

PRESS RELEASE

Researchers Call for Disrupting “Business-As-Usual” Power Systems with Low-Carbon Energy Sources to Ensure Energy Security and Decarbonise

HONG KONG, 06 October 2021 – Hong Kong can maintain energy security and work toward decarbonizing its economy by diversifying its regional power sector portfolio and scaling-up domestic renewables, according to a report released today.

The report, from Civic Exchange (CEX), an independent public policy think tank, and World Resources Institute (WRI), a global research organisation, considers the range of low-carbon power sources including nuclear, renewables and emerging green technologies such as green hydrogen.

Power accounts for 66% of the city’s total GHG emissions, making it the sector with the highest emissions-reduction potential. The report, *Powering a Carbon-Free Hong Kong*, studied five energy mix scenarios for decarbonising the power sector without sacrificing reliability.

Each scenario is considered against emissions, cost, air pollution, health, and energy security. The scenarios are aimed at stimulating dialogue towards achieving the city’s 2050 carbon neutrality goal.

“In 2020, the Chief Executive pledged to achieve carbon neutrality before 2050, making Hong Kong the first city in China with a time-specific carbon neutrality goal,” said Lawrence Lu, HK 2050 is Now lead for Civic Exchange, co-author of the report. “We have to act immediately, rapidly, and with greater ambition as suggested by the latest, Sixth Assessment, IPCC report. Without it, limiting global warming to close to 1.5°C or even 2°C will be beyond reach, and our city will suffer from more heatwaves, storm surges, and extreme weather events.”

The report analyses existing and emerging electricity generation technologies. However, it is extremely hard for the city to achieve our carbon neutrality target and maintain energy security because of our geographical constraints and limited natural resources.

Therefore, the report proposes increasing regional collaboration including importing renewable and nuclear energy through joint venture investments.

In the report, two out of the five scenarios, namely ‘Fossil Free’ and ‘Nuclear’, present the highest potential in avoiding and reducing GHG emissions.¹ “These results are based on a comprehensive examination of the technologies’ performances,” said Wee Kean Fong of WRI.

¹ ‘Fossil Free’ (10% local renewable, 60% nuclear, 30% hydrogen) and ‘Nuclear’ scenario (30% natural gas with CCS, 10% local renewable, 10% imported renewable, 50% nuclear)

Here are three immediate actions the Government can take:

Scale-up domestic wind and solar energy

Hong Kong's renewable energy has the potential to account for up to 10% of total energy consumption by 2050, which is higher than the current government target of 3-4%. We recommend a comprehensive examination of Hong Kong's renewable energy resources. The HKSAR government should also introduce financial incentives such as fiscal and taxation mechanisms to encourage the development of renewable energy by both utility and non-utility companies.

Increase imports of low-carbon energy from Mainland China

Building new nuclear power plants and offshore wind farms are at the top of Guangdong's energy development agenda. This provides opportunities for Hong Kong to increase its proportion of imported clean energy via regional collaborations. We recommend Government explore the feasibility of importing renewable and nuclear energy from Guangdong through joint venture contracts between power companies or under power purchase agreements with China.

Further scale-up waste-to-energy facilities

WtE technology is an invaluable domestic renewable resource which offers a solution to both waste management and GHG emissions issues. We recommend Hong Kong to consider increasing the proportion of WtE in its energy mix. Government should include a WtE target in the SoC Agreements as a statutory duty for both power companies and request them to develop WtE facilities at their plant sites.

Furthermore, the Government should consider the following actions before 2030 to show greater ambition in decarbonisation: **Explore the potential of large-scale "green" hydrogen utilisation, enhance grid balancing and energy storage to accommodate a broader energy mix, explore the possibility of CCS technology deployment, and continue to improve the electrification level of the whole society.**

Civic Exchange board chair, Evan Auyang said that "Although there is no 'silver bullet' in achieving Hong Kong's carbon neutrality vision, the Government should consider our recommendations; any delay will likely jeopardise our progress."

The Civic Exchange and WRI power report was developed from a year-long consultation in HK and with the Environmental Protection Department in an effort to support Hong Kong's carbon neutrality roadmap.

If fully adopted, the recommendations would help Hong Kong reduce its carbon emissions by 90% by 2050 relative to 2005 levels. The roadmap would also help Hong Kong meet its economic growth targets, rising societal demand and maintain energy security.



About Civic Exchange

Civic Exchange is an independent public policy think tank with a vision to shape a liveable and sustainable Hong Kong. Our mission is to engage society and influence public policy through research, dialogue and the development of practical solutions. Civic Exchange has been ranked among the top 50 environment policy think tanks in the world by the University of Pennsylvania since 2011.

About World Resources Institute

World Resources Institute (WRI) is a global research organization that spans more than 50 countries, with offices in Brazil, China, Europe, Ethiopia, India, Indonesia, Mexico, and the United States. Our more than 1,000 experts and staff turn big ideas into action at the nexus of environment, economic opportunity and human well-being. We work on seven urgent challenges: climate, energy, food, forests, water, cities and ocean. We deliver on these challenges in part through our expertise in business, economics, finance and governance.

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