



Sino-Swiss Cooperation on Zero-Emission Buildings in China

Building a zero-emission future



Country/Region
China

Xi'an, China. © Joerg Boethling / Alamy

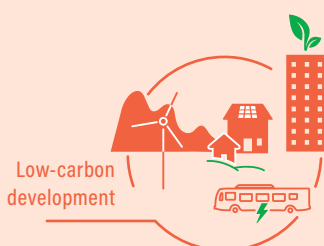
China's development of a carbon-neutral building sector as a key element in achieving a zero-emission future

Buildings and the construction sector account for almost 40 per cent of global energy-related CO₂ emissions. How a building is designed today will have an energy impact beyond 2050 because of its long lifespan.

China is the world's largest emitter of CO₂ emissions. Its building sector is the largest in the world and accounts for one third of China's energy consumption. Achieving the Chinese government goals of a carbon emission peak by 2030 and carbon-neutral development by 2060 and the international carbon-neutral goal by 2050 under the

Paris Agreement will require that the percentage of zero-emission buildings in the Chinese building stock reach an estimated 30 per cent by 2030 and 100 per cent by 2050. Hence, current building standards must move significantly towards zero emissions.

Both China and Switzerland have recognised the urgency and will work together to promote zero-emission building in China under a Memorandum of Understanding on the cooperation in Energy Efficiency in Buildings signed by the Chinese Ministry of Housing and Urban-Rural Development and the Swiss Federal Department of Foreign Affairs.



Low-carbon
development

Duration

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Financial contribution of SDC

CHF 4,582,000

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Project Objectives

The project aims to reduce greenhouse gas emissions and enable the carbon-neutral development of the building sector in China by sharing Swiss know-how on sustainable and zero-emission buildings.

Strategy

The project will first support China in formulating the highest voluntary standards in China – the Zero-emission Building Technical Standards, which will then influence the revision of the compulsory standards. This strategy follows the successful experience in Switzerland, where the compulsory standards have been improved in the Cantons along with updates of the voluntary standards. The project is also advising China in making its 2030 carbon peak and 2060 carbon neutrality pathways for Chinese building sector with a reference to the Swiss experience, in order to make clear timeline for accelerating the standards enhancement and policy incentive.

In parallel, the project will provide technical assistance to demonstration buildings financed by public or private investors and subsidised by local governments, an approach that gives the project a multiplier effect by leveraging investments and government subsidies. Targeted capacity-building will equip decision makers and professionals with tools and skills to design, construct and promote zero-emission buildings.

With higher standards, more channels for investment and the enhanced capacity of professionals, the share of zero-emission buildings in China will continue to increase even after the project ends.

Expected Outcomes

- More ambitious Chinese standards for energy-efficient buildings and for carbon emissions
- Substantial investments to construct new or retrofit existing buildings according to zero-emission standards
- Strengthened capacity to reduce emissions in buildings
- Dissemination of joint Sino–Swiss know-how

Partners

Ministry of Housing and Urban-Rural Development of the People's Republic of China (MOHURD)

Institute of Building Environment and Energy Efficiency of the Chinese Academy of Building Research (CABR)

Centre of Science, Technology and Industry Development of MOHURD (CSTID)

Chinese Association of Building Energy Efficiency (CABEE)

Intep Integrale Planung GmbH

SKAT Consulting Ltd

Swiss Federal Laboratories for Materials Science and Technology (Empa)

Lucerne University of Applied Sciences and Arts (HSLU)



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