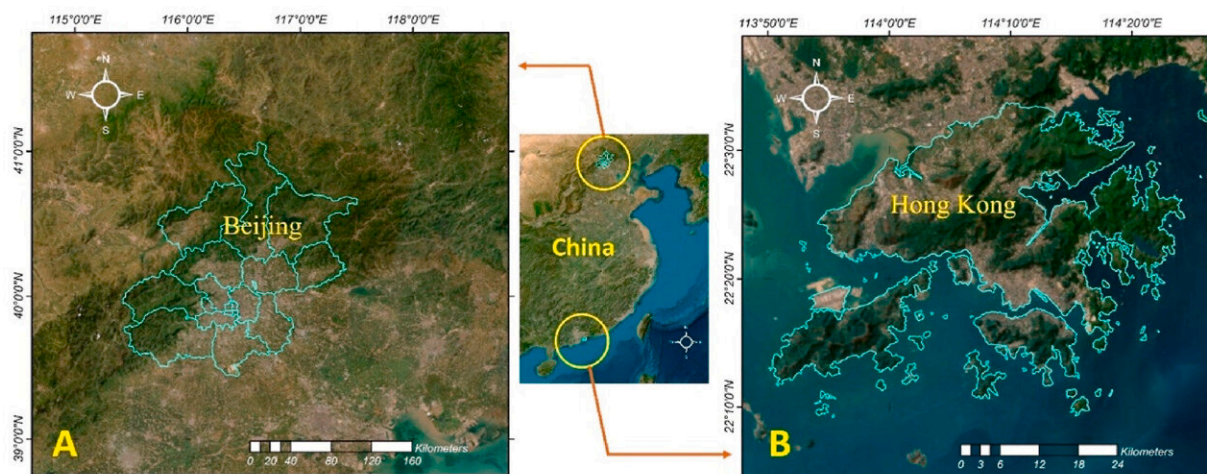


Sensitive interventions to catalyze China's net-zero transition in energy and transport

April 5 2024



Geographical location and administrative boundaries of (a) Beijing and (b) Hong Kong in Eastern China. Credit: *Journal of Cleaner Production* (2024). DOI: 10.1016/j.jclepro.2024.141681

The global energy transition could happen sooner than anticipated if sensitive intervention points are used to deliver China's carbon neutrality policy at the city-level, researchers from the University of Oxford and The Chinese University of Hong Kong outline.

China, the world's largest producer of [greenhouse gases](#) accounting for 27% of [global emissions](#), made a surprise pledge at the 75th UN General Assembly to achieve carbon neutrality by 2060, boosting hopes for a

pathway to global net-zero.

However, a group of researchers, led by Sum Yue Chung, have shown that China could potentially achieve its target faster through targeting a small number of sensitive intervention policies in its major cities.

In their research, [published online](#) in the *Journal of Cleaner Production*, the group interviewed energy experts from the regulator, academia, industry and green groups in Beijing and Hong Kong to canvas opinions on the most important policies for decarbonization. The aim was to understand how local policy measures can be prioritized for disproportionately large emissions reductions.

The results have shown that some interventions are likely to work much more effectively than others; and that policies focusing on generating and importing [renewable energy](#), electrifying [public transport](#) and [private vehicles](#), and tightening building energy efficiency could pay large dividends in Beijing and Hong Kong. The full ranking list of interventions can be found in the paper.

Lead author, Sum Yue Chung of the School of Geography and the Environment at the University of Oxford said that policymakers can leverage complex system dynamics to identify policies that can achieve disproportionately large impact.

"While cities are influenced by global or national sensitive intervention points, this study strives to explore those that underlie concrete actions by local actors in the hope of accelerating decarbonization and enriching the body of climate [policy](#) research with city-level insights and multi-level perspectives."

"Multiple interviewees iterated the political implications of the Chinese President announcing a carbon neutrality goal. The magnitude of the

changes required by the announcement has not only been felt by Beijing regulators but also by academics in Hong Kong."

"One respondent framed carbon neutrality as a 'grand target that changes national development goals,' driving a total revolution of China, with the announcement indicating that China has entered in the global race for net zero technological advancements."

"This research provides the framework not only to achieve this, but to deliver it faster than 2060."

Matthew Ives, Associate at the Institute for New Economic Thinking the Oxford Martin School at the University of Oxford, said the research could have significant implications for the speed of the coming energy transition.

"China, with over a quarter of global emissions, is also leading the world in production and deployment of clean energy technology. They therefore hold the key to the world rapidly tackling [climate change](#) and delivering a global net zero."

"In this research we show that with a targeted approach, China and by extension the world, can achieve its climate goals faster."

"Decarbonization policies related to energy technology, engagement, financial market, institutions, legal and urban configuration all have the potential to achieve this."

"Renewable technologies are key, as the more we deploy, the more we learn, and the more costs decline. With rapid cost declining trends in solar PV and [offshore wind](#), Hong Kong should be proactive and follow Beijing's lead in importing more green energy."

More information: Sum Yue Chung et al, Accelerating carbon neutrality in China: Sensitive intervention points for the energy and transport sectors in Beijing and Hong Kong, *Journal of Cleaner Production* (2024). [DOI: 10.1016/j.jclepro.2024.141681](https://doi.org/10.1016/j.jclepro.2024.141681)

Provided by University of Oxford

Citation: Sensitive interventions to catalyze China's net-zero transition in energy and transport (2024, April 5) retrieved 21 May 2024 from <https://phys.org/news/2024-04-sensitive-interventions-catalyze-china-net.html>

| |
|--|
| <p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p> |
|--|