "the active cooperation between EU and China has significant strategic interests".

b) The new European Green deal will bring new challenges to China EU cooperation on climate change. China must carefully consider and actively respond to it. Under the current situation, the carbon neutral target proposed by the EU in the green new deal not only shows the EU's ambition to implement the Paris Agreement, but also urges China and the EU to re-examine the details and implementation of the Paris Agreement. At present, even if countries implement the implementation rules of the Paris Agreement, it may still not be possible for the parties to enhance their national funding contributions. According to the latest global emission assessment released by climate action tracker, even if all the parties can fulfill their commitments in the Paris Agreement, the world's temperature may still rise by 3.0 °C by the end of the 21st century, which is twice the target of 1.5 °C proposed by the Paris Agreement. There is still a big gap between the objectives of the Paris Agreement and the reality of climate change. Therefore, countries must also improve their goals in terms of national independent contribution.

This means that the green new deal is not only instructive and legally binding for EU Member States, but also has an external spillover effect, which has a profound impact on the outside world, especially poses a new challenge to China EU cooperation on climate change: the EU is adopting its own standards to require China to speed up emission reduction, forcing China to achieve the goal of "carbon neutrality" as soon as possible. In this regard, is China passively accepting the emission reduction standards of the EU and cooperating with the EU to take this opportunity to promote the major adjustment of energy production and consumption structure, or to implement and implement the national independent contribution goals suitable for China's social and economic development according to China's own low-carbon development rhythm? To this end, China has taken the initiative to make a positive response. President Xi Jinping solemnly promised in September 22, 2020 at the seventy-fifth UN General Assembly that China will enhance its national independent contribution and adopt more effective policies and measures. CO<sub>2</sub> emissions will strive to reach a peak by 2030, and strive to achieve carbon in 2060. There may be differences about when and how to achieve carbon goals between China and Europe.

c) The European Green deal will promote the transformation of EU climate governance means from market rules to legal basis, and lead a new round of regulation development in the field of global climate change. Under the green deal, the EU promulgated and will implement the first EU climate change law. From the perspective of laws and regulations, it provides a model and reference for countries in the world to promote the process of climate change governance. The EU will focus on introducing this regulation, aiming to realize the development strategy advocated by the EU green new deal in law, realize the EU's transformation to a fair and prosperous society, achieve the goal of carbon neutrality, establish a modern, resource-saving and more competitive economy, and constantly improve people's quality of life. Therefore, in order to realize the green and low-carbon transformation and decouple resource utilization from economic growth, the EU must actively respond to the challenge of climate change. European citizens are generally aware that climate warming is threatening human survival, seriously damaging the earth's ecosystem, biodiversity, human health and food. In response to this challenge, the EU has taken the initiative to seek its leadership in global climate governance. The promulgation of the EU climate law will raise the goal of carbon neutrality to the legal level of the EU and its Member States, which will help the EU realize its long-term strategic vision of "creating a clean earth for all mankind - achieving prosperity, modernity, competition, carbon neutral economy".

This practice of the EU is similar to the previous EU carbon emission system mechanism, but its essence is different. In order to fulfill the goals and tasks of the Kyoto Protocol, since 2005, the European Union has established a carbon emission trading system, which effectively regulates and realizes the emission reduction by using market forces through such mechanisms as delimiting emission reduction industries and enterprises, stipulating the total emissions of Member States, and determining and sharing emission reductions by Member States according to their own development situation. Nowadays, the successful experience of EU carbon emission trading system has been extended to all parts of the world. China has established China's carbon emission trading market by learning from the European Union's experience. The EU carbon emission trading system relies on market forces to achieve emission reduction, while the climate change law takes emission reduction as a legal responsibility. Obviously, there are essential differences between the two. The carbon emission trading system does not have a hard constraint. When the emission reduction industries and industries covered by the regulation and the Member States share the emission reduction targets, there is room for flexible adjustment among them. Under this soft constraint mechanism, even if a country or an industry fails to complete the established emission reduction task, there is still room for bargaining.

Once the EU climate change law comes into effect and is put into effect, all kinds of emission reduction tasks and targets stipulated by the law will be binding, and all Member States and different regions, as well as various industries or industries, must be strictly implemented in accordance with the law. Therefore, the EU's climate change law will promote the transformation of EU Climate Governance from market rules to legal rules. China, as a big emission country in the world, during the period of the "14th five year plan", in the construction of ecological civilization and the implementation of the general secretary's theory that "green mountains and green waters are golden mountains and silver mountains", China must also increase emission reduction efforts and accelerate the pace of green and low-carbon transformation. Therefore, the formulation of EU climate change law also provides new ideas for China in the legalization process of Climate Governance. Relying on such legal tools as climate change law, China EU cooperation will have more initiative in implementing the Paris agreement rules, and try to avoid rounds of inefficient dialogues and consultations among actors and participants in global climate Governance in order to seek their best interests.

d) The Just Transition Mechanism set up by the European green deal will accelerate the process of industrial transformation and decarbonization in high-carbon areas, and provide new fair development opportunities for regions with different resource endowment.

The Just Transition Mechanism is a kind of financial subsidy for the decarbonization process of high-carbon areas and high-carbon industries in EU Member States. If this part of funds is only used to subsidize the losses caused by the closure of high-carbon industries, such as unemployment and the reduction of local GDP, it will be difficult for the transition funds to reflect fairness, which will cause further depression and long-term unemployment in the region, and the region (or industry) will lose the future of sustainable development. In this regard, EU experts analyzed: "in addition to addressing the challenges of climate change, the European green deal also means economic modernization and development strategy. In combination with the economic recovery package to deal with the new epidemic, the European green deal provides a unique opportunity to start and accelerate the process of regional industrial transformation. Only in this way can the concept of 'green policy' be promoted, which is beneficial to the development of human beings. As time goes on, in order to deal with climate change, there will be a new technological revolution similar to that in the field of renewable energy. There will be fundamental changes in automobiles, steel and all fossil fuel based industrial clusters or coal regions in central and Eastern Europe. The transformation funds proposed in the EU green deal will mainly promote the industrial or regional transformation and realize new prosperity and development opportunities for the transition areas.

To make good use of this new opportunity of transformation, we should first establish a set of evaluation system, scientifically define the high-carbon areas and high-carbon industries in the EU region, and determine the criteria and scope of applying for transformation funds; secondly, for regions or industries that are eligible for transition funds, a construction plan for industrial transformation or regional sustainable development should be submitted to provide reference for the subsequent introduction of technology and increased investment. Thirdly, the success of the operation of the transition funds depends not only on the internal promotion of the EU, but also on the external driving forces. For example, with the help of transformation funds, China and the EU can establish closer cooperation in mutual investment in high-carbon regions or industries in the future. By making full use of the transformation funding mechanism, there is a great space for cooperation between China and Europe and the industries. Perhaps we can refer to the operation mode of the "fair supply mechanism of EU

transition funds" and set up the "fair transition financial mechanism project of China EU cooperation on climate change" to promote the mutually beneficial and equal development of China EU Climate Partnership.

## 7. Conclusions

From a global perspective, the upcoming UN Climate Change Conference of the Parties (COP26) in Glasgow will bring at least two opportunities to all countries in the world: to provide an opportunity for the reform of international climate negotiations - in any case, reform is imperative; and more importantly, in the process of jointly tackling the new coronavirus, countries have further realized that in solving global problems, especially global climate change, it is necessary to make joint efforts. We should work together in the same boat and make joint efforts. Therefore, strengthening climate cooperation between China and the EU will promote the development of global climate governance mechanism towards a more equitable and orderly direction.

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