



# The challenge to UK energy policy: An ageing population perspective on energy saving measures and consumption

Neveen Hamza\*, Rose Gilroy

School of Architecture, Planning and Landscape Newcastle University, NE1 7RU, UK

## ARTICLE INFO

### Article history:

Received 2 June 2010

Accepted 29 October 2010

Available online 23 November 2010

### Keywords:

UK energy policy

Ageing

Energy consumption

## ABSTRACT

With a focus on the residential sector, this paper explores the likelihood of the UK government meeting its energy targets. The paper contends that energy policy needs to take into account the interplay of four major factors: an ageing population of increasing diversity; a cultural inclination for older housing much of which is thermally inefficient; levels of fuel poverty; and the inexorable rise of consumer spending on leisure related services and goods. Decisions made by older households (both the poorer and the better off) may be critical to the success of energy policy. Among the better off the changing expectations of the baby boomers, with their predilection for consumption and travel, may have particular impact. The paper concludes that much of the reduction in carbon footprint made by older people's choices in heating and insulation may be offset, not only by increasing domestic thermal comfort, but also potentially by increasing consumables in the home and other consumer lifestyle choices. What could be achieved at best, may be a shift in energy mix.

© 2010 Elsevier Ltd. All rights reserved.

## 1. Introduction

This paper explores the interplay between two of the major issues of our times: climate change and demographic ageing, both of which pose challenges to societies at all levels from the global to the regional and local. This paper considers how, in the UK, the drive to reduce carbon emissions may be threatened by the choices of older people.

In the UK three main sectors account for almost 80% of all end user green house gases: business, transport and the residential sector. It is significant for both transport and housing sectors that achieving climate change targets rests as much on individuals making "right choices" as governments creating sound policy and markets supplying appropriate products. This paper focuses in the main on the residential sector, which contributes 27% of carbon emissions in the UK from the stock of 22 million dwellings (Department of Energy and Climate Change, 2010a). The significance of the residential sector is captured in UK energy policies that have a dual goal of ending fuel poverty and tackling climate change. The Labour government's 2001 (DTI, 2001) strategy on fuel poverty aimed to eradicate this in the UK by 2018 targeting, firstly, households of vulnerable people (older people, those with limiting illness or disabilities, and those with young children).

Although the European Union targets a 20% reduction of global emissions by 2020, the UK's 2008 Climate Act legally binds it to

make a 34% cut in emissions by 2020, and at least 80% reductions by 2050 (based on 1990 levels). This is to be achieved through investments in energy efficiency measures in the built environment and its energy supply systems, clean energy technologies such as renewables, nuclear and carbon capture and storage.

There is also an aspiration to source 15% of the energy demand from renewable sources. The UK Low Carbon Transition Plan (2009) asserts the need for 'a bigger, smarter electricity grid', which endorses industry plans to increase grid capacity and improve its performance to enable renewables to be connected. There is no mention, however, of possibly increased electricity consumption due to the demand for white goods and leisure goods. To educate the public on their energy consumption, the government proposes to roll out energy metering to all houses by 2020. To incentivise households to increase the use of renewables in their homes for hot water and electricity generation, a 'Feed-in tariff' has been introduced from 1st of April 2010, which pays four times more for every kWh fed into the grid than its cost if supplied to the property from the grid. The new UK Coalition government has committed itself to establishing a full system of feed-in tariffs in electricity (HM Government, 2010).

In this paper we argue that the targets on carbon emissions and fuel poverty are challenged by four main factors that, if not taken into account, may lead to possible policy failure. These are an old and thermally inefficient housing stock which is nevertheless socially valued; the prevalence and severity of fuel poverty; the inexorable rise of consumption of leisure related services and goods including health and mobility assistive technologies. In all of these the role of older people is a critical factor. The paper turns firstly to a

\* Corresponding author. Tel.: +44 191 2226033; fax: +44 191 2226115.  
E-mail address: [n.hamza@ncl.ac.uk](mailto:n.hamza@ncl.ac.uk) (N. Hamza).

discussion of demographic change and the interplay between ageing and housing and ageing and consumer spending. It then explores the condition of the UK housing stock, before discussing fuel poverty and the policies in place to tackle it.

## 2. The impact of ageing

The UK, in common with most of the world, is experiencing a demographic shift caused by fewer births and longer lives (Ermisch, 1990; Harper, 2004) and, as a result, has a greater proportion of people drawing state retirement pension<sup>1</sup> than children under 16 (ONS, 2009). Implications of this demographic shift on climate change and energy policy are generally less understood, with limited research findings that are sending warning signals in the USA (Tonn and Eisenberg, 2007), and in the European Union (York, 2007). Kronenberg (2009) predicts how ageing in Germany is expected to lead to fewer car journeys and more home based entertainment, which will change the energy mix. In Japan, Yamasaki and Tominaga (1997) suggest that the growth of older single person households and the evolution in IT systems will lead to an increase in equipment for leisure and home entertainment.

In the UK two clear trends have implications for energy policy. Firstly, that older people are increasingly home owners who prefer to live in their family home till death, which is important in considering domestic energy consumption, carbon emissions, thermal comfort and, for many households, fuel poverty. Secondly, that the widening wealth divides between older people mean that increasing cohorts of better off older people have the financial means to be high consumers. A further dimension, which is discussed later in this section, is the expected impact of the baby boomer cohort with its established consumer culture habits.

### 2.1. Ageing and housing tenure

Older people's households currently make up 27% of all households in the UK with the majority of older people being home owners (Department of Communities and Local Government, 2010). What distinguishes older home ownership is the percentage that owns their home outright. This is the case for 70% of owners where the head of household is aged 65 or older (DCLG, 2008). It cannot be assumed however that to live in one's own home is to be well housed. Statistics for decent housing, which is defined as having a reasonable degree of thermal comfort, being in a reasonable state of repair, and providing reasonably modern facilities and services, reveal that 69% of the properties that fail to meet the standard are in the owner occupied sector (DCLG, 2009). Estimates suggest that more than third of all households living in non decent accommodation are headed by an older person. The reason for the failure often lies in poor thermal comfort caused by outdated heating systems, low or no insulation, single glazing, draughty doors and windows (Age Concern and Help the Aged, 2009). Table 1 sets out the proportion of each household group according to the energy banding of their dwelling. Dwellings in bands A–D are judged to be performing efficiently. The table reveals that older couples are *marginally* more likely to be living in dwellings that are more costly to heat while single older people are *marginally* more likely to live in dwellings classified as Band G which are the worst performing.

It is argued that older people are least likely to benefit from property based measures intended to deliver improvement in

<sup>1</sup> Currently women draw their state pension at 60 and men at 65 though this is set to equalise and rise incrementally for both sexes to 68 by 2047. The timeline is under review.

**Table 1**

Energy efficiency rating bands grouped by household type. England 2007. (Source: DCLG, 2009—authors' own emphasis)

	Band A–C	Band D	Band E	Band F	Band G
Couple, no children, under 60	6.3	31.1	42.9	16.2	3.5
Couple, no children, aged 60 or older	4.4	30.0	43.3	18.3	4.1
Couple with dependent children	5.6	36.3	40.6	14.9	2.6
Lone parent with dependent children	14.4	37.5	35.2	10.3	2.6
Other multi person households	7.6	32.2	42.0	14.2	4.0
One person under 60	14.0	31.8	37.7	12.3	4.3
One person aged 60 or older	9.5	33.4	36.0	15.6	5.5
Total	7.8	33.1	40.2	15.2	3.7

warmth or affordability because they are disproportionately affected by reduced income, under occupation, sole responsibility for fuel bills, and insufficient scope for improvement in their existing home. Preston et al. (2008) argue that this group, that is so frequently affected by poverty, would gain most in personal comfort *and* contribute most to the reduction of carbon emissions by moving to new fit-for-purpose accommodation. However, these recommendations ignore the psychological link between place, possessions, memories, and familiar environments that are enjoyed by all, but especially older people, in their family homes. As many commentators have stated the inherent problem for many older people of targeted “small, easy to manage” accommodation, such as sheltered housing, is that the marked reduction in space reduces people to the body by focusing on safety and accessibility. In doing so it ignores precious factors such as ways of being, identity and emotional life (Gilroy, 2005).

Research findings from the HAPPI panel (HCA, 2010) reveal case studies of spacious, attractive and well located housing for older people which, in continental Europe, encourages many older people to move from their family home. There is an imperative for the UK residential sector to develop models that meet needs and aspirations of current and future generations of retirees. What is interpreted as an overwhelming wish to remain in the family home may, in fact, reflect a paucity of high quality options as much as strength of attachment.

People aged over 65 are estimated to spend more than 85% of their time in the home and this rises to 90% for those aged 85 or older (House of Lords, 2005). Clearly there may be many reasons for staying at home including individual preference, however losing chosen companions, falling income and decreasing health are also likely factors in keeping people at home (ONS, 2007). It is clear that if home is the main arena for everyday life it is critical that it is comfortable. It might be assumed that spending more time at home translates into greater use of domestic energy; however, nationally it is revealed that older people may make severe economies. Over a third of all older people admit to not heating their bedroom, bathroom or living room in cold weather in order to save money (Age Concern and Help the Aged, 2009). What is likely is that these households have a continuous demand for electricity to power equipment in the home such as televisions and kettles.

Thermal comfort research shows that the thermal environments preferred by the older people do not appear to differ from those of younger people. However, researchers warn that due to older people's more sedentary lives they are more sensitive to ambient temperatures (Collins, 1980), which leads to higher temperatures in homes of older people than found for younger people. This sensitivity and need for a warm indoor environment underpins much of the failure of thermal upgrades to deliver noticeable reductions in energy consumption.

A second factor is the thermo-regulation needs of people with dementia. Van Hoof, et al. (2010) warn that this group have an

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

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