



Energy efficiency



PUBLIC BUILDINGS RETROFIT ENERGY PERFORMANCE CONTRACT IN THE CITY OF WUHAN (CHINA, HUBEI PROVINCE)

FINANCING CLIMATE ACTIONS

With regard to the high urbanization in China (25 million new urban citizens per year), this is a pilot project in the context of the 12th five year plan (2011 to 2015): a 16 % decrease in energy intensity and a 17% decrease in carbon intensity of the chinese economy.

The project consists in the energy retrofit of 25 buildings (offices and administration, hospitals and universities) belonging to the City of Wuhan totaling a retrofitted area of 1 435 000m². A 20 million AFD (French Development Agency) loan finances the project.

The project takes part in the overall effort to reduce the carbon footprint of this large City. Noticeably it also contributes to develop the existing building comprehensive energy retrofit market.

Terao is a leading independent French green building engineering company active in France, China (since 2008) and worldwide (Bogota, Dubai, Africa...).



TERAO is a global consulting and engineering company involved for 20 years in energy efficiency and green building engineering.

The principle of Energy Performance Contracts is to share the risk of not reaching the targeted energy savings between the project owner and the Contractor. Energy savings are measured and verified during two years after retrofit and are compared to contractual terms. The Contractor has a defined liability in the event of underperformance. In case of underperformance, the Contractor has to pay a certain amount to compensate the project owner and ensure the project cost-effectiveness.

The average energy savings of the project is about 30%, with a 7 to 8 years payback period. Energy cost savings aim at paying the refurbishment loan.

The municipal library (first renovated building) energy savings exceed the planned objectives.



This approach, with the support of ADEME, aims a global reduction of 15 000 tCO₂éq per year. It also includes the training of operating and maintenance municipality staff, the public display of the results and a cooperation with European cities (Bordeaux, Lille, Echirolles, Energy Cities).



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