Future demand for energy services through a quantitative approach of lifestyles

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ABSTRACT
Among the tools and processes that are used to inform decisions makers on the long-term challenges raised by energy transition, numerical models are at the forefront. Whether led at the global, continental, country or local level, they help projecting the future operational conditions of our energy systems. However the possibility of addressing the sustainability challenge by changes in our lifestyles rather than technical solutions often remains outside the scope of such models whereas lifestyles contain a set of key determinants of mobility, housing, spatial planning or the organization terms of the productive sectors (industry, agriculture, services). Energy is not consumed for itself and understanding how the future demand of energy services could be framed is an important issue. This paper makes proposals to improve the consideration of lifestyles in the quantitative foresight exercises. Our methodology includes the development of a statistical model of the dynamic of changes in lifestyle patterns to derive energy service demands. The use of this model provides a more coherent framework for the formulation of lifestyle change scenarios. A set of three lifestyles anticipated for France are then designed and discussed up to 2072.

KEYWORDS
Lifestyles, energy system, energy demand, foresight, modelling, transition

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FULL TEXT
1 INTRODUCTION
Among the tools and processes that are used to inform decisions makers on the long-term challenges raised by energy transition, foresight studies are at the forefront. Indeed, due to the complexity of the energy sector, such scenarios are precious tools to identify where and when improvements may be made [1]. Whether led at the global, continental, country or local level,
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