

PUBLIC WILLINGNESS TO PAY OF ENERGY EFFICIENT RESIDENCE IN BEIJING: AN EMPIRICAL ANALYSIS BASED ON THE CONTINGENT METHOD

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Overview

It is of significance to facilitate energy conservation in the residential sector that has been the second largest energy consumer following the industrial sector in China. Promoting energy efficient residence is an optional technical energy-saving measure as indoor activities (such as heating, cooling and cooking) constitute a large part of household daily energy consumption. However, the cost of building energy efficient residence tends to be more than that of ordinary residence. How to distribute the extra building cost between housing developers and homebuyers is the key issue to be addressed. The study estimates the residents' willingness to pay (WTP) for energy efficient residence by using the contingent valuation (CV) method based on 400 questionnaires issued in Beijing. What's more, the determinants of WTP have been investigated and the heterogeneity of WTP between different groups has been unveiled.

Methods

1. The contingent valuation method
2. Questionnaire method
3. Mlogit model

The questions are designed in questionnaire according to the contingent valuation method. Respondents are first to be asked that "would you like to spend more money to buy an energy efficient residence?" If the answer is YES, then respondents are asked to choose the accepted amount of money among multiple alternatives. Mlogit model is used to estimate the WTP of the respondents for energy efficient residence and the heterogeneity between different groups.

Results

The expected results are as follows:

1. The majority of residents have the positive WTP for energy efficient residence.
2. The estimated WTP ranges from 200-300 Yuan per square meters.
3. Education level, income level and environmental concern are main determinants of WTP.

Conclusions

The expected results are as follows:

1. The willingness to save energy is high since the majority of residents have positive WTP.
2. It would be practical to assign part of extra cost of energy efficient residence to homebuyers to ease the difficulty of promoting energy efficient residence.

3. Tailed-made and differential policy are more effective to adapt to the heterogeneity of WTP between different groups

References

[1] Zografakis, Nikolaos, et al. "Assessment of public acceptance and willingness to pay for renewable energy sources in Crete." *Renewable and Sustainable Energy Reviews* 14.3 (2010): 1088-1095.

[2] Kanninen, Barbara J. "Bias in discrete response contingent valuation." *Journal of environmental economics and management* 28.1 (1995): 114-125.

[3] Zhang, Lei, and Yang Wu. "Market segmentation and willingness to pay for green electricity among urban residents in China: The case of Jiangsu Province." *Energy Policy* 51 (2012): 514-523.

[4] Ek, Kristina, and Patrik Söderholm. "Norms and economic motivation in the Swedish green electricity market." *Ecological Economics* 68.1-2 (2008): 169-182.