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# Investigation and Analysis on Present Situation of Existing Building Green Retrofitting in Public Institution

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## Abstract

In recent years, green building is booming, and with increasing public institution buildings "aging", energy consumption increased year by year, green retrofitting is imperative. Research selected 10 typical public institution buildings in different climatic regions in China to carry out research on green retrofitting projects, according to the basic situation before the retrofitting, the types and the retrofitting technology, the effect after the retrofitting and the existing problems, the author analyzes the present situation, characteristics and existing problems of green retrofitting of public institution buildings in China. Which will provide reference for the continuous improvement of the green building evaluation system and the technical system of existing buildings green retrofitting in public institution. Typical public buildings green retrofitting projects as shown.

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*Keywords: Public Institution building; Green retrofitting; Present situation of the retrofitting; Investigation and research*

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## 1. Introduction

Chinese existing building area has more than 50 billion square meters, of which green building area has only 162.7 million square meters, and there are problems like high resource consumption, environmental impact,

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working and living environment needs to be improved, the use of features to be improved and so on in the vast majority of non-green "stock" buildings. With the increasingly "aging" of public institution building, green retrofitting is imperative. In this paper, the basis for the evaluation of green retrofitting in public institutions and the establishment of the evaluation system for the green retrofitting in public institutions - the evaluation index system. Through the study of the basic theory of evaluation index system, we can determine the principles of indicators to build and select the basis for the combination of public institutions, green building retrofitting of the status quo analysis for Establishing the Evaluation Index System for Green Reconstruction of Public Institutional Buildings. (Fang and Diao 2002)

## 2. Methods

### *Present Situation of Existing Building Green Retrofitting in Public Institution project research*

In order to understand the status and characteristics of the exiting green building of public buildings, the survey has selected 10 typical public institutions and the green building renovation projects include 9 office buildings and 1 school. According to the basic situation before the retrofitting of the building, the effect of the retrofitting and the existing problems in the retrofitting, the present situation, characteristics and problems of the green retrofitting of the public institutions in China are analyzed. Figure 2.1 is a public agency project survey.



Fig. 2.1 The public institution building green transformation survey

## 3. Results

### *retrofitting of the status quo*

### *construction and retrofitting time*

In the survey of 10 public institutions, green building retrofitting project, the vast majority of buildings are over the age of 20 years, and the remaining few buildings are built more than 15 years. It can be seen that most of the public institutions in our country were built early, and the phenomenon of "aging" was widespread. Figure 2.2 is the construction of research and construction, retrofitting time. (Raymond W et al . 2006)

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