Chapter 12
Carbon Financing and the Sustainable Development Mechanism:
The Case of China

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ABSTRACT

China has been one of the largest global emitters of carbon dioxide (CO2). As a result, the country is committing itself to implement the 2030 Agenda for Sustainable Development. The attention that is being paid to the serious problem of climate change has increased manifold. Corresponding policies are introduced in relation to the financing of carbon. In particular, in the wake of the announcement that China would be going carbon neutral before 2060, concrete efforts are being consistently made towards carbon emission reduction. Policies and measures related to carbon finance are being continuously promulgated, and a national carbon emission trading market too has been established on July 16, 2021. This chapter gives a brief overview of the carbon market, carbon finance, and its policies in the context of sustainable development. It also examines the approach towards the future development of the carbon finance market by discussing in detail the existing deficiencies and areas of improvement.

INTRODUCTION

People's Republic of China (PRC), a world-renowned producer of industrial goods, has today become the world's largest emitter of carbon (Dudley, 2019). Between 2000 and 2016, China's CO_2 emissions grew by an average of more than 11% on a yearly basis with CO_2 emissions almost tripling in a very short span of time (Figure 1). It has been reported that in the year 2016, nearly 30% of global CO_2 emissions came from China (The World Bank, 2021). Though, it is the manufacturing industry that is generally held liable for the majority of CO_2 emissions, but in recent years, the tertiary industry too is being recognized as the main source of CO_2 emission in China (Wang *et al.*, 2020).

Figure 1. China's carbon emissions and its share in the world total carbon emissions from 2000 to 2018 (Unit: $MtCO_2$)
Source: https://www.climatewatchdata.org/
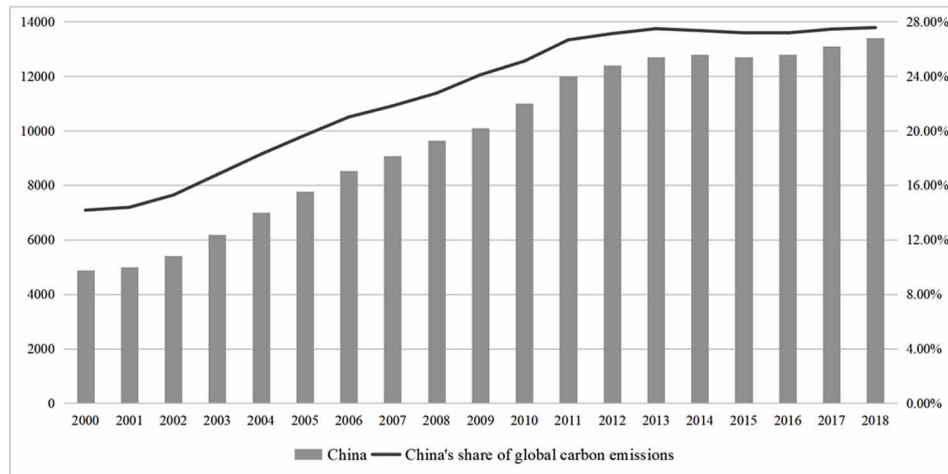
Cities are mostly a hub for human activities and at the same time for the consumption of fossil fuels and emission of CO_2 as well (Chen *et al.*, 2020; Meng *et al.*, 2019). In order to tackle climate change and reduce emissions, China as a country will have to bear heavy responsibility for introducing significant changes in its economy for energy conservation (Chen & Zhu, 2019; Liu & Bae, 2018). Driven by a decline in overall carbon intensity and a rise in inter-city carbon inequality, 41.38% of provinces and 49.65% of cities are still under great pressure to reduce carbon emissions. These cities emit carbon dioxide at a higher than the average level than the most parts of the country (Cheng *et al.*, 2020).

Since the past decade, China's primary energy consumption has been rising. Even if the elasticity coefficient of China's energy consumption drops below 1, or even stabilizes below 0.6 for a long time, it can still be concluded that China's GDP growth is inseparable from a large amount of energy consumption. In addition, China's energy production is characterized by huge differences at the provincial level. All these factors have become roadblocks to China's efforts to reduce its overall percentage in carbon emissions (Figures 2 and 3).

It is widely accepted that CO_2 emissions are the macro determinants of environmental quality (Leal & Marques, 2020; Nidhaleddine *et al.*, 2021), and serious environmental problems have resulted into

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