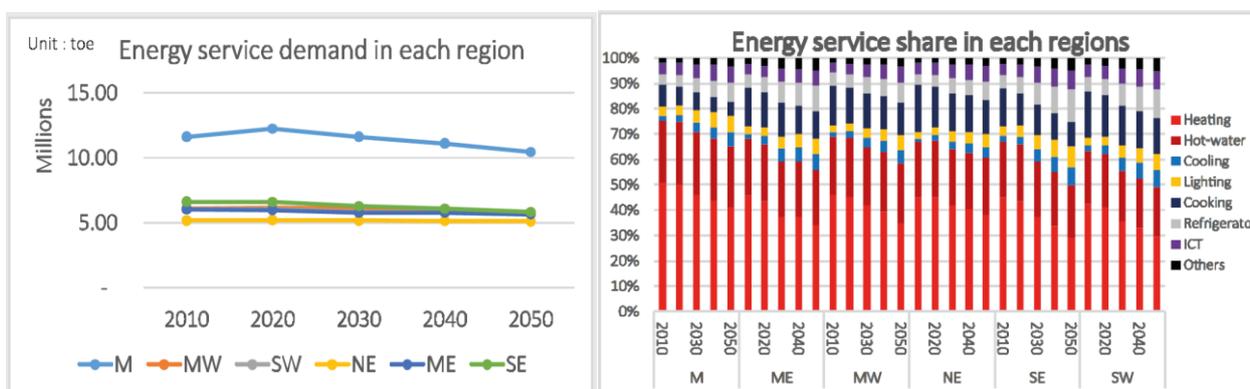


What factors are important for energy service demand in Korean residential sector?

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Solving climate change is a huge international challenge. Directly or indirectly, positively or negatively, climate change will affect all sectors and regions of Korea. Only a concerted global effort, involving the governments of all nations, will be enough to avert dangerous consequences. But, to reach the goal, bottom-up actions of everyday people are still crucial. The energy use is not only a driving force of climate change and socio-economic change, it is also vulnerable to future socio-economic change and climate change. To investigate how to reduce CO₂ emission in future, this paper discusses the underlying Korean regional energy service demand in residential sector due to socio-economic change and climate change because Korean residential sector account for 12% of CO₂ emissions and people can easily take actions. Korea is divided into 6 mega-regions. The historical data and AIM service demand module concept were used for Korean regional energy service demand module. The role of heating degree days, cooling degree days, GDP, the number of household, the number of household members, and satisfying service demand factor were considered. In order to draw future pathway for Korean regional energy service in residential sector, the reference socio-economic scenario and new developed RCP scenario for climate change were used. The reference socio-economic scenario extrapolates current trends and describes a business as usual development. The results show that there are indeed major impacts factors in the residential sector. The climate change, GDP, the number of household and family size, life style, and satisfying service demand factor have strong relationship with energy service demand. The technology efficiency, fuel mix, and insulation were identified as the most effective options for reducing energy use.



Key words: Regional energy service demand, RCP scenario, Socio-economic scenario, Bottom-up approach.

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