

# Characteristics of Chinese Household Solar Energy

What are the key features of household energy consumption in China?

By employing both qualitative and quantitative methods, two key features of the household energy consumption in China are presented; one is regarding the total amount and the structure of the household energy consumption, and the second is the significant urban-rural gap.

Why is the household sector important in China's Energy Transition?

China's energy transition is taking place under the double pressure of energy security concerning its still growing economy and environmental protection. The household sector plays a critical role in the overall target of China's energy revolution as well as for meeting the needs of sustainability in the long run.

Should consumers adopt solar energy in rural China?

Despite the fact that China has effectively employed solar technology to address these problems, there is a paucity of research examining consumers' intention to adopt solar energy in the rural region of China.

Is there a knowledge gap in household energy consumption in China?

Household energy consumption has been a major contributor to the increase in global energy demand and carbon emission, and the household sector has also become one of the most crucial factors shaping the management of developments towards sustainability. However, there is still a knowledge gap regarding the household energy consumption in China.

Are household energy choice behaviors important in rural China?

Hence, it will be meaningful to investigate household energy choice behaviors in rural China. However, although the use of traditional biomass and coal has been declining, these energy sources still take up considerable share in rural residential energy consumption (Chu 2024).

How big is solar PV in China?

Solar PV of China accounted for about one third (174GW) of the global total installed capacity in 2018 and contributed to 3.5% of national total power generation in 2020 .

China is both the world's largest clean energy market and the world's largest polluter [1]. Driven by factors such as increased economic activity and rapid economic growth, by the end of December 2020, China's installed solar photovoltaic (PV) capacity had gone up by 260.5 billion kW [2]. However, nearly one-third of the world's CO<sub>2</sub> emissions also come from ...

Distributed solar PV contributes one third to total solar power generation in China, but household solar PV (HSPV) currently accounts for only 22% in the distributed solar market.

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Niu et al. (2019) estimated the consumption of biogas and solar energy by Chinese farmers and calculated the effective energy consumption, ... 2.4 Overall characteristics of household energy consumption in China. ...

Clean energy accounts for only a small proportion of total energy consumption in rural areas. From an objective point of view, the main factors influencing rural households' choice in clean energy are household characteristics (including education level, household income, and the age of head of household) and energy transition costs. From a ...

Previous researches indicated that the growing household consumption level is resulting in increasing emissions and wastes. Feng et al. (2015) found that the GHG caused by household energy consumption has represented more than 28% of all energy-related GHG in China. Ding et al. (2017) pointed out that the household sector had become the second largest ...

In contrast, China is a vast country with abundant solar, hydro, wind and other renewable energy resources. Under such circumstances, the Chinese government regarded the development of renewable energy as one of the most significant means to reduce the dependence on energy imports, as well as to reduce environment pollution.

China has excellent solar resources, especially in the western part of the country. While China's solar resources are best in the northern and western regions, in recent years more solar has been installed in the populous eastern areas of the country.

This study provides a new picture of how rural LIHs respond to China's solar energy adoption and policy. The rural community's primary concern in adopting solar PV is ...

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Distributed photovoltaic systems (distributed PV) enable rural households to replace traditional energy sources, reduce their household carbon footprint, and generate additional income. Due ...

Table 5 provides a comparison of household characteristics from the household survey of CCAP with the official statistics of the Sixth National Population Census of China and China Statistic Yearbook of 2019. The average household size of the sampled households are 3.8 persons in 2015 and 3.9 persons in 2018, with 59.6% and 58.8% male and ...

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China, the world's largest producer and consumer of coal, is the largest carbon emitter in the world and has faced the challenge of household air pollution (HAP) from the use of solid fuels (coal and solid biomass) for a long time, particularly in some remote rural regions (Yu and Guo 2023).

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