Time for health to enter China's climate action framework

In 2015, the Paris Agreement was globally adopted by nearly every country at the UN Framework Convention on Climate Change 21st Conference of the Parties. Key to the climate actions under the Paris Agreement is the nationally determined contributions (NDCs), a declaration with broad and specific plans for measures in adaptation (reducing vulnerabilities in a changing climate) and mitigation (reducing the emission of greenhouse gases).[1] The National Development and Reform Commission, an agency with a strong visible hand on economic developments, drafted China's NDC, putting forth its voluntary targets: achieve peak carbon dioxide emissions by 2030, making best efforts to peak early; reduce carbon dioxide emissions per unit of GDP by 60–65% from the 2005 level; increase the share of non-fossil fuels in primary energy consumption to about 20%; and increase the forest stock volume by around 4·5 billion m^3 versus the 2005 level.[2]

The political priority of these commitments is reflected in China's 13th 5-year plan (2016–21), which included chapters dedicated to responding to climate change and developing green and environmentally friendly industries.[3] Econometric analysis based on trends indicates that a deceleration in China's emission trajectory is needed to meet the targets. China's emissions are likely to peak before 2030 and the implementation of power-sector reform and a national emissions-trading system will be needed.[4,5] Progress in these efforts are visible on the streets of Chinese cities, for example in the increasing presence of electric vehicles, marked by their green license plates, and mandatory waste recycling in some cities.

A crucial and under-recognised externality in China's climate action is the immediate and long-term co-benefits for population health. Fossil fuels are a common source of greenhouse gases and air pollution. Many regions of China have $PM_{2.5}$ levels far greater than the WHO-recommended level. Greenhouse gas mitigation-mediated reductions in air pollution can reduce premature death due to non-communicable diseases such as stroke, heart disease, COPD, lung cancer, and Alzheimer's disease.[1] Furthermore, increasing forest stock to act as a carbon sink through photosynthesis will lead to downstream public health benefits. Forests and greenness improve both physical and mental health by reducing stress, promoting physical activity, and preventing mortality.[6] Policy makers need to be made more aware of these co-benefits for health of greenhouse gas mitigation, which are supported by cost–benefit analyses.[7,8] Ultimately, climate change mitigation can contribute to China's Healthy China 2030 plan to increase its citizens' life expectancy from 76 years in 2015 to 77 years by 2020 and 79 years by 2030.

Health can be a double-edged sword. Although climate change mitigation has positive effects on health, achieving and maintaining a healthier population will require more health-care services. The health-care sector generates greenhouse gases from care delivery, product procurement, technological equipment use, and from a carbon-intensive supply chain of manufacturing, transportation, and waste disposal. Although there are no extensive measurements of the health-care sector carbon footprint, some estimated that in China, as with Organisation for Economic Co-operation and Development countries and India, health care accounts for 5% of the national carbon dioxide footprint, similar to the outputs of the food, aviation, or shipping sectors.[9] In advanced economies, the burden is even greater; the USA health-care sector was estimated to contribute to 8·0–9·9% of total national greenhouse gas emissions, and the UK NHS carbon footprint is equivalent to 39% of public sector emissions.[10] With China's ageing population and the rising epidemic of non-communicable diseases, the health-care sector emission trajectory will only increase.

Each member of the Paris Agreement is scheduled to communicate an updated NDC by 2020. Countries should recognise the health co-benefit of mitigation of greenhouse gas emissions and target the health-care sector mitigation efforts. China in particular should involve more governmental entities to enhance ownership of the NDC beyond the National Development and Reform Commission and create policies in conjunction with the 25 other cabinet-level executive departments. As the countdown to the second NDC begins, the question of whether China will lead in climate action will soon be answered.

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