

Accepted Manuscript

Future demand for energy services through a quantitative approach of lifestyles

Thomas Le Gallic, Edi Assoumou, Nadia Maïzi



PII: S0360-5442(17)31241-0
DOI: 10.1016/j.energy.2017.07.065
Reference: EGY 11253
To appear in: *Energy*
Received Date: 25 November 2016
Revised Date: 24 June 2017
Accepted Date: 10 July 2017

Please cite this article as: Thomas Le Gallic, Edi Assoumou, Nadia Maïzi, Future demand for energy services through a quantitative approach of lifestyles, *Energy* (2017), doi: 10.1016/j.energy.2017.07.065

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Future demand for energy services through a quantitative approach of lifestyles

Thomas Le Gallic^{a*}, Edi Assoumou^a, Nadia Maizi^a

^aCenter for Applied Mathematics, MINES ParisTech, PSL Research University, CS 10207
rue Claude Daunesse, 06904 Sophia Antipolis Cedex, France

**corresponding author: thomas.le_gallic@mines-paristech.fr*

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

ACKNOWLEDGEMENT

This work has been supported by the Modelling for Sustainable Development Chair (MPDD) and ACTeon, a French Consulting and Research Company specialised in environmental strategies and policies.

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,

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات