Powering the Twin Engines: Navigating China-EU Climate Cooperation

CGTN EUROPE

Institute for European Environmental Policy

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Date: May 2025

Commissioned and Directed by CGTN Europe

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Foreword

This year marks the 50th anniversary of diplomatic ties between China and the European Union, and is an important milestone in the development of China-EU relations. At the beginning of this year, China's President Xi Jinping had a phone call with Antonio Costa, European Council President, setting the tone and pointing out that the development of China-EU relations has shown that as long as both sides respect each other, treat each other equally and engage in frank dialogue, cooperation can be promoted and major achievements can be made.

Over the past fifty years, China-EU relations have not only contributed to their respective development, but also made significant contributions to world peace and prosperity. In addressing climate change, both China and the EU have always upheld their commitments and focused on implementation, serving as the "ballast stone" for advancing the multilateral process of climate change. As suggested in this report, China and the EU can work together to promote global climate governance, advance global green transformation, explore diverse, just and inclusive transformation paths, mobilize and promote more climate actions and inject stability and certainty into a turbulent and uncertain international situation.

In the face of global crises such as climate change, humans and nature are a community of life, and humanity is a community of shared destiny. We must adhere to the principles and spirit of the United Nations Framework Convention on Climate Change and the Paris Agreement, practice true multilateralism and implement the consensus reached by the international community through concrete actions and cooperation. Fifty years from now, we hope that China and the EU will continue to work with countries around the world to promote green, low-carbon and sustainable development, build a clean and beautiful world, make sincere efforts for world peace and stable development and jointly contribute to a better future for mankind.

Xie Zhenhua
China's First Special Envoy on Climate Change

EU-China relations on climate change have been of the utmost importance for the establishment of the Paris Agreement and its implementation. Given the trade and geopolitical challenges the world is currently experiencing, a continued strong partnership between China and Europe in the fight against climate change is indispensable. At the same time, their economic resilience can be enhanced through the deployment of clean technology, circularity and reduced dependency of energy resources and raw materials.

The report on China-EU Climate Cooperation makes a very good overview of what has been achieved over the last few decades and indicates potential avenues for future action. While the world is not yet on track to deliver the goals of the Paris Agreement, both China and Europe have to play their respective and decisive roles in reducing emissions. Recent analysis indicates that China may have peaked its emissions, well ahead of 2030. The EU has been reducing its emissions with 37% since 1990. These achievements were realised largely thanks to the impressive deployment of renewable energy, in particular solar and wind. It allowed to drastically reduce the use of coal in the EU, and progress in this area is expected to happen soon in China as well.

The bilateral cooperation between EU and China on emissions trading has been particularly successful. Notes have been exchanged on improving the required governance including on monitoring, reporting and verification. Experience shows that an absolute and declining cap on emissions combined with auctioning of allowances triggers important emission reductions.

In both emissions trading systems prices have been on the rise. The carbon price currently reached in Europe is several times higher than in China, while many countries still must begin with implementing carbon pricing policies. To avoid so-called carbon leakage, the EU developed a CBAM, a Carbon Border Adjustment Mechanism. This is an environmental measure allowing the EU to realize deeper emission reductions. Companies exporting to the EU are allowed a correction for the carbon prices paid in the country of origin.

In the future more policy efforts will be required on adaptation to climate change. The number of droughts, floods, forest fires are multiplying in Europe as well as in Asia. Cooperation is promising on coherent policies dealing with the impacts of climate change, thereby including areas such as water management, agriculture, forestry, nature protection and biodiversity.

Looking ahead to COP30, the EU and China should stay the course, submitting their Nationally Determined Contributions in good time and continuing to develop concrete policies to reduce the use of fossil fuels.

Jos Delbeke
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Former Director General for Climate Action, European Commission

Acknowledgements

This report is part of a joint research program produced by CGTN Europe and Dr. Chiara Antonelli, Head of the Climate and Circular Economy Program at the Institute for European Environmental Policy (IEEP), and it is supported by the LIFE programme of the European Union.

Besides authors from CGTN Europe, the Chinese writing team also includes Dr. Wang Binbin, Associate Research Professor and Founder of Climate Future Global Innovation Lab (C Force), the Institute of Carbon Neutrality at Peking University, Huo Li, Pang Rui, while the European writing team includes Irene Chiocchetti and Laure Lou Tremblay, policy analysts at IEEP. We are grateful for the valuable insights provided during the drafting process by Minister Xie Zhenhua, China's First Special Envoy on Climate Change, Professor Zhang Haibin, Vice Dean of the Institute of Carbon Neutrality at Peking University and member of the China National Expert Committee on Climate.

We are grateful to Counsellor Yang Xiaoling, China Mission to the EU, for her sincere and constructive guidance on the direction and perspective of the report, which provided us with important support in content planning and deepening our ideas. We also acknowledge the strong support received from Mr. Laurent Bardon, Director of the Green Transformation Department and First Counsellor of the EU Delegation to China, Ms. Alina Tito, and Ms. Hua Wang, Policy Officers to the Delegation. We would like to express our sincere gratitude to all those mentioned above for their significant contribution to this report. The paper reflects only the views of its authors and CGTN Europe.

Executive Summary

2025 marks the 50th anniversary of the establishment of diplomatic relations between China and the European Union (EU hereafter), an important milestone connecting the past and the future.

Among the global challenges facing China and the EU, finding a solution to climate change is among the most urgent, posing severe risks to the global population and ecosystems. Changing natural systems and making weather more extreme, climate change adversely impacts key features of our societies, from health and well-being to food production, infrastructure and water availability. Pivotal actions are desperately needed to both reduce greenhouse gas emissions to mitigate climate change – climate mitigation – and also increase resilience to the impacts of climate change – climate adaptation. The launch of the international climate negotiation process under the United Nations (UN) framework in 1990 marked the official beginning of global climate governance. Over the subsequent three decades, global climate governance has evolved continuously, achieving many positive developments despite the numerous challenges.Cooperation between China and the EU in the field of climate change began as early as the 1990s. China's rapid development in renewable energy complements the EU's expertise in clean energy technology. This collaboration has resulted in significant achievements for both sides.

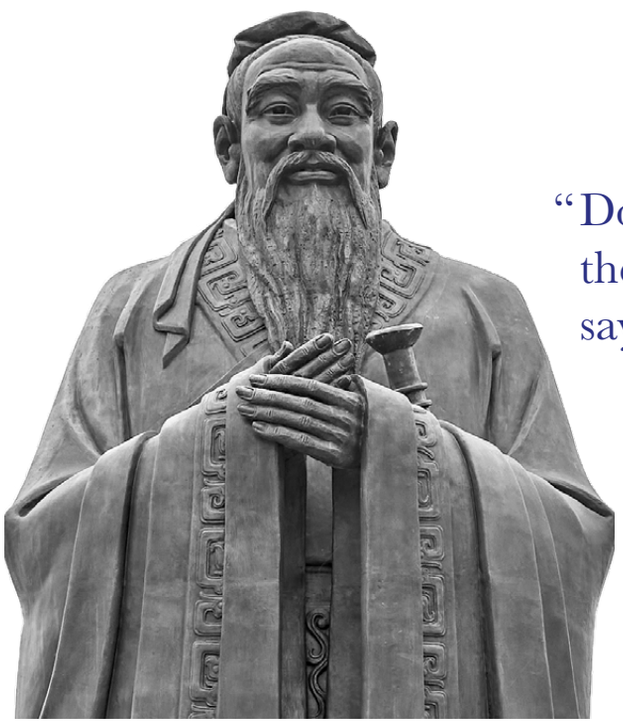
To implement the consensus reached by Chinese and EU leaders, a high-level dialogue mechanism on environment and climate was established between the two blocs in 2020. So far, the two sides have held five consecutive high-level dialogues on climate and environment, further deepening the China-EU green partnership and jointly leading the multilateral process of climate governance. As been highlighted during the Fourth China-EU High-Level Environment and Climate Dialogue that "green is the distinctive colour of China-EU cooperation", global climate cooperation and governance cannot be separated from the joint leadership role of China and the EU. As two of the largest economies in the world, the cooperation between China and the EU shows that multilateralism is crucial in addressing climate change globally and rebuilding balance between humans and nature.

This report examines the history of China-EU climate cooperation from four key perspectives: climate mitigation through energy transition, climate adaptation and synergies, climate finance and climate action, and exploring prospects for future cooperation. Based on this short review, we recommend that China and the EU work together as twin engines to show their joint leadership for global climate governance and promote a green transition marked by justice and inclusiveness. This partnership can mobilise further climate action towards a sustainable future with hope for all.

Given the rapid changes that have occurred over the past century and the interconnected international landscape, we have found that China and the EU need to maintain strategic communication, strengthen mutual partnership awareness, expand open cooperation and uphold multilateralism. These actions align with the core values and interests of both parties and will contribute to the advancement of China-EU relations, ultimately aiding in efforts to promote global stability and prosperity.

Our key recommendations are that China and the EU should continue to inject strong political momentum into international climate governance and that they should work together to accelerate the global green transition. Also, it is vital for China and the EU to encourage synergetic, fair and inclusive pathways, multi-combination innovative solutions and mobilize more bottom-up climate actions.

Two great thinkers from the East and the West, Confucius and Aristotle, left valuable intellectual wealth for future generations with their unique wisdom. Although they lived in different regions and eras, their thoughts had a profound understanding and pursuit of the concept of "balance". Their view inspires us, to respect nature, comply with natural laws, and achieve sustainable future with the harmony between human and nature.

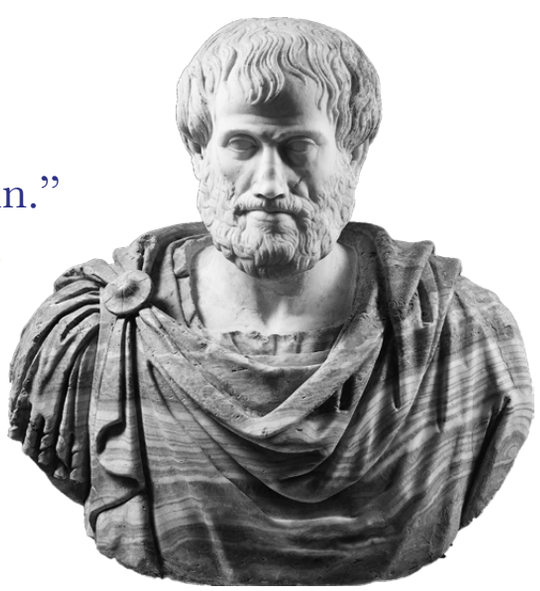


"Does heaven speak? The seasons follow their course, and all things grow. Yet heaven says nothing."

The Analects of Confucius, Confucius

"Nature does nothing in vain."

Physics, Aristotle



Chapter 1:

Review: Historical Progress and Policy Foundations

1.1 China's Climate Policy and Action

Overview: How did China Engage in Global Climate Governance?

In 1990, China established the National Climate Change Coordination Group and adopted its fundamental stance on negotiations of the UNFCCC. Since then, China has actively engaged in UN climate negotiations, participating in discussions on major agreements, including the Kyoto Protocol, Bali Roadmap, and Copenhagen Accord, learning and growing through participation in and contribution to the negotiation. Before 2015 in Paris (COP21), China signed joint statements with France and the US[1] to pave a solid foundation for the Paris Agreement. In terms of global financial support, China has provided and mobilized a total of more than 177 billion yuan (22.5 billion euros – all currency values based on 1st May 2025 exchange rate) since 2016. Such support is provided to promote clean and efficient energy application, strengthen adaptation capacity, improve coordination to tackle climate change, protect the environment and improve livelihoods for the local community.

In September 2020, at the 75th session of the UN General Assembly, President Xi Jinping announced that China aims to have carbon dioxide emissions peak before 2030, and to achieve carbon neutrality before 2060 (hereafter known as the 'dual carbon goal'). Three months later, President Xi clarified the objectives at the Climate Ambition Summit that by 2030, China's carbon dioxide emissions per unit of GDP will be reduced by over 65% compared to 2005. China's role in global climate governance has evolved from a participant to an active contributor, and it is increasingly positioning itself to play a joint leadership role together with the EU and other countries.

Energy Transition as Climate Mitigation

One of the two pivotal actions to combat climate change is climate mitigation, while the transition of the energy structure is among the most critical measures for mitigating climate change. In the early 1990s, China began to explore the development and utilization of solar, wind and geothermal energy, with support from international organizations like the World Bank.[2] With the deepening implementation of the Kyoto Protocol mechanisms, the Chinese government progressively aligned renewable energy development with the restructuring of energy and climate change mitigation. As China's renewable energy industry expanded, the strategic focus shifted from scale expansion to high-quality development. During the past 20 years, China's renewable energy development has witnessed the transition from "subsidy-driven" to "market-driven" growth. Cost reductions via improvements in technology and business model innovations in the market are key characteristics. In 2024, China achieved new breakthroughs in the green and low-carbon transformation of its energy sector. As of the end of September 2024, the combined installed capacity of wind and solar power in the country has reached 1.25 billion kilowatts, fulfilling more than six years ahead of schedule the target of 1.2 billion kilowatts or more of total installed capacity of wind and solar power by 2030 that China committed to at the Climate Ambition Summit. The scale of renewable energy installations has been expanding continuously, and new progress has been made in the construction of a new energy system, providing support for high-quality economic development.

[1] During the conference, China announced a 20 billion CNY(€2.54 Bi) South-South Climate Cooperation Fund to support developing countries in addressing climate change. By October of 2024, China has signed 52 Memorandums of Understanding for South-South cooperation on climate change with 42 developing countries, and carried out nearly 100 climate change mitigation and adaptation projects.

[2] World Bank, 2021.

While China leads in installed capacity of hydropower, wind power, solar power, and biomass power, the intermittency and variability of wind and solar power generation have not yet been resolved effectively. As the proportion of renewable energy sources such as wind and solar increases, grid stability and peak regulation capacity face severe challenges. Although China is developing new energy storage industries like pumped hydro storage and electrochemical energy storage, coal power remains the primary force in managing load fluctuations in the short term.

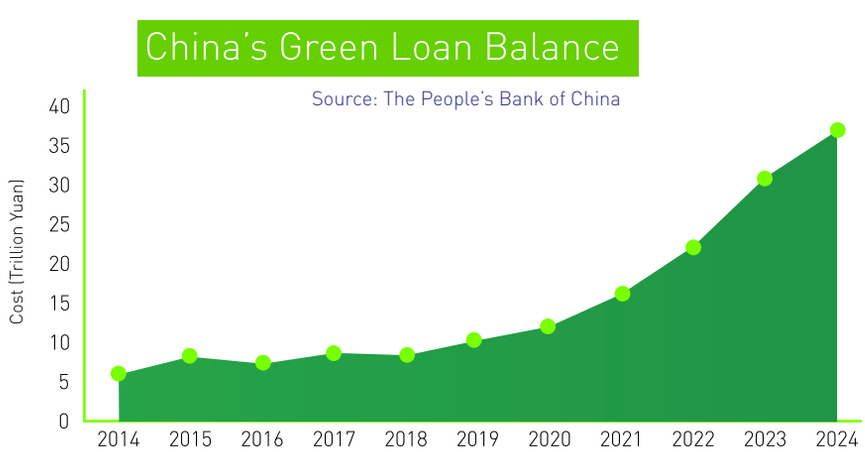
Climate Adaptation and Synergies

China considers climate adaptation, which includes efforts to enhance resilience against climate change impacts, as equally important as climate mitigation. Two milestone reports were released in the last decades to guide China's efforts on adaptation with a more systematic and evidence-based approach. The first national strategy, published in 2013, defined key tasks and outlined the regional strategy for achieving those tasks. Later, in 2022, with the urgency of taking action increasing, 17 ministries jointly published the "National Strategy for Adaptation to Climate Change 2035", further clarifying the goals and strategy of China's adaptation to climate change. It set out a three-step strategy, with specific objectives in 2025, 2030 and 2035. The Strategy aims to build up adaptation policy and governance systems gradually, enhancing capacity on risk assessment, as well as resilience to critical extreme events, in order to increase the overall capacity on adaptation in China.

While there is no standalone LULUCF policy, its principles have been integrated into the policies of line ministries like forestry and agriculture. In terms of land-use policies, in 2023 China completed the innovative ecological spatial protection models, titled the ecological protection red lines – a policy framework for safeguarding ecologically critical areas. The total area now covered is about 3.19 million square kilometers, of which the land ecological protection red line area is about 3.04 million square kilometers (accounting for more than 30% of China's land area). By drawing the red lines, the country aims to prioritize the conservation of areas with significant functions, including water conservation, biodiversity maintenance, soil and water conservation, wind and sand fixation and coastal protection. Nature-based solutions (NbS) have been discussed as synergistic solutions between climate and biodiversity since 2019, when China and New Zealand were invited by the UN to co-lead the NbS coalition. It is worth noting that there is still a long way to go in showing how to localize the concept of NbS at the practical level.

Climate Finance

From early participation in the Clean Development Mechanism (CDM), China's climate finance efforts have evolved to the development of a dual-track carbon trading system. This system encompasses a national emissions trading scheme (ETS) and a voluntary emissions reduction market, namely China Certified Emissions Reduction (CCER). China's national ETS started as a pilot program in 2010, expanding to seven regions before launching nationwide in 2021. The steel, cement and aluminum smelting industries have been incorporated into the national ETS in 2025. The CCER market was initiated in 2012, suspended in 2017 for restructuring and reform, and restarted in 2024.



The Belt and Road Initiative (BRI) provides a vital platform for China's international climate investments. China seeks international bilateral and multilateral cooperation funds and social funds to support green projects, such as the Silk Road Fund, China-Asean Investment Cooperation Fund, China-Central and Eastern Europe Investment Cooperation Fund, Everbright "Belt and Road" green investment fund. It also addresses the problem of insufficient climate investments. These funds provide important support for China's international climate investments, such as the Saudi Red Sea energy storage project and wind power projects in Kazakhstan and Montenegro. The 2016 "Guidelines on Building a Green Financial System" further clarified key tasks and measures, providing policy support for the regulated development of green finance. By the end of 2024, the green credit balance of major domestic banks reached 36.6 trillion yuan (approx. 4.69 trillion euros), a year-on-year increase of 6.5 trillion yuan (approx. 833 billion euros), accounting for 14.3% of all loans. In addition, the People's Bank of China has launched two structural monetary policy instruments, namely, the carbon reduction support tool and the reloan for clean and efficient use of coal. By the end of 2023, the People's Bank of China had issued a total of 541 billion yuan (approx. 69.36 billion euros) and 274.8 billion yuan (approx. 35.23 billion euros) for the two instruments respectively, totaling 815.8 billion yuan (approx. 104.59 billion euros). The amount for carbon reduction tools and clean and efficient use of coal reloans increased by 74.69% and 238.84%, respectively, from the end of 2022.

Climate Action

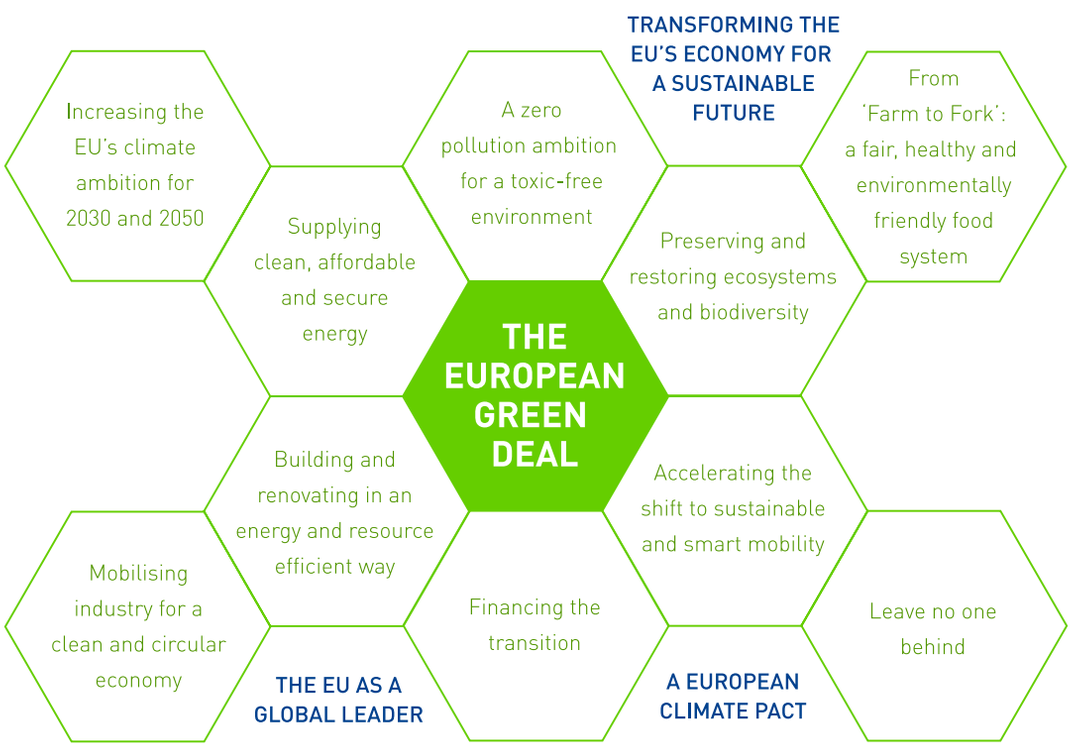
The just transition was highlighted and promoted by President Xi when he addressed an UN climate meeting in April 2025. China called on "people oriented principle"and promote the synergy between improvement of people's well-being and climate governance. Just transition, as a key principle for climate action, has also been substantially reflected in numerous policies, such as the "Action Plan for Carbon Peaking Before 2030" from 2021. Specific actions were included such as the enhancement of vocational skills training to assist workers in traditional industries for the transition to green industries. The "photovoltaic poverty alleviation" model has been explored at the city level. Women participate in the cleaning, operation, and maintenance of photovoltaic panels, as well as in the process of photovoltaic agriculture.

China's government organizes annual campaigns such as the National Energy Conservation Promotion Week, Low Carbon Day, Environment Day on June 5th and National Ecology Day every year to promote public awareness of green transformation nationwide. Additionally, the Chinese government continues to carry out the "Beautiful China, I am an Actor" series, to promote the construction of the ecological environment volunteer service system. Over the past few decades, Chinese lawmakers have invited NGO delegates to participate actively in the promotion of climate legislation.

1.2 EU Climate Policy and Action

Overview: How did the EU Engage in Global Climate Governance?

The EU's engagement in global climate governance began with its leadership under the Kyoto Protocol in 1997. The EU and its 15 Member States, while not initial signatories, ratified the Protocol in 2002 and, as such, committed to reduce their greenhouse gas emissions by 8% from 2008 to 2012, which exceeded the average target of 5.2% set for other countries. During this time, the EU also launched its Emissions Trading System (ETS), requiring high-polluting industries to pay for their CO2 emissions. Post-Kyoto, the EU became a driving force in negotiating the Paris Agreement at COP21 in 2015 and ratifying it in 2016. In 2019, to meet its climate goals, the European Commission (EC), under Ursula von der Leyen, launched the European Green Deal (EGD) to make the EU the first climate-neutral continent by 2050. Presented as a green growth strategy, the EGD includes various initiatives to drive change across all sectors of the EU economy while promoting well-being and environmental health.



Following the launch of the EGD, the EU placed itself at the forefront of establishing legally binding, economy-wide climate neutrality targets through the European Climate Law, setting legally binding emission reduction targets for 2030 and 2050. To support it, the Fit for 55 legislative package aims to reduce emissions by at least 55% by 2030, expected to result in emission reductions of 57%. Fit for 55 introduced new laws in 14 areas, with a key measure being the extension of the Emissions Trading System (ETS) to include carbon pricing on buildings and road transport. In addition, a revised Effort Sharing Regulation allocated emission reduction responsibilities among EU Member States. As for targets, the European Scientific Advisory Board on Climate Change (ESABCC) has recommended that the EC propose an interim target of reducing net emissions by at least 90% by 2040, which is even more ambitious than the current policy trajectory of about 88% reductions by 2040 according to the Commission's own impact assessment.

Energy Transition as Climate Mitigation

Transitioning to clean energy sources and decarbonizing industrial sectors are central to the Green Deal and are key to implementing climate mitigation successfully. In more recent years, the conflict in Ukraine has been a significant geopolitical event, prompting the EU to accelerate its deployment of renewable energy sources and reduce its gas imports.[3] As a direct response to the energy crisis, in May 2022 the Commission introduced the REPowerEU Plan to diversify the EU's energy supply, raise renewable energy production and use and address energy poverty. Additionally, the Fit for 55 package includes further reforms of the Renewable Energy Directive, the Energy Efficiency Directive, and the Energy Performance of Buildings Directive, crucial policies for the EU's climate mitigation strategy and for achieving energy savings. Once adopted, Member States are required to incorporate these directives into their national laws by revising their National Energy and Climate Plans (NECPs). In these plans, they must outline their strategies for achieving the EU's targets. Furthermore, the hydrogen and decarbonized gas market package[4], along with electricity market reform[5], also integrate renewables and clean energy sources into the EU energy system.

With the reappointment of Ursula von der Leyen as EU Commission President in July 2024, a new approach to climate and energy policies was introduced through the Competitiveness Compass and related initiatives. One of the first proposals to emerge was the Clean Industrial Deal, which is considered the successor to the European Green Deal (EGD). Its goal is to reduce emissions from heavy industries, promote clean technologies, and strengthen the EU's global competitiveness. Currently, the EU's climate objectives remain unchanged and the proposal for a new target represents a significant increase in ambition over the current policy trajectory. On that, the Commission itself has also acknowledged policy conditions necessary to achieve the 90% target must strike a balance between ensuring industry competitiveness, a just transition and climate action. A relevant challenge to monitor will be to ensure that industrial policies can support economic growth without compromising climate and biodiversity goals, which are crucial for both environmental and economic targets.[6&7]

Climate Adaptation and Synergies

Achieving the EU's ambitious climate targets will require not only greater policy alignment and stronger cross-sector synergies but also a more integrated approach to mitigation and adaptation as two sides of the same coin, particularly in the land sector. In the case of land-based ecosystems - including forests, grasslands, croplands or wetlands - the EU has set targets for carbon sequestration through land use under the LULUCF Regulation. However, these mitigation efforts will only be effective if land ecosystems are also made more resilient to climate impacts. Strengthening climate adaptation in the land sector is essential to sustaining and enhancing its capacity to deliver long-term carbon sinks.

Land plays a critical role in climate adaptation. Recognizing this, the EU's Climate Adaptation Strategy places NbS at the core of its approach, identifying them as one of three cross-cutting priorities to build resilience and climate-proof key sectors. NbS, such as coastal restoration, urban greening, and agro-ecology, help reduce risks like flooding and erosion while also enhancing carbon storage and ecosystem health. While the EU has made progress in integrating NbS into its policy frameworks, opportunities exist to strengthen implementation. For example, introducing quantitative benchmarks and harmonizing policy tools such as the Water Framework Directive and the Floods Directive could improve the role of NbS in climate adaptation strategies. Improving coordination across sectors and advancing research of NbS to contribute to both adaptation and mitigation[8] is crucial for the EU to upscale the land sector's dual role in achieving climate neutrality and building resilience by mid-century.

[3] Kardás, S. (2025), Breaking free: Why ending Russian gas transit via Ukraine strengthens EU energy security, European Council on Foreign Relations (ECFR) hang, 2024.
[4] Composed of Directive (EU) 2023/1791 and Regulation (EU) 2024/1789
[5] Composed of Regulation (EU) 2024/1747 and Directive (EU) 2024/1711
[6] Rajat Panwar et al., "Aligning G20 Industrial Policies with Biodiversity Conservation," T20 Policy Brief, May 2023.
[7] Bridging Science and Policy for Integrated Action on Climate and Biodiversity. UNU-IAS Policy Brief No. 45, 2024.
[8] The Water Framework Directive and the Floods Directive are still limited in their recognition of the capacity of NbS to contribute to adaptation and disaster risk reduction goals.

Climate Finance

The European Union Emissions Trading System (EU ETS) is the world's first and largest GHG emissions trading scheme, launched to help the EU meet its climate targets through cost-effective reductions in industrial GHG emissions. The EU ETS serves as a critical revenue-generating mechanism for climate finance, channelling funds into decarbonization projects and equity-focused initiatives. Following its establishment in 2005 and the three-year pilot phase, the EU ETS was subject to several reviews and extensions. The second phase coincided with the first commitment period of the Kyoto Protocol (2008-2012), while the subsequent phase extended the scope of ETS to further sectors and gases. At the same time, an EU-wide cap was introduced, the rules for free allocation were harmonized, and auctioning was established as the default method for the distribution of emission allowances.

In addition, the aviation sector was included under ETS, to phase out free allowances from 2026 onwards in this sector. The price of allowances, determined by the market, has increased significantly in recent years, making low-carbon technologies more competitive and thus incentivizing GHG emission reductions in the EU. It was noted that until 2020 emissions under ETS fell by 41% compared to 2005 levels.[9]

Also, while historically 50% of revenues were earmarked for climate action, MSs voluntarily allocated 76% to sustainability projects between 2013–2022. Under the Fit for 55 framework, ETS was further extended to include carbon pricing in additional sectors, such as building and road transport, from 2027. The EU ETS is a cornerstone of the EU's climate policy, driving emissions reductions cost-effectively. Through continuous reforms, sectoral expansion, and stricter targets, the ETS remains crucial to the EU's ambition to achieve climate neutrality by 2050.

Over the last few years, several sources of public funding have been invested to support the green transition in the EU. As an EU financial institution, the European Investment Bank (EIB) plays the role of the EU's Climate Bank, investing in projects that align with the Paris Agreement. The EIB provides financing, expertise, and advisory services to public and private sectors to fund sustainable projects, particularly in renewable energy, energy efficiency, clean transportation and climate adaptation. In 2023 alone, the EIB provided 44.3 billion euros (approx. 345.54 billion yuan) of financing for climate action and environmental sustainability projects and aims to provide 1 trillion euros (approx. 7.8 trillion yuan) of green investments by 2030.[10]

In addition to EIB's funds, the EC and EU Member States have secured nearly 660 billion euros (approx. 5.148 trillion yuan) for climate action, derived from several key sources. Meanwhile, ongoing incentives are aimed at encouraging both public and private investments in green technologies. Green bonds are another financial instrument that play a crucial role in the transition, serving as a fixed-income instrument for sustainable projects. They are governed by the European Green Bond Standard Regulation, a voluntary act based on the criteria of the EU taxonomy for defining green economic activities.

[9] Erbach, G., and Foukalová, N. (2023), Review of the EU ETS 'Fit for 55' package, European Parliamentary Research Service ardás, S. (2025), Breaking free: Why ending Russian gas transit via Ukraine strengthens EU energy security, European Council on Foreign Relations (ECFR) hang, 2024.

[10] European Investment Bank (2024), Climate action and environmental sustainability.

Europe's Contribution to Climate Finance

The sources for the figures include the EU budget, the European Fund for Sustainable Development Plus and the European Investment Bank.

Source: Council of the European Union

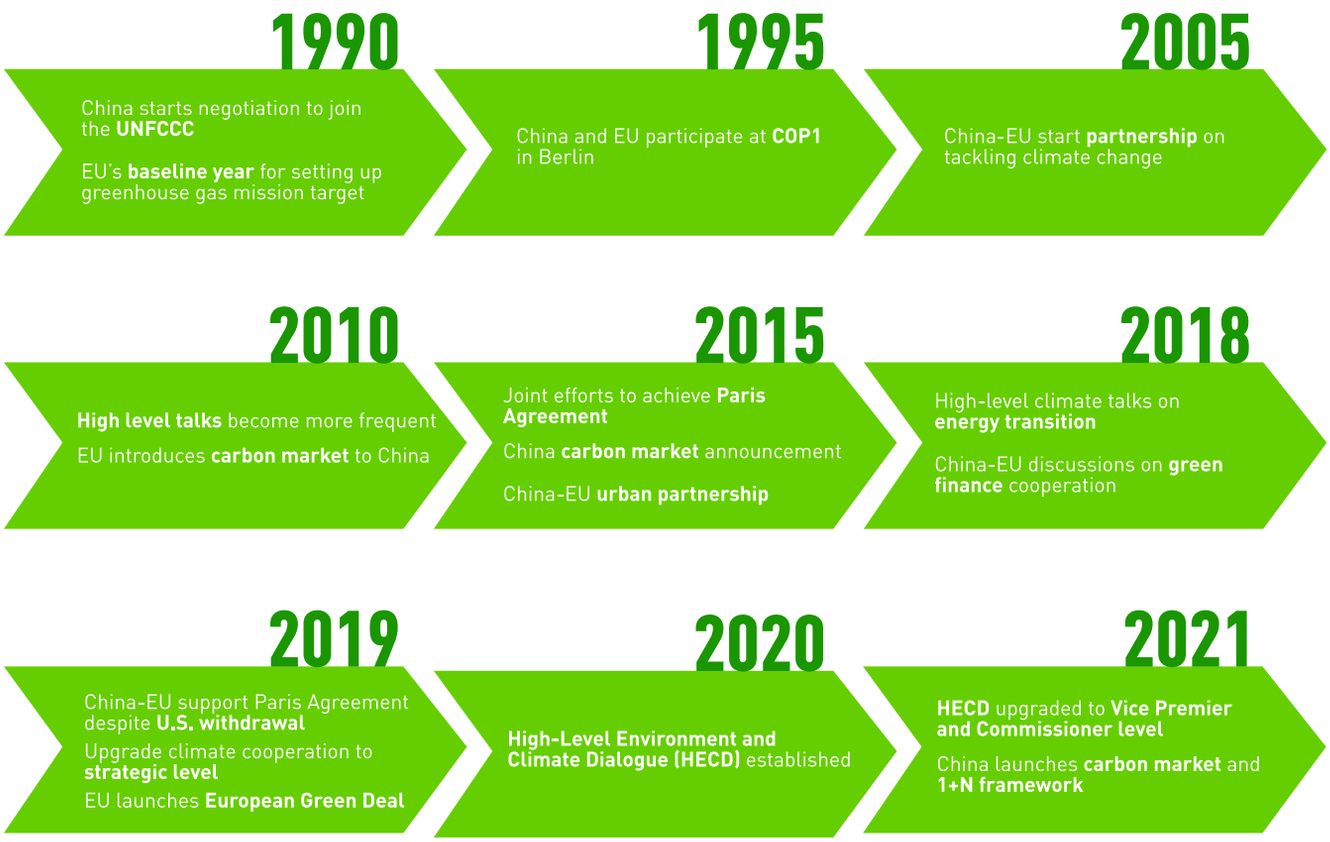
The EU also contributes to international climate finance. The EU and its MS are, in fact, "the biggest providers of climate finance in the world", consistently supporting developing countries to reduce GHG emissions and foster climate change adaptation. Since 2013, the EU has has more than doubled its contirbution to international climate finance. About one-third of the EU external budget for 2021-2027 is earmarked for climate-related projects through the Neighbourhood, Development and International Cooperation Instrument (NDICI) – Global Europe. In addition, together with other countries, including China, the EU has set up an International Platform on Sustainable Finance, intending to increase the mobilization of private capital for sustainable investments. In 2024 alone, the EU's plus Member States' contribution to climate finance amounted to EUR 28.6 billion from public sources.

Climate Action

Over the last decades, climate action has become a priority in the EU and the European Commission has introduced specific instruments to address social equity and climate justice for workers and households across EU regions. The Just Transition Mechanism (JTM), launched by the European Commission in January 2020 as part of the European Green Deal, is one of them. This initiative supports regions and businesses heavily relying on carbon-intensive industries to shift to low-carbon activities and helps affected households and workers by offering reskilling opportunities and investing in measures to combat energy poverty.

The EU is working to strengthen the social dimension of climate transition. In 2024, the Environment Council adopted conclusions, including recommendations for the Commission to pave the way to the 2040 climate target, emphasizing the need for greater social acceptance and just transition measures to meet climate objectives.

1.3 Evolution and Present State



China and EU Cooperation: Strengthening Global Frameworks and Policy Dialogue

Both China and the EU recognize the urgency to address global climate change and have set a positive example of cooperation. Since 2002, climate change has been a key topic at China-EU summits. At the 8th China-EU Leaders' Meeting in 2005, they committed to cooperation in this area as a partnership, and set up a ministerial-level dialogue in 2010. Ahead of COP21, China worked closely with France to support the Paris Agreement. After the US withdrew in 2017, China and the EU reaffirmed their commitment to climate action. In 2017, the Ministerial on Climate Action (MoCA), an annual high-level meeting that brings together climate envoys from the European Union, China, and Canada to provide a space for discussions and promote ambitious implementation of the Paris Agreement was set up and has convened 8 years meeting by now. In 2018, they signed the China-EU Leaders' Statement on Climate Change and Clean Energy, reinforcing their shared goal of emissions reduction and sustainable development. Together, they have become stabilizing forces for the Paris Agreement.

In 2020, China and the EU established the High-Level Environment and Climate Dialogue (HECD) and the two sides have held five consecutive high-level dialogues. A milestone was reached in February 2021 when China's then-Vice Premier Han Zheng and European Commission Executive Vice President Frans Timmermans convened the inaugural HECD via video link, elevating bilateral cooperation from the ministerial level to the vice-premier level and ensuring strategic joint leadership on climate cooperation. As been highlighted during the Fourth EU-China High-Level Environment and Climate Dialogue that "green is the distinctive color of EU-China cooperation", and they should continuously deepen the green partnership as joint leaders and continue promote high-level cooperation.

The Growth of China-EU Cooperation on Energy Transition

China-EU energy cooperation traces its origins to the mid-1990s, when initial agreements laid the groundwork for collaboration. Clean energy gradually emerged as a pragmatic cornerstone of the bilateral energy agenda. This partnership can be formally dated back to 1994 with the opening of the 1st China-EU Energy Conference. With the launch of the Dialogue Mechanism, energy security, infrastructure and renewable energy have gradually been covered.

Moving into the 21st century, China and the EU systematically integrated energy and environmental issues into parallel cooperation frameworks. In 2003, their bilateral relations were upgraded to a Comprehensive Strategic Partnership, coinciding with the launch of the China-EU Energy and Environment Program (EEP). By 2005, the China-EU Joint Declaration on Climate Change established a Climate Change Partnership. Through the China-EU Energy Dialogue, 11 sessions were held by 2024, institutionalizing governmental energy exchanges. In 2018, the China-EU Leaders' Statement reinforced cooperation on clean energy, including clean power generation, high-efficiency cogeneration, and energy market design. In 2019, the EU-China Energy Cooperation Platform (ECECP) was launched to deepen collaboration on energy policy and innovation. China also expanded energy dialogues with individual EU countries, focusing on energy transition, renewables, energy storage and technology.

Collaborating on Climate Adaptation and Synergies to Combat Biodiversity Loss

China and the EU have maintained good exchanges and cooperation in climate adaptation for many years, setting a model for regional cooperation. Chinese and European cities mainly cooperate by sharing experiences and practices through seminars or thematic training, including on the heat island effect, risk-based planning, risk assessment, heatwaves and floods, etc. China and the EU have played a proactive role in advancing global cooperation on climate adaptation. To set an example, in 2019, China and the Netherlands jointly initiated the Global Commission on Adaptation with other countries. Additionally, China and the EU supported the establishment of the first regional office of the Global Center on Adaptation in China, which serves as a key connection between China and the EU, playing an active role in disseminating adaptation knowledge, promoting exchanges and mutual learning and conducting international cooperation.

Tackling climate change and biodiversity conservation as important components of the UN Sustainable Development Goals urgently require synergistic solutions to speed up the efficiency of global governance. China and the EU play a leading role in this regard by working together and jointly upholding the importance of synergy and cooperation. In 2019, China and France jointly announced the Beijing Call for Biodiversity Conservation and Climate Change. In 2023, the China-France Joint Statement further clarified that "climate, biodiversity and land degradation are common priorities for China and France" and in 2025, the two sides committed to build up cooperation on NbS on the occasion of the joint declaration issues to mark the 10th anniversary of the Paris Agreement. In September 2020, under the China-EU HECD mechanism, climate change and biodiversity conservation were included as areas of cooperation. One year later, building momentum of the 2nd HECD, which was headed by the Vice-Premier Han Zheng and Frans Timmermans, executive vice-president of the European Commission for the European Green Deal, cooperation in the fields of climate and biodiversity became important topics in the China-EU leaders' dialogue.[11] Both sides committed to taking prompt actions to implement the Kunming-Montreal Global Biodiversity Framework (GBF) both domestically and globally.

[11] The meeting emphasised that "both sides recognise the scale of the biodiversity crisis and the urgency to take action, and stress that climate change accelerates biodiversity loss, while biodiversity loss also affects climate change."

China-EU Cooperation in Climate Finance

Joint leadership by China and the EU in climate finance has resulted in landmark policy documents, such as the G20 Sustainable Finance Roadmap and Common Ground Taxonomy – Climate Change Mitigation. The latter enhances the comparability, compatibility and consistency of standards across countries, reduces cross-border transaction costs and promotes international collaboration on climate finance. The Belt and Road Initiative (BRI) has emerged as a crucial platform for climate finance collaboration between China and the EU. The introduction of the Green Investment Principles (GIP) under the BRI provides significant policy support to foster the development of green infrastructure and finance projects.

The cooperation between China and the EU in emission trading has significantly contributed to the establishment of China's ETS. China and the EU have launched two cooperation programs aimed at enhancing their partnership in emissions trading. These initiatives were supported by a total investment of 15 million euros (approx. 117 million yuan), which was allocated to facilitate the sharing of expertise for the estab-lishment of China's ETS. Such cooperation facilitated the development of China's national ETS framework, encompassing key mechanisms such as emission caps, quota allocation, market structure and Monitor-ing, Reporting, and Verification (MRV) systems. Building on the initial cooperation on the ETS framework, high-level officials from China and the EU signed the Memorandum of Understanding (MoU) to Enhance Cooperation on Emissions Trading in 2018, establishing a regular dialogue mechanism on ETS between the two parties. The updated MoU signed in 2024 further broadened collaboration by incorporating addi-tional topics, including the China Certified Emission Reduction (CCER) mechanism, reflecting strength-ened cooperation on the carbon price system between China and the EU. It is worth noticing, though, that China's and the EU's ETS systems have different rules, price levels and sectoral coverage. As such, to create a stronger global carbon pricing system, both sides need to align these markets in the future.

Climate Action

As China and the EU strengthen their climate cooperation, grassroots collaborations between think tanks, universities, NGOs and businesses have gained momentum. In 2013, the China Association for NGO Cooperation (CANGO) launched the "China-EU NGO Exchange Program", pairing 12 Chinese NGOs with 12 European NGOs each year. Around 200 staff members from NGOs in China and Europe participated in the following 7 years. In 2019, Xie Zhenhua, China's former Special Representative on Climate and former French Ambassador for International Negotiations on Climate Change Laurence Tubiana started the "Friends of the Paris Agreement High-Level Dialogue" to provide recommendations to the UN for the implementation of the Paris Agreement. Academic initiatives, such as the 2024 Peking University-Sciences Po Climate Week, further underscore cross-border efforts to innovate and nurture talent for carbon neutrality. There is considerable potential for improving cooperation between Chinese and the EU civil society actors. As such, the above mentioned efforts can be expanded to leverage mutual strengths in disseminating climate change information, monitoring industrial behavior and supporting bilateral organizations.[12]

Government-led dialogues and policy incentives have significantly catalyzed corporate-level collaboration between the two sides, driving advancements in technological innovation and implementation. Cross-sector partnerships span power infrastructure upgrades, equipment exports, oil and gas exploration and trade, as well as joint nuclear power plant construction and Research and Development initiatives, generating substantial economic and social dividends. Building on these traditional sectors, renewable energy has emerged as a focal point for deepened cooperation. Notably, China has established bilateral offshore wind frameworks with Denmark and the Netherlands. In the wind power sector, equity partnerships between Chinese and European firms have enabled joint development and operation of projects across both markets. Solar energy trade continues to expand, with mutual benefits from technol-ogy transfers and cost-competitive equipment exports. Furthermore, diversified ventures in geothermal energy, biogas and hydropower illustrate the multidimensional nature of this collaboration. These collaborations have brought mutual benefits to China and the EU.

[12] Liu et al., 2019.

CLIMATE AMBITION IN THE OLYMPICS

BEIJING 2022 WINTER OLYMPIC GAMES

Efforts in renewable energy deployment and decarbonisation also marked Chinese-led global events. In 2022, during the Beijing Winter Olympics, hydrogen energy buses connected 26 venues across three major competition areas, achieving a 100% green power supply. Additionally, CO2-integrated cooling and heating technology was effectively utilized, making the Beijing Winter Olympics the first "carbon-neutral" Winter Games.

PARIS 2024 SUMMER OLYMPIC GAMES

The Paris 2024 Olympic Games marked a turning point in the pursuit of sustainable large-scale events, with unprecedented efforts made to minimize their environmental impacts. Carbon footprint emissions were significantly reduced by using only renewable energy sources to power the Olympic venues. In a bold move toward sustainability, most of the venues, including the athletes' accommodation, were built on pre-existing or temporary structures, while the few new infrastructures were built with recycled and low-carbon materials. The Paris Olympics set a new standard for sustainability, demonstrating that even events of this magnitude can prioritize ecological solutions without compromising ambition.

Chapter 2:

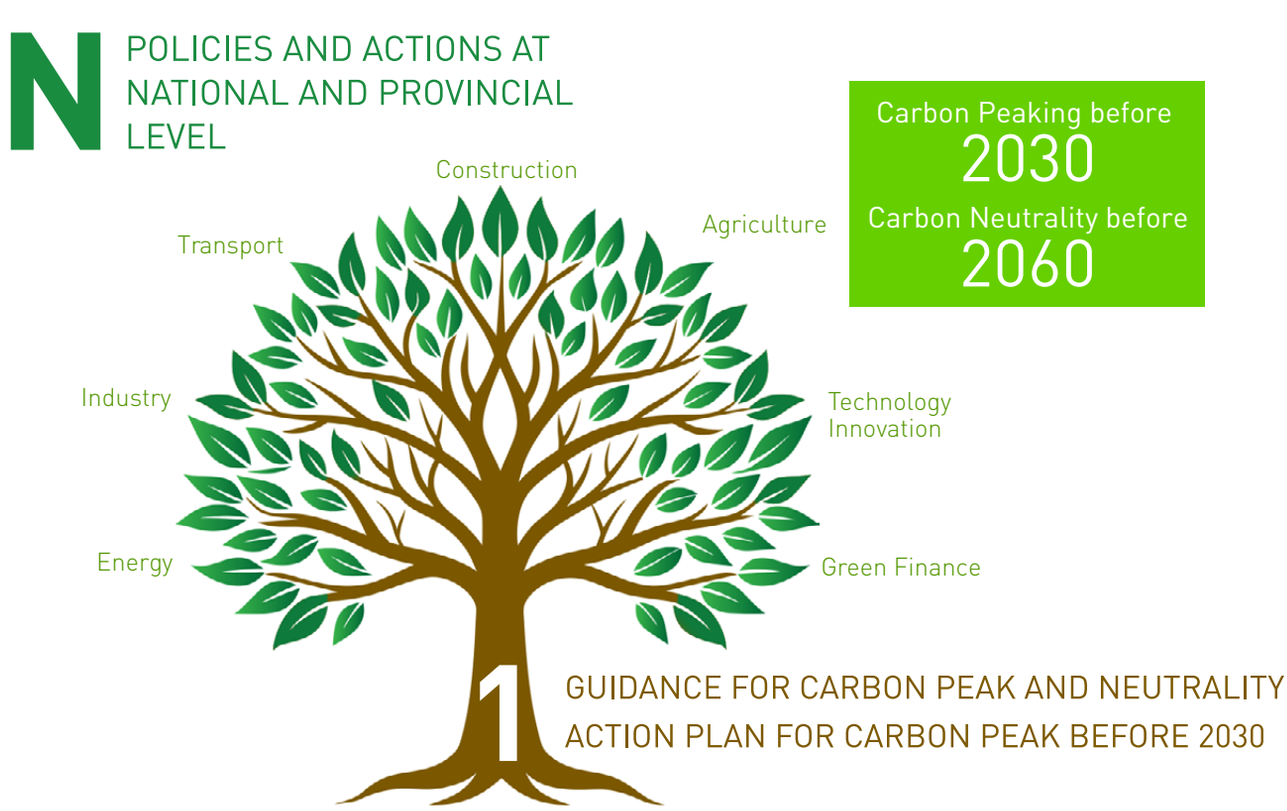
Future Outlook

2.1 China's Future Climate Pathway

Roadmap of China's Dual Carbon Goal: 1+N Policy Framework

Since President Xi Jinping announced that China aims to have carbon dioxide emissions peak before 2030 and to achieve carbon neutrality before 2060, the goals have been written into the outline of the 14th Five-Year Plan for National Economic and Social Development, and Vision 2035 of the PRC issued in March 2021. China has integrated the goals into its ecological civilization framework and national economic development agenda. Nowadays, China has established its '1+N' policy framework for implementation at the national and provincial levels.'1' is the State Council's Working Guidance for Carbon Peak and Carbon Neutrality, and the Action Plan for Carbon Peak Before 2030, which shows the roadmap to transform the dual carbon goals progressively into a green engine for high-quality economic development. 'N' refers to policies and actions at national and provincial levels and specific implementation plans in various industries. It is worth noting that many policies are still in the pilot stage and insufficient capacity for structural optimization and upgrading in many regions are still a challenge, and the green modernization process of the industrial system and high-quality development should be accelerated.

China's 1 + N Policy Framework for Dual Carbon Goal



Adaptation and Synergy: from Strategy to Implementation

China's future climate adaptation work will revolve around the "National Strategy for Adapting to Climate Change 2035", promoting its implementation at local level and in key areas, as well as continuing to advance the pilot construction of climate adaptive cities in 39 locations (districts) including Mentougou District in Beijing. Since the implementation of the integrated protection and restoration project of mountains, waters, forests, farms, lakes, grasses and sands, a total of about 7.7 million hectares of ecological protection and restoration have been completed. In the Implementation Plan for National Forest Sustainable Management Pilot Projects (2023-2025), 368 pilot units were selected to carry out forest sustainable management pilot work. To ensure the implementation of the above work, China should improve relevant theoretical research, technological development, ability to analyze and evaluate the impact and risks of climate change, and count adaptation in the priorities of relevant departments.

China is actively exploring the synergetic pathway to address climate change and protect biodiversity. One of the milestones is China's Biodiversity Conservation Strategy and Action Plan (2023-2030), published in January 2024. It addressed the need and urgency to take synergistic management of biodiversity and climate change. There are some good practices at the local level. For instance, as a typical coastal city, Xiamen is implementing NbS by strengthening ecological protection, promoting ecosystem restoration, building a sponge city, supporting sustainable community development and green transformation of mines, while encouraging funding and diverse public participation.

Climate Finance: from Single to Multiple Tools

China is making efforts to build a diversified climate finance system. In April 2025, China issued the first RMB green sovereign bond in London, UK, a total of 6 billion yuan (approx. 769 million euros), to support the financing of green transition and sustainable development. Systems of guidance, evaluation, certification and information disclosure are developing steadily for green bonds, green insurance and other products. Investment and financing support for relevant green industries, for example carbon capture, has also been included in local governments' climate action plans. China has innovatively explored Carbon Inclusion, a voluntary emission reduction mechanism for citizens. While at the early stage and currently operating in pilot regions, the policy uses the "internet + big data + carbon finance" to build a set of "recordable, measurable, profitable and recognized" mechanisms for citizens' carbon emission reduction, establishing a positive guidance mechanism combining commercial incentives, policy encouragement and certified emission reduction transactions.

The future development of climate finance in China continues to face numerous challenges. Current climate finance projects are mostly focused on renewable energy-related fields, while projects targeting carbon capture, climate adaptation and biodiversity account for a significantly lower proportion of climate finance funds. Concurrently, efforts should be made to expand CCER methodologies to encompass a broader range of emission reduction and negative emission technologies. Achieving these targets requires improvements in carbon pricing efficiency, enhanced market supervision and risk prevention measures for markets. Looking ahead, utilizing big data for the management and monitoring of the ETS, enhancing data management methodologies and elevating the standards of data quality supervision will significantly strengthen the ETS management system. Furthermore, the enhancement of the CCER market and international recognition of the CCER mechanism are expected to attract increased domestic and foreign investment, thereby fostering innovation in and application of carbon reduction as well as negative emission technologies.

Climate Actions: from Top-down to Bottom-up

To reach the carbon-neutral goal, besides the top-level design and national policy promotion, extensive participation and grassroots innovation from the bottom up are also important. This kind of action can support filling the gap in the implementation of macro policies, stimulate endogenous social dynamics and form a consensus among the whole nation on carbon reduction.

Building beautiful cities in the new era is a key task in comprehensively promoting the construction of a beautiful China, and an important measure to achieve the "dual carbon" goal and promote new urbanization. In January 2025, the Ministry of Ecology and Environment and eleven other departments jointly issued the "Implementation Plan for Beautiful City Construction", which proposed the goals, main tasks and promotion mechanisms for promoting beautiful city construction and clarified the construction drawings for promoting beautiful city construction. At the community level, reducing resource waste through community photovoltaic charging stations, kitchen waste composting and shared wardrobes are demonstrated as Community Microcirculation Systems. Establishing a community carbon ledger and visualizing household energy consumption data, together with public behavior change guidance and a climate education program, will accelerate more climate actions.

2.2 EU's Future Climate Pathway

Road to 2040: Can the EU Stay on Course on Climate Goals among Policy Changes?

As mentioned above, the European Commission is set to propose new climate targets for 2040 (NDC), aiming for at least a 90% reduction in emissions. Originally planned for early 2025, the proposal is now expected later this year. This target will shape the EU's 2035 climate commitments, which all countries must report to the United Nations ahead of COP30 in Brazil in November this year. To meet this goal, EU greenhouse gas emissions should drop below 850 million tons of CO2 by 2040 (excluding land-use emissions), while carbon removal, through natural methods like forests and industrial technologies, should reach up to 400 million tons. The Communication from the EC announcing 2040 climate targets was also accompanied by an impact assessment report presenting three main scenarios and a complementary one for achieving a 2040 target aligned with carbon neutrality by 2050 and the 1.5°C temperature goal. This proposal is set against a backdrop of evolving policy priorities within the EU.

The mandate of the EC President Ursula Von der Leyen has now shifted to focus on industrial and competitiveness policies, framing the climate neutrality target to enhance EU competitiveness. Nevertheless, the EU remains strongly committed to the fight against climate change, with the race for climate neutrality a key objective of the EC Political Guidelines 2025-2029.

Securing the EU's Clean Energy Transition: Industrial Strategy, Resource Dependence and Global Equity

The Clean Industrial Deal aims to increase investments significantly in clean energy infrastructures and technologies, effectively reducing carbon emissions while keeping energy prices affordable. However, the EU must tackle the challenges of energy infrastructure and the dependence on raw materials from outside its borders.[13] With the launch of the Strategic Projects as part of the Critical Raw Materials Act (CRMA)[14], the Commission aims to reduce reliance on external resources from third countries' supplies and the processing and recycling of strategic minerals (such as lithium and aluminium). The Clean Trade and Investment Partnerships (CTIPs), as part of the CID, will also contribute to fostering cooperation on critical raw materials and clean technologies, unlocking private investments and establishing sustainable supply chains. This is a decisive step toward a cleaner and more collaborative future.[15]

[13] Widuto, A. (2024), Energy transition. European Parliamentary Research Service
[14] A regulation governing the EU's access to a diversified and sustainable supply of raw materials, which entered into force in May 2024. See Regulation (EU) 2024/1252
[15] Tagliapietra, S., Trasi, C. (2024), Making the most of the new EU Clean Trade and Investment Partnerships. Bruegel.

On the other hand, the Carbon Border Adjustment Mechanism (CBAM) seeks to reduce emissions from imports as an effective tool for avoiding carbon leakage.[16] As part of the simplification strategy, the Commission proposed to simplify the CBAM rules to reduce the bureaucratic burden for small companies exporting to the EU with a new minimum exemption threshold while maintaining emission reduction targets.

Climate Adaptation and Synergies: Challenges and Opportunities for the LULUCF Sector

Current EU climate policy tends to focus on land-based carbon sequestration targets, with less emphasis on the need to strengthen the adaptive capacity of land systems. This imbalance risks undermining both adaptation and mitigation outcomes. While being at the forefront of climate legislation, the EU is not on track to meet its land-sector carbon goals. According to the Commission's 2040 targets assessment, without new LULUCF policies post-2030, carbon removals will decline.

The capacity of land-based ecosystems to store carbon is declining.[17] This decline results from climate impacts and intensive land use, which weaken ecosystems' resilience to climate change. In the context of high uncertainties concerning the future of the EU's carbon sinks, the EU's ambitions to develop renewable energy add a layer of complexity. Under certain mitigation scenarios envisaged to reach the Fit For 55 Plan, large effects on forests and land use could be created: up to half of semi-natural grasslands would be need-ed to generate energy crops or host intensively managed forests by 2050, impacting the land available for carbon sequestration and emissions from agricultural production. To address these problems, sus-tainable land management practices can enhance carbon sinks, boost ecosystem resilience and provide vital services like flood control. Restoring natural landscapes and implementing sustainable practices with NbS can also reduce disaster risks and protect communities from extreme climate events. Better land management practices that promote soil carbon sequestration are likely to improve soil quality and health, enhance water retention and limit soil erosion, supporting EU food security.

Climate Finance: ETS2 and Priorities in the Next Multiannual Financial Framework

The EU is advancing its climate finance architecture through the ETS2. Starting in 2027, ETS2 will include new sectors in carbon pricing, such as transport and building. As part of this revision, a Social Climate Fund has been introduced to redistribute ETS revenues to support vulnerable micro-enterprises, transport users and households. Part of the revenues generated from the auctioning ETS allowances is to be allocated to finance climate projects, as well as to finance two major funding programs put in place to support the transition: the Modernization Fund, which assists lower-income Member States in modernizing their energy systems, and the Innovation Fund, which focuses specifically on energy decarbonizing solutions.

[16] Dechezleprêtre, A., Haramboure, A., Kögel, C., Lalanne, G., & Yamano, N. (2025). Carbon Border Adjustments: The potential effects of the EU CBAM along the supply chain (No. 2025/02). OECD Publishing

[17] Alisa Spiegel, Claudia Heidecke, Bernhard Osterburg, Distance to climate targets in agriculture in the EU, Q Open, 2024;, qoae018, https://doi.org/10.1093/qopen/qoae018

Concurrently, negotiations for the 2028–2034 Multiannual Financial Framework (MFF) will commence following the European Commission's proposal in July 2025. To prepare, the Commission released a Communication, "The Road to the next Multiannual Financial Framework", and launched a public consultation involving a wide range of stakeholders. The communication outlines key policy and budget needs to help the EU tackle future challenges. The proposed reform will require Member States to create national plans with local authorities that detail specific investments and reforms. On climate action, the MFF communication reports the growing challenges posed by climate change, which can cause significant economic and social losses, and stresses the need for investment in climate and water resilience, warning about the high costs that we will have to face from rising temperatures. To reduce dependency on third countries and secure strategic industries for a decarbonized economy, greater subsidies and investment will be needed, potentially sourced from the MFF.[18]

Climate Actions: Are Current Efforts Enough for a Just Transition?

Incorporating social aspects into the green transition is pivotal to making climate action socially acceptable. As mentioned above, the SCF is seen as the main instrument to enhance a just transition in key sectors like transport and buildings, which directly affect European citizens. However, the current funding designated for the SCF cannot match by itself the scale of energy poverty in the EU, if not accompanied by additional MSs solutions. As a result, NGOs, civil society organisations have called for the SCF to be extended beyond 2032. Improving local consultations during Social Climate Plan drafting can better reflect community needs, ensuring tailored solutions for low-income households. The European Commission can support this process, refining the SCF as a tool for a just transition.[19]

At the local level, a range of initiatives have been introduced to empower communities and involve citizens in climate action. The development of renewable energy communities, for example, enables local author-ities and citizens, including those living in small villages and remote areas, to actively participate in the energy transition projects. Another initiative, the "Communities for Climate" supports the implementation of a selected number of projects for the implementation of innovative climate solutions at a local level, ranging from improving the circular economy to regenerating biodiversity. Overall, more inclusive and timely dialogues with stakeholders such as civil society and local actors could strengthen public support and identify the social benefits of the transition.

[18] Jones, A., Di Ciommo, M., Sherriff, A. (2025), Inside the EU's long-term budget: The multiannual financial framework explained ECDPM.
[19] Sgaravatti, G., Tagliapietra, S. (2024), Clean and fair: maximising the impact of the European Union's Social Climate Fund. Bruegel.

Chapter 3:

Challenges, Opportunities and Recommendations

3.1 Global Geopolitical Challenges and Opportunities for Cooperation

The World Meteorological Organization (WMO) has confirmed that 2024 was the warmest year on record, with global temperatures peaking approximately 1.55°C above pre-industrial levels. As such, a changing climate has brought and will bring increasing risks and challenges to the whole world while attempting to implement a sustainable transition.

The re-election of Donald Trump and recent developments in US politics have disrupted global economic stability and created uncertainties in the realm of climate policy. Last November's COP29 in Baku reached a new Collective Quantified Goal for climate finance (NCQG), requiring developed countries to take the lead in raising 300 billion dollars (260 million euros) annually to support climate action in developing countries. However, less than two months later on the first day of his second term, President Trump signed an executive order announcing his intention to withdraw again from the Paris Agreement and subsequently arranged a revival of national coal production,[20] casting a shadow over the supply of climate finance and the already challenging global climate cooperation agenda. Unless other economies step up their efforts, this is likely to severely impact global efforts to address climate change, holding back the global green and low-carbon transformation. If, on one hand, this could force other countries to further increase their action on climate, on the other it can also add greater challenges and uncertainties to the multilat-eral process. When President Trump first announced his withdrawal from the Paris Agreement, China, the EU and Canada jointly initiated the Climate Action Ministerial Conference in 2017, contributing to a new momentum for global climate governance. The recent Trump administration's decision to put high tariffs on imports from many countries, including EU and Chinese products, may inadvertently foster closer cooperation and market adaptation among those affected. The US's withdrawal from the Paris Agreement is reshaping new international climate leadership, with China and the EU strengthening climate diplomacy and forming inclusive alliances that discourage other countries from following America's example.

Despite recent shifts in the U.S. federal government's stance on climate change, it is important to recognize that American states and society remain engaged in addressing global climate challenges. States such as California and Utah continue to uphold the principles of the Paris Agreement. Meanwhile, the Inflation Reduction Act, passed under the Biden administration, provides substantial support for green transition initiatives across the country.

Another widely discussed challenge is the role of fossil fuels during the energy transition. Despite their differences, both China and the EU face significant challenges in reducing their dependence on fossil fuels. Enhanced cooperation between the two could yield mutual benefits, potentially influencing other countries and contributing to global climate efforts. In addition, the conflict in Ukraine re-alerted the whole world to the importance of energy independence. Consequently, developing renewable energy and advancing the green transition have become shared international priorities. To set a strong example for the world, China and the EU could build on their leading global roles by improving coordination and finding common ground on market rules, pricing mechanisms, and sectoral coverage while respecting their differences. Drawing on extensive scientific literature, China and the EU should jointly develop frameworks to foster decarbonization and promote more sustainable cooperation on clean energy technologies, while supporting third countries in adopting proven solutions.

[20] Renshaw, J., Gardner, T., Hunnicutt, T. (2025), Trump signs executive orders to boost US coal as power demand rises, Reuters.

While the increasing use of AI and digital technologies offers potential benefits in the climate domain, it also creates significant challenges. Environmental risks and substantial carbon footprints have been recognized[21] and must be duly considered when deploying such tools. The increasing electricity demand, the rapid construction of data centers conflicting with sustainable building standards and supply chain disruptions affecting essential goods and services that rely on the tech industry are just some of the environmental implications identified.[22] However, actions on a global scale are worth exploring, and, as such, there is untapped potential for China and the EU to cooperate in shaping the right policies for a twin transition while ensuring that the environmental risks are carefully assessed and minimized.[23] As reported by the UNFCCC, countries are increasingly relying on such tools, for example, when forecasting climate impacts and climate mitigation measures resulting from extreme weather phenomena, as well as when outlining their NDCs. Initiatives such as the Technology Mechanism's #AI4ClimateAction Initiative, which aims to leverage AI for climate solutions, are expected to foster great mitigation and adaptation efforts. This initiative was recognized at COP28 by the parties, entrusting some bodies of the UNFCCC with the task of its implementation.[24]

Although there have been some differences between the strategies adopted by China and the EU so far, both are committed to fighting climate change, reducing emissions and remaining in line with the goals of the Paris Agreement. The EU has been at the forefront, establishing the first Emission Trading Scheme as early as 2005 and, 15 years later, setting legally binding emission reduction targets to become the first climate-neutral continent by 2050. On the other hand, China's national carbon market was launched in 2021, operating under a different framework and covering different sectors from the EU and setting the carbon neutrality goal for China before 2060. Both China and the EU have a long way ahead to progress towards climate neutrality. This starts with a full alignment with the Paris Agreement's 1.5°C goal and the updated 2035 NDCs to the UNFCCC, a critical step ahead of COP30. This means that additional collaborative efforts from both sides are needed to bridge the gap in the fight against climate change. In April, Chinese President Xi Jinping announced that China's 2035 NDCs will cover all economic sectors and all greenhouse gases. As key architects of global climate governance, pioneers in renewable energy development, innovators of diversified solutions and practitioners of climate actions, China and the EU share a common historic mission: to explore innovative pathways towards a sustainable and prosperous future for all species inhabiting this planet.

3.2 New Frameworks for Cooperation

In 2025, we celebrate the 50th anniversary of diplomatic relations between China and the EU, marking an important milestone that can serve as a bridge connecting the historical interactions of the past with prospects of future collaboration and partnership between these two blocs. Four major points can be articulated to highlight the importance of this relationship and its potential implications for future engagements.

Firstly, China and the EU should play the role of twin engines to inject strong political momentum into international climate governance. The current era is full of challenges, and the world needs closer cooperation between China and the EU both to address global challenges such as climate change, and make positive contributions to world peace, stability and development. Looking back at the history of global climate governance, we note that China and Europe played a crucial driving role in pushing the process of the UNFCCC, i.e. the Paris Agreement, etc. Looking forward to the future, green transformation is in the interests of people all over the world. To inject stability in a volatile world, China and the EU should work together as a dual engine for global green transformation through concrete actions: strengthening international cooperation on climate change, upholding multilateralism and firmly supporting the UNFCCC and the Paris Agreement as foundations for addressing climate change.

[21] United Nations Environment Programme (2024). Artificial Intelligence (AI) end-to-end: The Environmental Impact of the Full AI Lifecycle Needs to be Comprehensively Assessed - Issue Note.
[22] Bashir, N., Donti, P., Cuff, J., Sroka, S., Ilic, M., Sze, V., Delimitrou, C., & Olivetti, E. (2024). The Climate and Sustainability Implications of Generative AI. An MIT Exploration of Generative AI. https://doi.org/10.21428/e4baedd9.9070dfe7
[23] Cowls, J., Tsamados, A., Taddeo, M. et al. The AI gambit: leveraging artificial intelligence to combat climate change—opportunities, challenges, and recommendations. AI & Soc 38, 283–307 (2023). https://doi.org/10.1007/s00146-021-01294-x
[24] United Nations Climate Change, Technology Executive Committee (TEC) (2024), Artificial Intelligence for Climate Action in Developing Countries: Opportunities, Challenges and Risks

Secondly, China and the EU should play the role of twin engines to accelerate the global green transition. China and the EU find increasing convergence in their interests related to climate change and technological development, increasing reasons to strengthen their engagement and collaboration. China-EU climate cooperation has complementary advantages and mutual benefits. China's strength lies in its technological leadership, such as EV car, lithium-ion and solar batteries, while the EU's success lies in its forward-looking strategic thinking in climate finance and marketing mechanism. As the twin engines of global green transformation, both China and the EU are facing the urgent need for energy independence. They are jointly exploring the development and utilization of new energy, actively contributing wisdom and technologies to the world. China and Europe are constantly opening new spaces for cooperation, and the cake of mutual benefit and win-win cooperation is getting larger and larger. This not only benefits people on both sides but also injects strong impetus into the development of the world economy.

Thirdly, China and the EU should play the role as the twin engines for synergetic, fair and inclusive pathways and multi-combination innovative solutions. China and the EU can enhance collaboration on climate adaptation based on China's "National Strategy on Adaptation to Climate Change 2035". This collaboration can prioritize cities as the core and focus on high-risk sectors such as water resources, biodiversity, infrastructure and agriculture/food. By working together on climate risk assessment and evidence-based adaptation actions and by leveraging the Green BRI, China and the EU can amplify their joint leadership in this regard. This allows both sides to provide support to developing countries in implementing adaptation measures. The two engines can also refine project methods and achievements to provide additional capacity for building and training for third countries, as well as proactively helping them enhance capabilities in adaptation planning, scientific monitoring, risk assessment and proactive adaptation. The coming COP30 brings nature back. Although the "ancient wisdom" of both sides highlighted the balance between humans and nature, there is relatively little cooperation between China and the EU in this area. Currently, only the mechanism of the China-Germany Track II Dialogue (T2D) on climate change and sustainable development has opened a working group on climate change and biodiversity. China and the EU should deepen dialogue, research and cooperation on the synergy between climate change and biodiversity, including nature-based solutions. This synergetic topic can be a starting point to study how to effectively promote the implementation of the Kunming-Montreal Framework at the national level through institutional mechanisms, local demonstrations and capacity building.

Finally, China and the EU should act as twin engines to mobilize more bottom-up climate actions. China and the EU should expand mutual openness, consolidate existing cooperation mechanisms and create new growth points for cooperation. Through cultural and people-to-people exchanges, local collaboration and educational cooperation can be promoted, and climate dialogue and cooperation between the two sides can be enhanced. Cooperation to build up governance on just transition in the process of decarbonization can benefit more vulnerable people. Evidence from existing China-EU initiatives (e.g., rural women-led recycling projects in China and gender-focused climate workshops under the China-EU Gender Equality Dialogue) shows that inclusive policies improve climate resilience.[25] Strengthening such actions through dedicated funding and gender-specific training, for instance, can bridge gaps in decision-making while aligning with global climate justice goals. Last but not least, there is the hope that in future young people from China and the EU can play a more active leadership role in joint climate action.

As two pillars of multipolarity, engines of globalization and stewards of civilizational diversity, China and the EU are uniquely positioned to restore global confidence and hope in climate action and sustainable development. Their joint leadership shows that strategic cooperation can transcend geopolitical divides. By deepening technical collaboration while balancing competition, they can model a path to reconcile prosperity with planetary boundaries.

[25] Jeff, 2023.

Glossary

1+N Framework	China's policy framework for achieving carbon neutrality, consisting of one long-term overarching plan ("1") plus sectoral/subnational action plans ("N")
AI	Artificial Intelligence
BRI	Green Belt and Road Initiative: China's global infrastructure project, with an evolving focus on incorporating green, sustainable development principles
CANGO	China Association for NGO Cooperation: A Chinese network that supports the work of environmental and development NGOs through partnerships and advocacy.
CAP	Common Agricultural Policy: The EU's farming policy, providing subsidies and support to farmers while promoting sustainability and rural development.
CBAM	Carbon Border Adjustment Mechanism: An EU policy to put a carbon price on imports of certain goods to prevent "carbon leakage" and encourage cleaner production globally.
CCER	China Certified Emissions Reduction: A voluntary carbon credit scheme in China for projects that reduce greenhouse gas emissions.
CDM	Clean Development Mechanism
China4C	China Center for Climate Communication: A Chinese think tank aiming to improve public awareness and communication around climate change issues.
Climate Adaptation	Climate adaptation refers to adjustments in natural or human systems to minimize the negative impacts of climate change or to take advantage of potential opportunities. In agriculture, this often involves changing practices, technologies, or management strategies to maintain productivity and resilience under shifting climatic conditions.
Climate Mitigation	Climate mitigation refers to efforts to reduce or prevent the emission of green house gases, aiming to slow down or limit the extent of climate change. In agriculture, this includes practices like improving feed efficiency, managing manure or adopting low-emission technologies to reduce the sector's carbon footprint.
CNA	Carbon Neutrality Action: A term used for initiatives—particularly in China—working towards reaching net-zero carbon emissions.
COP21:	2015 Paris Climate Conference: The 21st UN Climate Change Conference where the Paris Agreement was adopted committing countries to limit global warming.
CRMA	Critical Raw Materials Act
CTIPs	Clean Trade and Investment Partnerships: Initiatives or agreements aimed at promoting low-carbon trade and sustainable investment flows.
NDC	National Determined Contribution
EC	European Commission

ECECP	EU-China Energy Cooperation Platform: A platform to promote energy dialogue and cooperation between the EU and China, with a focus on clean energy.
EEP	China-EU Energy and Environment Programme
ESABCC	European Scientific Advisory Board on Climate Change: An independent expert group that advises the EU on climate policy based on the latest science.
EESC	European Economic and Social Committee: An EU advisory body that represents employers, workers, and civil society in EU policymaking.
EGD	European Green Deal: The EU's strategy to become climate-neutral by 2050, covering energy, transport, farming, biodiversity, and more.
EIB	European Investment Bank: The EU's lending arm that funds projects supporting EU policy goals, including climate action and sustainable development.
EU ETS	Emissions Trading System: Cap-and-trade scheme covering power, industry, and intra-EU aviation since 2005. Sets a total emissions cap with tradable allowances.
EU ETS II	Second EU ETS (from 2027). New EU carbon market for buildings, road transport, and small industry. Targets emissions at consumer level; linked to the Social Climate Fund.
China ETS	China's National Emissions Trading System. Launched in 2021, currently covers the power sector. Uses an intensity-based system (emissions per unit of output), with plans to expand.
Fit For 55 Plan	EU package of legislative proposals to reduce greenhouse gas emissions by at least 55% by 2030.
FYP	Five Year Plan: China's main economic and social planning tool that sets goals and priorities, including for climate and green growth.
GBF	The Global Biodiversity Framework is an international agreement adopted under the Convention on Biological Diversity to guide global action on biodiversity through 2030. It sets targets to halt and reverse biodiversity loss, promote sustain able use of natural resources, and ensure equitable sharing of benefits from genetic resources.
GHG	Greenhouse Gases are gases that trap heat in the Earth's atmosphere, contributing to global warming and climate change. Key GHGs include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), which are commonly emitted through activities like burning fossil fuels, livestock farming, and fertilizer use.
GIP	Green Investment Principles: Principles developed for greening investments under the BRI, promoting environmental and social sustainability.
HECD	High-Level Environment and Climate Dialogue: Bilateral talks between the EU and China focused on cooperation in climate and environmental policy, launched in 2020.
JTM	Just Transition Mechanism: An EU tool to support regions and workers affected by the shift to a green economy, ensuring fairness in climate action.

LULUCF	Land Use, Land-Use Change, and Forestry: A sector covering how land and forests are used or changed, which affects carbon emissions and removals.
MFF	Multiannual Financial Framework: The EU's long-term budget that sets funding priorities, including for climate, agriculture, and development.
MoU	Memorandum of Understanding: A formal, non-binding agreement between two or more parties to collaborate on shared objectives.
MRV	Monitoring, Reporting and Verification: It summarises the process by which we can track, record, and validate the data associated with targets and objectives.
MSs	Member States of the European Union.
NbS	Nature-Based-Solutions: Actions that protect, manage, or restore ecosystems to address societal challenges like climate change, biodiversity loss, or food security.
NCQG	New Collective Quantified Goal for climate finance is a global climate finance goal of $300 billion annually that the UNFCCC parties committed to deliver to developing countries by 2035.
NDC	Nationally Determined Contribution: Each country's plan under the Paris Agreement outlining how it will reduce emissions and adapt to climate change.
NDICI	Neighbourhood, Development and International Cooperation Instrument: An EU funding tool for external action, supporting sustainable development, climate goals, and partnerships with non-EU countries.
NECPs	National Energy and Climate Plans: EU countries' 10-year plans detailing how they'll meet energy and climate targets under the Energy Union.
NGO	Non-Governmental Organization.
SCF	Social Climate Fund: An EU fund designed to help vulnerable households, small businesses, and transport users adjust to rising carbon prices under green policies.
T2D	Track II Dialogue: Regular informal exchanges between Chinese and German experts on climate.
UN	United Nations.
UNFCCC	United Nations Framework Convention on Climate Change: The main international treaty on climate change under which the Paris Agreement and COP meetings are held.
WMO	World Meteorological Organization: A UN agency coordinating global efforts on weather, climate, and water-related data, forecasting, and early warning systems.

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This work has been produced with the financial support of the LIFE Programme of the European Union. The paper reflects only the views of its authors and not the donors.