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中国农村能源消费的碳排放核算

Carbon emission accounting from rural energy consumption in China

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中文摘要:

中国农村能源消费的碳排放问题目前较少受到关注。该文在梳理中国农村能源与国家总体能源之间构成关系的基础上,系统核算了中国农村能源消费所引起的碳排放,分析其总量及结构的变化趋势以及在国家碳排放总量中的地位。结果显示,从1979至2007年,中国农村能源消费的CO₂排放已从8.89亿t增至28.74亿t,呈现快速增长的趋势,其主要来源是农村地区的煤炭和电力等商品能源消费的增加。中国农村能源消费的CO₂排放量在全国总排放中所占比重在40%~60%之间,2002年后虽有所下降,但2007年仍达40.99%。即使不考虑生物质能源的碳排放,其比重也维持在25%~48%之间,且总体上呈现倒U型的变化趋势(峰值点出现在2000年,比重为47.40%)。因此,农村地区的节能减排应成为国家节能减排工作的重要组成部分,碳减排不能忽视农村贡献。

英文摘要:

Rural energy related carbon emissions have not been considered sufficiently so far. Based on the interpretation of relationship between rural energy system and the national energy system, the carbon emission associated with rural energy consumption was calculated and analyzed with regard to their historical variances of total amount, structure and proportion of national energy related emission. The results showed that the CO₂ emissions in rural China have constantly increased from 8.89 × 10⁸ tons in 1979 to 28.74 × 10⁸ tons in 2007. Commercial energy has become the dominant force of CO₂ emissions in rural China, most of which is mainly derived from the consumption of coal and electricity. The proportion of carbon emissions from rural areas to nationwide has maintained a great high proportion from 40%-60%, declined since 2002 but still up to 40.99% in 2007. Even though the carbon emission from biomass consumption was excluded, the proportion was still 25%-48%, and underwent an inverted U-curve trend, with a peak at 47.40% in 2000. Therefore, measures of energy-saving and emission-reduction in rural areas should be incorporated into the overall national strategy and the carbon contribution of rural energy should not be ignored.

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