

Paradigm Shift Urgently Needed to Combat Global Climate Crisis

2024 Experts' Position Report on Climate Change

Executive Summary

By RIEco Team^①

Currently, global climate change stands at a dangerous crossroads. Carbon emissions persist in their upward trajectory, leaving a large emissions gap in achieving global carbon neutrality. The timeframe for reaching the 1.5°C threshold is quickly dwindling. The COP29 set "Enhanced ambition and enable action" as the twin pillars guiding its vision. As Einstein pointed out, "We cannot solve the problems by using

① *Disclaimer:* This report was completed by the research team at Research Institute for Eco-civilization (RIEco) at Chinese Academy of Social Sciences (CASS), and its views represent the research team and may not necessarily represent the views of the institution where they are affiliated. The project (YZD2024001) is led by Prof. Yongsheng Zhang (ys_zhang@cass.org.cn) .

the same kind of thinking when we created them." To enhance ambitions and enable action, a fundamental paradigm shift for development is urgently needed. This report delves into the underlying issues that impede ambition and action, presenting experts' position and proposals aimed at tackling the climate crisis.

I. Position

- 1** Rethinking the relationship between climate and economy. The ultimate objective in addressing climate change is to "prevent dangerous anthropogenic interference with the climate system." (UNFCCC, 1992). However, current decisions on tackling the global climate crisis are largely influenced by economic considerations rather than scientific ones, leading to unsustainable outcomes. It is imperative, therefore, to rethink the development paradigm that has caused these unsustainable crises since the Industrial Revolution.

According to the UNFCCC, the ultimate objective is "to achieve stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system." Accordingly, what constitutes "dangerous anthropogenic interference" or "the extent to which global climate can change" should be determined by scientific evidence, not narrow economic cost-benefit analyses. The role of economics in addressing climate change should be to explore how to achieve scientifically-set goals in the most cost-effective way, rather than prioritizing economic interests over scientific facts. Failure to do so will ultimately result in climate disasters that jeopardize "economic interests."

The dominant perception of the relationship between climate and economy is essentially anthropocentrism, a mindset that has prevailed since the Industrial Revolution and inevitably led to the climate crisis. Human bounded rationality is incapable of resolving such a complex and systemic crisis once it arises; avoiding disaster is the greater wisdom. Thus, it is necessary to reassess long-standing economic philosophies, reposition the relationship between climate and economy, and integrate human economic activities into a framework of climate safety. This entails rethinking fundamental development questions, including why, what and how to develop, and redefining the concept of development itself.

2 The Global consensus and action on carbon neutrality require a new economics of climate change. Addressing the climate crisis necessitates theoretical guidance, yet traditional economics of climate change fail to provide adequate support for global carbon neutrality or policy narratives for the emerging green opportunities and green modernization.

The typical neoclassical approach to climate change economics seeks an optimal solution by balancing the benefits of emission reduction (or losses from climate change) against the costs of reduction. Any further emission reductions beyond this point are viewed as deviations from optimality, making emission reduction a perceived burden on economic growth. Since the benefits of reduction are global while the costs are local, addressing climate change becomes a zero-sum game of "burden-sharing" among nations.

Due to the limitations of research paradigms and marginal analysis method, traditional approaches fail to theoretically foresee that "additional emission reductions" could drive the economy towards a more competitive

structure, thereby missing the opportunity for reductions to become a driver of economic growth. For instance, the transition from the traditional "fossil fuel vehicle – gas station" structure to the "electric vehicle–charging station" structure. Standard climate change economics define the benefits of emission reduction solely as the avoided climate losses, therefore theoretically excluding the possibility that reductions could propel the economy into a more competitive structure. Consequently, emission reduction is unlikely to be viewed as a new opportunity for economic growth, and its benefits are vastly underestimated, as they are only seen as reductions in losses. This turns climate change negotiations into a zero–sum game of burden–sharing rather than a cooperative endeavor to create and share opportunities of green transformation.

This conclusion about the burden of emission reduction does not reflect reality. Currently, over 140 countries, accounting for more than 80% of the global economy, emissions, and population, have committed to carbon neutrality. Notably, about 70% of these countries are developing. This marks a disruptive shift from the "emit first, clean up later" development model established after the Industrial Revolution, suggesting that later–developing countries can achieve economic growth through green and low–carbon pathways. Decision–makers in these countries are more acutely aware of the dangers of climate change and the feasibility of response measures than ivory–tower economists, and their decision–making goals and constraints are more grounded in reality.

3 Understanding the opportunities and mechanisms of green transformation requires new thinking. The "creative destruction" process of green transformation represents a "0 → 1" leap with self–fulfilling characteristics. However, just as we cannot comprehend the industrial economy with the

mindset of the traditional agricultural era, we cannot grasp the unprecedented green transformation humanity is undergoing with the economic thinking of the traditional industrial era. Without a new vision for the green economy, it cannot emerge.

This "0 → 1" process of green economic transformation necessitates breaking the vicious cycle of "no green evidence, no green action; no green action, no green evidence." Yet, marginal analysis of traditional neoclassical economics struggles to comprehend this "0 → 1" topological change in the economy. Without foreseeing this potential green leap, it is challenging to take green actions, and green growth will not be materialized. Conversely, with theoretical foresight and a vision for green development, green actions will be undertaken, and the green vision will be realized. Therefore, new visions and theories are indispensable for green development.

Our thinking and knowledge system about economic development, formed in the traditional industrial era, have unknowingly trapped us in a Plato's cave allegory. Once we "think outside the box", many economic theories from the industrial era that we once held as gospel may need to be revised. Many theories and decisions confidently held by people may be based on false assumptions. Behind the climate crisis lies the crisis of the traditional development paradigm established after the Industrial Revolution. Addressing the climate crisis, therefore, requires a shift in research paradigms and the construction of original knowledge system about development within this new paradigm.

- 4 The greatest impediment to achieving global carbon neutrality is not the infeasibility or high cost of low-carbon technologies but the barriers

posed by the old economic system, forged in the traditional industrial era, to the new green economic system. If the adoption of existing green technologies and renewable energy can be accelerated globally, the pace of global green transformation will significantly accelerate, and the climate crisis will be effectively mitigated. However, due to intertwined complex factors leading to misconceptions, trade protectionism has emerged as a major obstacle to climate change mitigation and green transformation.

Currently, competition in green industries is at the forefront of a new round of global competition. Simultaneously, protectionism is being utilized as a tool to promote domestic green industries in many countries, especially in developed countries. However, the most effective way to bolster domestic green industries and employment is not through protectionism but through opening up. Imposing high tariffs and investment barriers on foreign green products, such as renewable energy and electric vehicles, to accelerate the development of domestic green industries will only backfire. Not only will it fail to promote domestic industry development, but it will also significantly hinder the achievement of global climate goals. Meanwhile, the root causes behind protectionism and anti-globalization need to be seriously addressed, including how to promote local employment, equity, and environmental protection through green trade and investment.

China's past experience serves as a testament that protectionism does not foster industrial development. In the 1980s, to accelerate its industrial growth, China protected certain industries, but those industries did not thrive as a result. Instead, it was subsequent open competition that drove industrial expansion. For example, China's open policy in the electric vehicle sector, which

welcomed the competitor Tesla, greatly facilitated China's "lane-changing overtaking" in the electric vehicle industry. Interestingly, some countries now appear to be repeating China's outdated practices from the 1980s by imposing high tariffs and investment barriers on Chinese renewable energy and electric vehicle products. Clearly, any attempt to isolate one's own industry from China's electric vehicle supply chain, which currently leads the world, will only impede the progress of that industry.

5 Addressing climate change is not only energy conservation and emission reduction; it embodies a comprehensive and profound green transformation. This endeavor necessitates not only the reduction of carbon emissions but also the integration of ecosystems, environmental degradation, and resource consumption into the framework of climate change governance. A narrow focus on carbon reduction alone may not ensure sustainable development and could potentially exacerbate ecological crises, environmental harm, and resource depletion, thereby escalating the unsustainability crisis.

In the interconnected eco-environmental system, any component—climate change, biodiversity, the environment, or resources—that exceeds environmental thresholds can undermine the stability of the entire system. Actions targeting improvements in one subsystem may yield benefits or detrimental effects on others. While carbon emission reduction offers co-benefits in reducing certain pollutants, its overall environmental impact depends on the aggregate of various positive and negative consequences. Currently, analyses of these co-benefits are inadequate to provide the theoretical foundation required for achieving synergy between carbon emissions, ecology,

the environment, and resources.

Renewable energy's impact extends beyond its direct effects on resources and the environment throughout its production lifecycle; it also indirectly influences resources and the eco-environment by stimulating the consumption of other products through its utilization. Particularly if renewable energy becomes extremely affordable in the future, its widespread adoption could drive significant increases in the consumption of "other products." For instance, the per capita energy consumption of US residents is six times that of China and three times that of Japan. Even with a complete transition from fossil to renewable energy, the global adoption of the US lifestyle is unsustainable, as it leaves a substantial resource and environmental footprint beyond energy consumption. Thus, mere zero-carbon energy is insufficient for sustainable development; a fundamental shift in the development paradigm is imperative.

6 The rise of China's new energy-related industries signifies a phenomenal success. It not only exemplifies the immense potential of green growth but also validates the viability of global carbon neutrality. More importantly, the success of these industries is a testament to market forces, primarily driven by China's innovative entrepreneurs and internet companies, and honed through intense market competition. Attributing China's green industry success to government subsidies and unfair competition reflects an outdated perspective that fails to grasp the phenomenon of China's green economy.

Over the past decade, especially since China's 2020 announcement of its carbon peaking goals before 2030 and carbon neutrality goal before 2060, new market expectations have propelled dramatic cost reductions in new energy and

electric vehicles, fostering explosive growth in related industries. Currently, their costs are competitive with fossil fuels and traditional internal combustion engine vehicles. China's success is attributed to the market's decisive role and the government's effective functioning. Just as "the stone age did not end due to a shortage of stones," traditional industries, represented by fossil fuels and internal combustion engine vehicles, are inevitably fading from the historical stage. The ultimate transition from fossil fuels is not driven by their depletion but by their contribution to climate change and their inability to compete with rapidly advancing new energy and green technologies.

7 The international community seems have underestimated China's determination, efforts, and contributions to global climate change mitigation, as well as the global significance of its green exploration. China's ecological civilization construction is a testament to arduous exploration and significant sacrifices. Its valuable experience and knowledge gained through the development process deserve full international recognition.

China's contribution to global climate change mitigation is evident not only in its commitment to carbon neutrality as the largest developing country, but also in the rapid development of its new energy industries, which has substantially reduced the cost of global energy transformation and facilitated global consensus and action on carbon neutrality. Over 140 countries have now committed to carbon neutrality in various forms, a direct result of the significant cost reduction in new energy, made possible by China's new energy industry chain. Without this chain, achieving global carbon neutrality goals on schedule would be impossible.

China has a strong consensus on fighting climate change, viewing it as in its own national interest. The country has transitioned from "being asked to reduce" to "wanting to reduce." President Xi Jinping emphasized, "Addressing climate change is not an external imposition; it is our own aspiration." China's domestic green transformation efforts and international carbon neutrality commitments share a consistent logical framework. The international community shall fully comprehend this.

II. Proposals

Global climate change stands at a perilous juncture. It requires new thinking, vision, and global leadership to drive effective climate governance. On the occasion of COP29, to accelerate the promotion of global carbon neutrality and green transformation, we propose the following:

1. Redefining the relationship between climate and the economy. Shift beyond anthropocentrism thinking that prioritizes humanity over nature and align with the "ultimate objective" of the UNFCCC to "prevent dangerous anthropogenic interference with the climate system." Let scientific consensus, rather than short-sighted or narrow economic interests, dictate the goals and pathways for addressing climate change.

2. Foster a new narrative for "cooperative and win-win" climate change policies among nations. Countries should enhance emission reduction efforts through a new round of Nationally Determined Contributions (NDCs), promoting a paradigm shift from a "burden-sharing" zero-sum game to a cooperative and win-win "opportunities-sharing" green development.

3. Enabling the developing countries to achieve harmonious

modernization with nature through new low-carbon and green approaches, and share the vast opportunities of green development with the global community. For achieving this, developed countries should fulfill their financial and technological support obligations to developing countries through mechanisms like the New Collective Quantified Goals (NCQG).

4. Eliminate trade barriers, including Carbon Border Adjustment Mechanisms (CBAMs), imposed under various pretexts, and promote free trade and investment in green products such as new energy and new energy vehicles. This will foster the global green economy, employment, and green innovation, accelerating the pace of global green transformation.

5. Acknowledge China's significant contributions to global green transformation. The hard-earned experiences, lessons learned, and development knowledge gained from China's exploration of green transformation and ecological civilization construction hold immense value and can serve as global public knowledge products for the benefit of all humanity.

【 Note: An internationalized RIEco team (YDZ2024001) led by Prof. Yongsheng Zhang (ys_zhang@cass.org.cn) is conducting systemic theoretical and empirical research on climate change in an alternative research line. This position report is a brief introduction of the perspective produced based on their research. 】