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Standby Energy Use and Saving Potentials Associated with Occupant

Behavior of Chinese Rural homes

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Highlights

- It is the first study examining standby energy use (SEU) of rural Chinese homes.
- Improving occupant behavior was considered as a practical way of reducing SEU.
- A data mining-based method for estimating the saving potentials was developed
- Three scenarios have been considered to estimate standby energy savings.
- Barriers and recommendations to reduce standby loss have been proposed.

Abstract

A deep understanding of household appliance standby energy use (SEU) and associated saving potentials in Chinese rural areas is vitally important due to the huge amounts of households and appliances. However, to date, few study has been conducted and very little is known about the SEU. Meanwhile, existing methods of estimating such saving potentials have two limitations. Firstly, they primarily evaluated it through upgrading appliances while a more practical way of improving behavior should also be considered. Secondly, they do not take the impact of its influential factors into account simultaneously, and tend to significantly decrease the estimation accuracy. To address the above issues, an investigation on the appliance SEU and its influential factors in Chinese rural homes was first conducted. Then, a data mining-based method for estimating the saving potentials was proposed, and

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