The twofold aims of this study are: 1) to examine energy consumption patterns and expenditure between young Chinese (aged 18-59) and older Chinese (aged 60 or above), and 2) to identify how energy consumption patterns and expenditure are associated with self-perceived wellbeing in the two respective age groups. **Methods:** A total of 2,303 valid samples (M age = 51, SD = 16.2) were obtained from Chinese General Social Survey (CGSS) in 2015. Hierarchical linear modelling analyses were employed using HLMs 6.08 for each age group to examine the influence of individual-level factors and cluster-level covariates (i.e., environmental pollution, health care resources, and economic development at provincial level). **Results:** Among the young adults, those using oils, gas, and electricity reported better self-perceived wellbeing than those using solid fuels. Among the older adults, reliance on fuel gas and energy expenditure were associated with better self-perceived wellbeing. **Conclusions:** The harnessing of cleaner energy has the potential to increase subjective wellbeing across age groups. For older adults, the higher energy expenditure might indicate a dormant or isolated lifestyle, which calls for practice interventions to improve social engagement and promote wellbeing.