Programme Area: Buildings

Project: Building Supply Chain for Mass Refurbishment of Houses

Title: Customer Value Methodology

Abstract:

Please note this report was produced in 2011/2012 and its contents may be out of date. This deliverable is number 2 of 5 in Work Package 5. Deliverable 5.2, Customer Value Methodology, builds on the work carried out in Deliverable 5.1, Defining the Customer, to develop a proposed segmentation hypothesis to shape the later deliverables in Work Package 5 as well as support deliverables across the OTEoEH project (such as supporting Work Package 4's development of value propositions for different customer segments).

Context:

This project looked at designing a supply chain solution to improve the energy efficiency of the vast majority of the 26 million UK homes which will still be in use by 2050.It looked to identify ways in which the refurbishment and retrofitting of existing residential properties can be accelerated by industrialising the processes of design, supply and implementation, while stimulating demand from householders by exploiting additional opportunities that come with extensive building refurbishment.The project developed a top-to-bottom process, using a method of analysing the most cost-effective package of measures suitable for a particular property, through to how these will be installed with the minimum disruption to the householder. This includes identifying the skills required of the people on the ground as well as the optimum material distribution networks to supply them with exactly what is required and when.

Customer Value Methodology

Optimising Thermal Efficiency of Existing Homes

Deliverable 5.2 Project Report

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Executive Summary

Deliverable 5.2 of the Optimising Thermal Efficiency of Existing Homes project seeks to develop two key research tools to structure and inform the following work package 5 deliverables as well as deliverables from other work packages:

- A segmentation hypothesis to define the UK population into a number of discrete segments defined by different characteristics in terms of demographics, property type and customer values. The segments will guide ongoing targeted research and be validated and developed through the insight gained by future deliverables;
- The first draft of the value metrics that will form the basis of the questions put to customers in future Work Package 5 deliverables. These value metrics summarise key areas of customer value in the retrofit process (e.g. cost, comfort, disruption, etc.).

Following a period of desk-based research investigating various segmentation methodologies, the EZC agreed on an approach that utilised existing data and models held by Experian, a third party organisation, to draw out ten key segments based on key criteria set by the consortium partners:

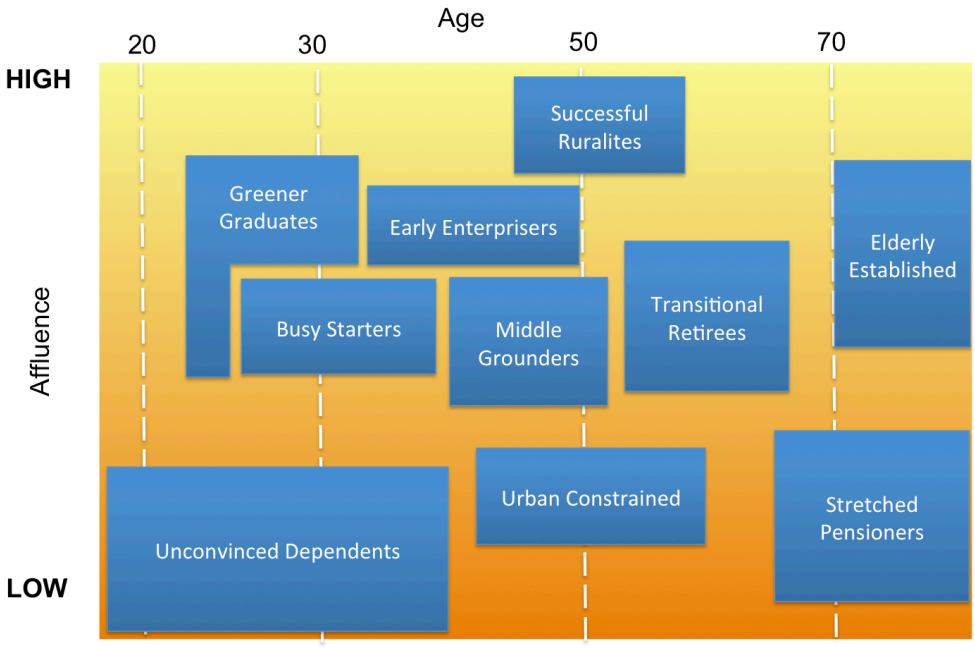

Figure i – Visualisation of the ten segments according to age and affluence

The segmentation hypothesis segments the UK population based on two key factors relevant to retrofit – *age* (as research shows that triggers to retrofit are often linked to life-stage) and *affluence* (as this will often link to tenure type and capacity to invest). Through the use of Experian data, information for each segment on property type, behaviour, attitude towards energy efficiency and household composition is also available to provide a clear picture for each.

The initial segmentation hypothesis is a valuable tool in helping to guide and structure ongoing research but has yet to be refined and validated by further work and research insight. As such, it is expected to develop further from this initial point as work is progressed in future deliverables. Despite its current limitations, though, the segmentation has already proved a useful tool in guiding other areas of the project, such as Work Package 4 supply chain design workshops, where the segmentation has been used by stakeholders to develop value propositions that are likely to appeal to different UK population segments.

Following from the work carried out for deliverable 5.1, the value metrics have been expanded further and clustered into seven key categories:

- **Economic values** (e.g. cost, impact on asset value);
- **Physical values** (e.g. comfort, aesthetic changes to the home);
- **Process values** (e.g. disruption, duration of works);
- **Product values** (e.g. trust in brand, quality of product);
- **Through-life values** (e.g. ease of maintenance, usability);
- **Social values** (e.g. social status, use of local labour);
- **Related values** (e.g. environmental concerns, competing priorities).

This first draft of the value metrics will form the basis of the questions put to customers in deliverables 5.3 and 5.4 and serve to guide other project work in exploring customer value.

Introduction

Work Package 5 of the Optimising Thermal Efficiency of Existing Homes Project seeks to focus on the customer experience and requirements of domestic retrofit, developing an understanding of the customer (in most cases, the resident), exploring the different values held by different segments of the UK population and gaining valuable insight into how to design a number of attractive value propositions that will engage the different segments of the UK population.

Work Package 5 Deliverable Summary

Work Package 5's exploration of customer value in retrofit is divided into five discrete deliverables:

5.1 – Defining the Customer: Stakeholder engagement and desk-based research to establish key aspects of the customer value environment;

5.2 – Customer Value Methodology: Development of a segmentation hypothesis to focus future research on key customer groups;

5.3 – Customer Engagement Exercise 1: Primary research (face-to-face, structured interviews) with customers who have gone through a retrofit;

5.4 – Customer Engagement Exercise 2: Primary research (mass survey, workshops and "virtual retrofits") with the wider UK public;

5.5 – Synthesis Report: A consolidating report summarising key research insights and providing recommendations for exploiting customer value.

Deliverable 5.2, Customer Value Methodology, builds on the work carried out in Deliverable 5.1, Defining the Customer, to develop a proposed segmentation hypothesis to shape the later deliverables in Work Package 5 as well as support deliverables across the OTEoEH project (such as supporting Work Package 4's development of value propositions for different customer segments) . This report will detail:

- The methodological approach used to develop the segmentation;
- The proposed segments, with visual representation, described using datasets identified in 5.1 from the EHS including demographic data, household data and value metrics;
- The first iteration of the value metrics that will inform the research questions proposed to customers in 5.3 and 5.4.

Methodology

Review of existing segmentation methodologies

Before starting on developing our own segmentation, a literature review stage was carried out to review and understand existing segmentation methodologies.

A similar piece of work had been carried out as part of the ETI's Micro Distributed Energy (Micro DE) project and, as such, we were able to utilise this existing review to advance our understanding without duplicating the work, with assistance from the report's key author, Eleni Oikonomou. The review in the Micro DE 1.3 Project report[1] covered the following segmentation methodologies:

- The ACORN System (Consolidated Analysis Centres Incorporated – CACI);
- The CAMEO System (Eurodirect);
- The Mosaic System (Experian);
- The Energy Saving Trust System (based on Experian's Mosaic).

The relevant pages in the 1.3 report are reproduced in Appendix A. In addition to these segmentation methodologies, the following segmentations were also investigated:

DEFRA's Framework for Pro-environmental Behaviours

The Department for the Environment, Food and Rural Affairs (DEFRA), in 2008, published a report on pro-environmental behaviour in the UK[2]. Designed to support environmental policy development and implementation in government and externally, the work aimed to increase the contribution from individual and community action. The scope of the segmentation included consumption clusters (food, drink, travel, homes and product purchase), environmental behaviours (climate change, waste, water and air quality, biodiversity and protection of natural resources) and consideration of a wide range of possible interventions.

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[1] Oikonomou, E, et al. (2010) *WP1.3 Review of previous work on energy user behaviour*

[2] DEFRA (2008) *A Framework for Pro-Environmental Behaviour*

This segmentation yielded seven different population segments sharing distinct attitudes and beliefs towards the environment, environmental issues and behaviours:

1) Positive Greens – "I think it's important that I do as much as I can to limit my impact on the environment";

2) Waste Watchers – "'Waste not, want not' – that's important. You should live life thinking about what you are doing and using";

3) Concerned Consumers – "I think I do more than a lot of people. Still, going away is important. I'd find that hard to give up… well, I wouldn't, so carbon offsetting would make me feel better";

4) Sideline Supporters – "I think climate change is a big problem for us. I know I don't think much about how much water and electricity I use and I forget to turn things off. I'd like to do more";

5) Cautious Participants – "I do a couple of things to help the environment. I'd really like to do more… well as long as I saw others were";

6) Stalled Starters – "I don't know much about climate change. I can't afford a car so I use public transport. I'd like a car though";

7) Honestly Disengaged – "Maybe there'll be an environmental disaster, maybe not. Makes no difference to me. I'm just living the way I want to".

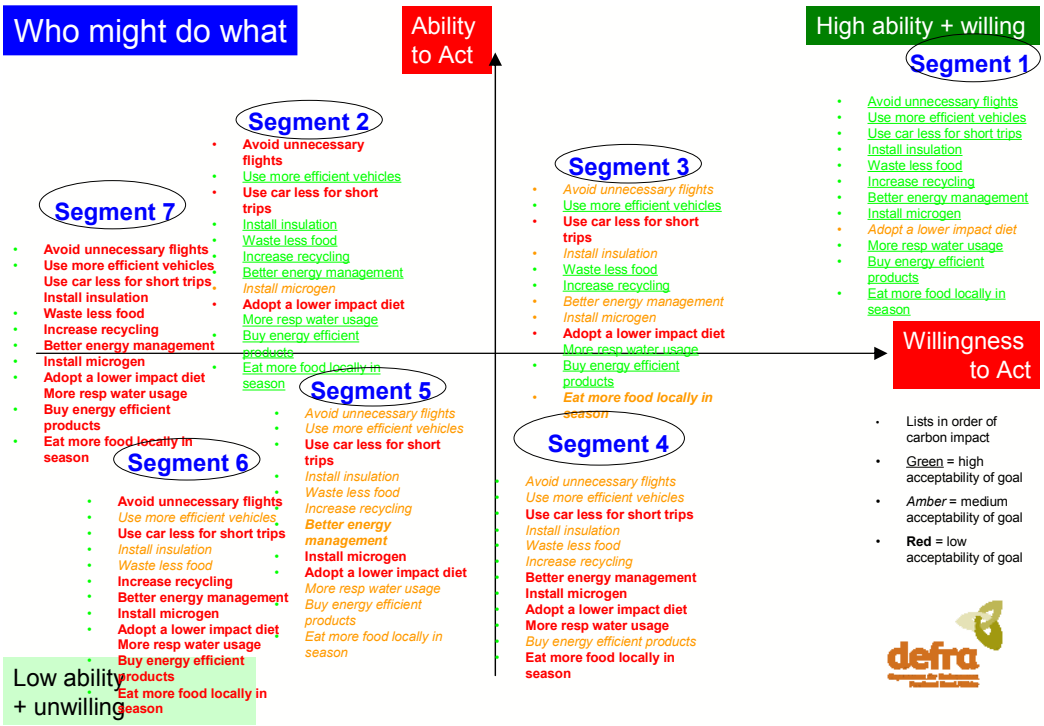

Figure 1 – DEFRA's Seven Environmental Behaviour Segments (DEFRA, 2008)

It was felt that the DEFRA segmentation, whilst relevant to the OTEoEH project, would not serve as a solution. This was due to the fact that it was primarily designed as a tool to investigate *environmental* behaviour (not values) and whilst installing energy efficiency measures is a pro-environmental behaviour, it is divergent from many of the other DEFRA behaviours in its ability to save money and in other factors such as motivation and impact which make the scope of the DEFRA model too broad for our purposes. Also, at three years old, it was thought that the policy landscape may have progressed and devalued the segmentation since its inception.

It will, however, prove useful in validating and comparing/contrasting with the OTEoEH segmentation and its future iterations as part of the research.

Cultural Dynamics' Values Modes

Cultural Dynamics Strategy and Marketing Limited is a small consultancy led by two experts in values research – Pat Dade and Les Higgins. Their work is driven by the principle that the choices that people make and the behaviours they exhibit are driven by their core values.

Their Values Modes[3] are based on Dynamic Maslow Group Theory™ using a combination of theoretical and empirical understanding to identify three primary motivational levels made up of twelve subcategories of individual. The three core motivational levels are:

- **The Settler –** Settlers are sustenance driven individuals, whose needs are core physiological needs, a sense of belonging, safety and security. Some key characteristics include:
    - It's a Them vs. Us world;
    - A clear sense of right and wrong;
    - Resistant to change.

[3] http://www.cultdyn.co.uk/valuesmodes.html

- **The Prospector –** Prospectors are outer directed individuals whose needs are the esteem of others and their own self esteem. Characteristics include:
    - Earning and spending money are crucial activities;
    - Ambitious – position, power and visible success are important;
    - Priority is to get "Me" known out there.
- **The Pioneer –** Pioneers are inner directed individuals whose needs are aesthetic cognitive and self realisation. Characteristics include:
    - Fascination and curiosity with the world;
    - Needs activity, variety and a degree of ongoing change;
    - Sometimes seen as a bit pompous or "touchy-feely".

The Values Modes developed by Cultural Dynamics are, by their nature, a more values driven approach to segmentation than DEFRA's segments, but similarly they are not designed with retrofit in mind. Indeed, this research showed that no known segmentation exists with retrofit as its key focus. When approached, Cultural Dynamics indicated that they would intend to use their existing Values Modes and license the EZC the questions and method to categorise individuals. This was deemed to be insufficient for our purposes due to the need to develop something with retrofit at the focus.

Cultural Dynamics' Values Modes is also a more academic tool for understanding values that drive behaviours and, therefore, it may be useful to engage with Cultural Dynamics at a later point in the project to develop a better understanding of the retrofit values that are represented in our customer value segmentation. This may help in designing attractive propositions that will motivate certain segments engage with retrofit through key trigger points.

EST Trigger Points Research

Discussion with the Energy Saving Trust's head of segmentation, Jennie Abelman, revealed that EST are moving away from their existing segmentation model (as above, investigated in the Micro DE report). Their current research strand in retrofit is looking at trigger points – the things that make people install energy

efficiency measures in the home. At the time of writing, this research was still ongoing and the main report was not complete.

Initial material[4] indicates that the research identifies key primary influencing opportunities linked to age and lifestage and the relevant attitudes to undertaking works in the house:

The six groups are:

- **Young Couples** – Starting a home, making a property more contemporary and adding value. Greater commitment to environment but limited budget. Less likely to spend on energy saving;
- **Families with Young Children** also **Families with Growing Children** – Running out of space. Involved in higher value projects. Lower commitment to the environment but interested in all forms of insulation;
- **Families with Older Children –** Driven by need to update their property. Considering fewer projects but proportionally have already installed more energy saving measures. Interested in draught proofing;
- **Empty Nesters –** Preparing for retirement. Interested in specific projects (e.g. upgrading heating or adding conservatory). Want warmth and comfort. Recognise benefit of improving energy rating;
- **Singles** – Undertaking modernisation projects with lower budgets. Those in pre-1930s buildings more reluctant to add saving measures than those in newer buildings.

This research shares many similar objectives with the OTEoEH project and is working on simultaneous strands engaging with the construction sector. The above is the closest model to a retrofit-focused segmentation, but is still in development. The logic behind lifestage playing a key role in retrofit is sound and intuitive. However, there is little distinction within these groups as to consumers' ability and willingness to pay (i.e. groups at a similar lifestage may

[4] Colmer, M. (2010) – *Retrofit – How to Upscale* (Powerpoint Presentation)

have significantly different incomes and different attitudes to engaging with retrofit).

Development of EZC Segmentation Hypothesis

Upon discussion with other key partners in the EZC (UCL, BRE and EDF Energy) it was agreed that there was insufficient resource or time within the consortium to develop a segmentation model from first principles.

From the background research, Experian's Mosaic appeared to be the best product for our needs. Mosaic's advantages included:

- 440 data values for every UK household covering demographic data, property data and attitudinal data;
- Data for every UK household at individual household level (i.e. beyond postcode) ensuring our segmentation would be based on and validated by real UK customers;
- Updated regularly (at least twice yearly) with new data;
- Positive recommendation from clients such as EDF Energy and the Energy Saving Trust who used it to develop their earlier segmentation.

Experian also possess a related product, Green Segments (part of their bigger GreenAware product), which defines the UK population in one of ten different groups based on their "eco-attitudes". Green Segments identifies the drivers and barriers of behaviours, including consumers' understanding of green initiatives and the terminology used to describe their carbon footprint, their sense of risk, accountability and brand awareness. It allows users to identify and target households in relation to their attitudes towards environmental issues. For example identifying households that are keen to reduce their carbon footprint as opposed to those with more trenchant views on environmental issues. Whilst our research has demonstrated that environmental concerns are not a significant motivator, the data in Green Segments has extremely valuable information on behaviour and attitudes toward energy efficiency, sense of responsibility and willingness to change.

Experian initially offered to carry out a full semi-bespoke segmentation for the project. However, it was felt that their proposals were more detailed than required at this stage of the project, may lose some element of direct project control and would require a greater level of investment than was feasible for 5.2. It was also felt that an approach that involved Experian too heavily and involve a two-way exchange of information may jeopardise the intellectual property of the project. It was agreed that would need to be addressed in order to progress.

A meeting held at Experian's London offices with representatives from most of the EZC partners resulted in the formation of a proposal from Experian that was at reduced cost and investment, with greater control and allowed the development of a basic segmentation hypothesis that could be tested and validated in 5.3 and 5.4, being flexible enough to be developed in line with the OTEoEH objectives and preserving the project's IP.

Experian Mosaic-Green Methodology

The methodology used to develop the segmentation detailed later in this report, and validated by the consortium, is as follows:

- Experian produced a cross-tabulation of their 69 Mosaic Public Sector segments and 10 Green Segments datasets, indicating the number of households corresponding to each set. This allowed identification of high concentrations of correlation between standard Mosaic variables with variables indicative of attitudes and values attached to the Green Segments database;
- Experian licensed basic summary sheets of each of the 69 Mosaic segment types and 10 Green Segments to allow us to describe these concentrations according to their respective segments;
- A one-day workshop held at Experian's London offices with two of their segmentation staff and four EZC partners including social research and segmentation specialists to use temporary access to the full Mosaic and Green datasets to more accurately describe and develop a number of bespoke segments.

- Follow-up summary report document provided by Experian, detailing the segments identified.

For the purpose of the project it was agreed that we were aiming for a segmentation represented by 8-12 segments. It was felt by the project team (and supported by discussions with various experts in segmentation) that a segmentation of this size strikes the best balance between detail and usability; i.e. a segmentation with fewer segments is easy to use but has a low level of detailed granularity from which to draw insight, whereas more segments can lead to a model which is cumbersome and unwieldy for the purposes of a research project such as this.

The above process yielded 10 individual segments, which are detailed in the following section.

Segment Descriptions

Results of the Methodological Approach

The approach detailed in the previous section led to some immediate correlations between Mosaic groups and Green Segment groups. In describing the first major correlations, the variables discussed at the workshop were dominated by age or life stage, income and tenure type (social housing, owner occupier, etc.). Clear links were found between age, affluence and attitudes towards green issues including energy efficiency.

Further interrogation of the data and the correlations led to a segmentation characterised by the age and affluence variables leading to the emergence of ten distinct segments:

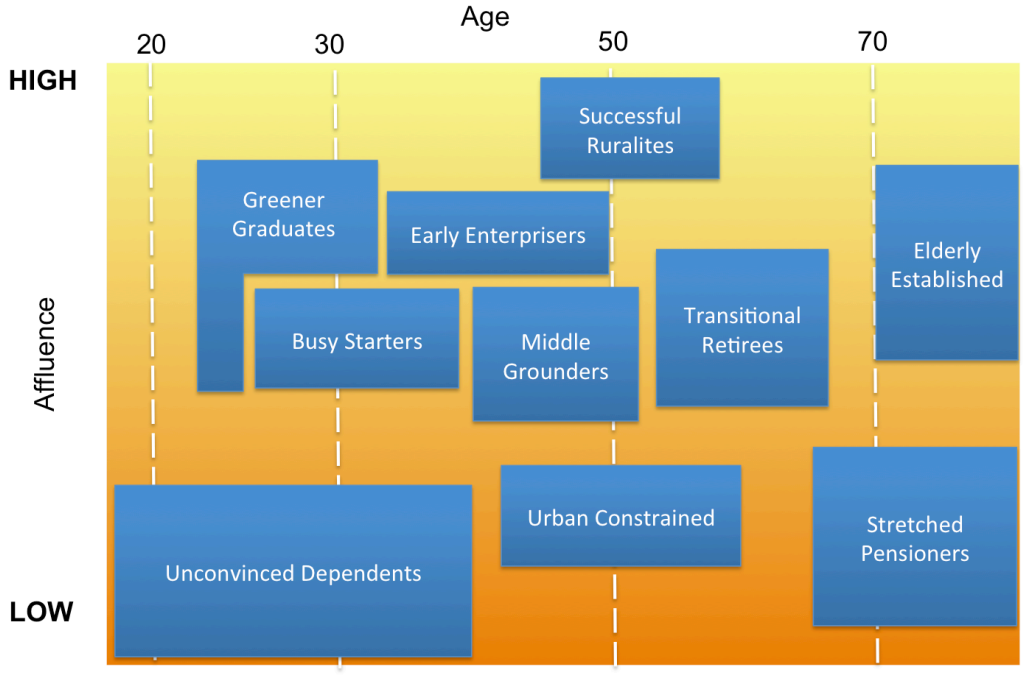

Figure 2 – Visualisation of the ten segments according to age and affluence

The above graphic details the position of the segments on the axes of age and affluence. The size of the box is not indicative of the number of people in each segment. The following pages describe the segments in more detail.

Greener Graduates

"Well-educated singles living in purpose-built flats"

Household type[5]	Multi-person households and couples with no children
Age	25 - 34
Tenure	Owner occupier (mortgaged) or Private Rental
Property type	Purpose-built low-rise or converted flats
Income	Quintiles 3 or 4
Vulnerable?	No

- Urban residents
- Length of residency 1-5 years
- High levels of ethnic and religious diversity
- New build properties; predominantly 2002-2005
- Early career - Intermediate occupations, good levels of self-employment, tertiary educated
- Receptive to online communications
- High levels of knowledge and awareness
- Good attitudes but behaviours lagging
- Choose *some* environmentally friendly actions e.g. buying organic meat and eco-friendly goods but this could potentially be a consequence of lifestyle
- Compulsion to do something would be the main driver

[5] For more detailed descriptions of the EHS datasets used in the summary box, see Appendix B

Busy Starters

"Childless new owner-occupiers in cramped new homes"

Household type	Couples with no dependent children
Age	25 – 34
Tenure	Owner-occupier (mortgaged)
Property type	Terraced or semi-detached
Income	Quintiles 3 or 4
Vulnerable?	No

- New build homes (1995-2001)
- Length of residency 1-5 years
- Suburban areas of small towns
- Low-mid Council Tax bands
- Low unemployment levels – most employed full time
- High mortgage payments and few savings. Some finding it difficult
- Low benefit take-up
- Familiar with green terms and issues of climate change but lower levels of understanding
- Do not take action 'out of concern for the environment'
- Behaviours are dominated by lifestyles and dependence on cars – potentially responsive to activity which would not impact on the norm/routine
- Little action – don't even participate in recycling. Some use of second-hand goods; more likely a consequence of financial situation than driven by environmental concern
- Some price sensitivity (i.e. value in cost of goods and services)

Unconvinced Dependents

"Vulnerable young parents needing substantial state support"

Household type	Lone parent with (three or more) dependent children
Age	16 – 24 or 25 – 34
Tenure	Rent from LA or RSL
Property type	Terraced
Income	Quintile 1 (bottom 20%)
Vulnerable?	Yes

- Typically single *females* (very evident gender split not seen so obviously in other groups)
- High unemployment
- Broad spread of length of residency across the segment
- Likely to be found in urban fringe areas of the Midlands
- High on the Index of Multiple Deprivation ranking
- No savings, no assets, struggling on income
- Benefit claimants; lone parent, incapacity/disablement, housing and CT benefit, income support, jobseekers allowance, child benefit and child tax credit.
- Responsive to face-to-face communications
- Not interested in green issues or political issues. Education re Green issues might help coupled with other incentives
- Wasteful lifestyles – goods and energy
- Unconvinced of arguments and not interested in doing more
- Some price-sensitivity to green goods which are perceived to be more expensive

Early Enterprisers

"Early middle-aged parents likely to be involved in their children's education"

Household type	Couple with (2 – 3) dependent children
Age	35 – 44
Tenure	Owner-occupier (mortgaged)
Property type	Detached
Income	Quintiles 4 or 5
Vulnerable?	No

- Length of residency 3-10 years
- Newer properties
- Found in smaller towns
- Mid to high CT bands
- Intermediate management occupations; good incomes, degree educated
- Claiming child benefit and tax credit
- Career/ambition are key drivers
- Online communications preferred
- Grocery shops in M&S and Waitrose with convenience stores also playing a role
- Familiar with green terms and issues of climate change
- Do not take action 'out of concern for the environment'
- Likely to be resistant to change their lifestyle even if they could be convinced it would help environmental issues
- Behaviours are dominated by lifestyles and dependence on cars – potentially responsive to activity which would not impact on the norm/routine

Middle Grounders

"Middle income families living in moderate suburban semis"

Household type	Couple with dependent children or couple with non-dependent children
Age	35 – 44 or 45 – 54
Tenure	Owner-occupier (mortgaged)
Property type	Semi-detached
Income	Quintiles 3 or 4
Vulnerable?	No

- Suburban/semi-rural
- Length of residency 9+ years
- Mid-level employment with mixed asset levels
- *Some* ethnic mix
- Properties of varying ages but not new build
- Shop in Tesco and Waitrose
- Receptive to online and telephone communications
- Not particularly well-informed on large scale, global Green issues but have a general concern for the environment
- Have reasonably positive and responsive attitudes
- Small-scale proactive behaviour; recycling, fair-trade, organic and locally-produced goods, energy-conscious in the home but nothing which drastically impacts on lifestyle and routine
- Would be more likely to do more if the price was right

Successful Ruralites

"Rural families with high incomes, often from city jobs"

Household type	Couple with non-dependent children
Age	45 – 54
Tenure	Owner-occupier (mortgaged) or own outright
Property type	Detached
Income	Quintile 5 (top 20%)
Vulnerable?	No

- More rural – some commuters
- Length of residency 6-10 years
- Social Grade A ("upper class")
- Older, large properties; high Council Tax band
- High level occupations with good levels of self-employment
- Asset rich
- Receptive to Internet and telephone communications
- Shop in Waitrose and Marks and Spencer, up to five holidays per year
- Not particularly well-informed on large scale, global Green issues but have a general concern for the environment
- Have reasonably positive and responsive attitudes
- Small-scale proactive behaviour; recycling, fair-trade, organic and locally-produced goods, energy-conscious in the home but nothing which drastically impacts on lifestyle and routine
- Would be more likely to do more if the price was right

Urban Constrained

"Older families in low value housing in traditional industrial areas"

Household type	Lone parents and couples with dependent children
Age	45 – 54
Tenure	Owner-occupier (mortgaged) or rent from RSL/LA
Property type	Terraced or semi-detached
Income	Quintiles 2 or 3
Vulnerable?	Yes

- Lone parents in extended family households; two or more children.
- Low skilled jobs with some unemployment
- Length of residency 11+ years
- Likely to be found in older inner cities in Northern England
- Low education
- No savings, low assets, finding it hard to cope
- Shop in Netto, Farmfoods and Iceland
- Benefit claimants; housing, Council Tax and Incapacity/disablement benefits
- Low awareness/knowledge of green/carbon-related issues
- Would potentially 'buy green' if the price was right
- If it will cost them anything they won't be interested
- Little action – don't even participate in recycling. Some use of second-hand goods; more likely a consequence of financial situation than driven by environmental concern
- Not interested in doing more for their area

Transitional Retirees

"Empty nester owner-occupiers making little use of public services"

Household type	Couples with no dependent children (under or over 60)
Age	55 – 64
Tenure	Owner-occupier (mortgaged) or own outright
Property type	Detached or semi-detached
Income	Quintiles 3 or 4
Vulnerable?	No

- Close to/just recently retired; only 50% in employment
- Length of residency 11+ years
- Living as a couple for 20+ years, empty nesters
- Higher prevalence in more rural areas
- Mid Council Tax bands
- Not claiming benefits and pensions more from previous employer than the state
- Tend to have decent savings (ISAs, etc.) and will save or invest for the future.
- Face-to-face communications preferred, some Direct Mail
- No particular affinity to grocery shops but lean towards M&S and Waitrose
- More 'green aware'; educated with some knowledge but often misinformed (often think climate change is exaggerated and doesn't need their personal action to address it
- Purchase energy-efficient electric products and cars
- Actions are not taken 'out of concern for the environment' but for other reasons

Elderly Established

"Better-off empty nesters in low density estates on town fringes"

Household type	Couples with no dependent children (over 60)
Age	65+
Tenure	Owner-occupier (mortgaged) or own outright
Property type	Detached or bungalows
Income	Quintiles 3 or 4
Vulnerable?	No

- Length of residency 11+ years
- Suburban
- Mid Council Tax bands
- Receiving state pension and living off savings and investments
- Face-to-face communications preferred, some use of post
- Responsive to community events – will change if others do
- Tend to shop in Waitrose and Marks and Spencer
- Fairly well informed re Green issues – large and small scale but believe it to be exaggerated by the media and doubtful that they can make a difference
- But display good behaviours in terms of energy consumption and purchasing – goods and food (perhaps a consequence of more traditional attitudes and values)
- Energy efficiency is likely to have played a part in decisions around the purchase of cars
- Would respond to more information about how and why to change their behaviours
- Financial incentives would be likely to work. Less responsive to financial penalties

Stretched Pensioners

"Older people living on social housing estates with limited budgets"

Household type	One person over 60
Age	65+
Tenure	Rent from LA or RSL
Property type	Terraced or bungalows
Income	Quintile 1 (bottom 20%)
Vulnerable?	Yes

- More urban
- Singles (often separated, divorced or widowed)
- Length of residency 11+ years
- Face-to-face communication preferred
- State reliant, low/no income, very few assets
- Low Council Tax bands
- Benefit claimants; pension, housing and Council Tax benefits)
- Shop in local convenience stores; Sainsbury's local specifically
- Lack of education, awareness and knowledge around Green issues but more likely to be sceptics.
- Feel they do enough already but would change if they felt it would make a difference
- Little use of private or air transport
- Don't think they personally – or any individual- are responsible for tackling climate change

Geographical Distribution of Segments

The following graphic expands on the segment descriptions to give an indication of "hotspot" areas for the 10 segments across the UK:

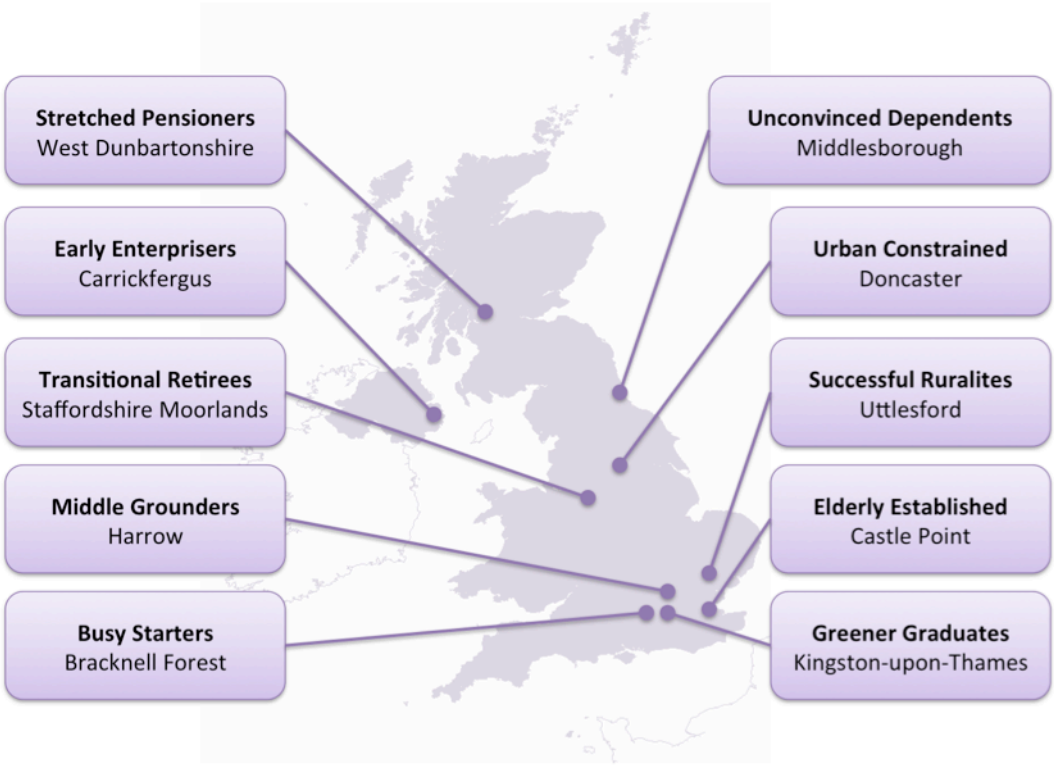

Figure 3 – Geographical distribution of typical segment concentrations

These locations are based on the typical locations associated with the Mosaic data for the segments and are not an indication of *exclusive* locations for the groups. These hotspots will give a useful steer to the planning of customer engagement workshops for deliverable 5.4.

First Draft of the Value Metrics

Deliverable 5.1's stakeholder interviews yielded a series of values that customers may have, relevant to their uptake of retrofit. From the insight gained in developing the segmentation methodology, and from ongoing input from partners, a number of further values have been added to the list.

The full range of values has also now been clustered into seven key value areas as follows:

- Economic Values;
- Physical Values;
- Process Values;
- Product Values;
- Through-Life Values;
- Social Values;
- Related Values.

The categorisation of the full list of values is described below (note – values identified in 5.1 as highest priority or major [M] and other key [K] values have been indicated in each);

Economic Values

- Affordability of retrofit **[M]**;
- Value for money **[M]**;
- Ongoing value (payback or savings on energy bills) **[M]**;
- Impact on asset value **[M]**;
- Mortgage and insurance considerations;
- Equity;
- Incentives versus penalties.

Physical Values

- Increased comfort (thermal, air, noise) **[M]**;
- Improved energy performance and savings on bill **[M]**;
- Change to the home (aesthetics and space) **[K]**.

Process Values

- Minimised disruption **[M]**;
- Adequate engagement and provision of quality information**[M]**;
- Speed/duration of works;
- Competent service with care and respect for the customer;
- Ease of implementation - hassle free;
- Control over the works;
- Standards and accreditation (also a product value);
- Recourse for complaints and compensation.

Product Values

- Trust in product and brand **[K]**;
- Value in other energy efficiency products (e.g. white goods);
- Quality of product.

Through-Life Values

- Ease of maintenance and replacement **[K]**;
- Usability and convenience of measures;
- Longevity of measures.

Social Values

- Social status (green "bling");
- Opinion of self and perceived opinion held by others;
- Community value and development of local area;
- Use of local labour;
- Value in education;
- Equality and diversity concerns;
- Sense of responsibility;
- Impact of actions - "does what I do make a difference?"

Related Values

- Other competing priorities - e.g. kitchen refurbishment;
- Environmental concerns.

Use of the Value Metrics

This comprehensive list of values will form the basis of the questions put to customers in deliverables 5.3 and 5.4 to further understand customers' values and attitudes toward retrofit. Through combining the learning from the development of the ten segments with the learning gained from stakeholders in 5.1, these questions will be developed in partnership with EZC social research experts to produce questions exploring triggers to investment as well as value in the process and impacts of retrofit.

Planned research exercises include:

- A mass survey of UK householders (20,000 through postal and other channels);
- Focus groups with customer segment groups as defined in this report;

- "Virtual Retrofits" with individual households, testing various proposals for value propositions including packages of measures, incentives and other varying elements of the listed values (e.g. would you suffer a longer period of disruption if it meant that the works were cheaper?);
- Retrospective interviews with individuals who have gone through retrofit to determine which of these values were important to them throughout the process and what insight the process has afforded them, helping us to develop more compelling value propositions for mass roll-out.

These activities will allow the value metrics to be validated and the values of different customer segments to be better understood. This will allow the design of targeted propositions that are most attractive to different groups. It will also highlight which groups are easier to engage with and which may require more effort in designing our proposals.

The EZC has reviewed this report and validated this list in preparation for their ongoing use in the later WP5 deliverables and other OTEoEH WPs, such as WP4's value propositions.

Further Development of the Segmentation

Comment on the existing model

The first draft of the segmentation is a useful tool in developing a better understanding of customer value in retrofit. Through the use of Experian data, the segmentation is validated by real data from real householders modelled by Experian - an internationally renowned expert organisation in the field of customer data and segmentation. Using age (or lifestage) and income (or affluence) as the key variables ensures that the segmentation is linked closely to the triggers that may encourage customers to invest in retrofit.

A key "next step" for the segmentation is to seek to cluster more population segments into the current model. The cross table method used, means that the segmentation has been based on just 20/690 of the cells in the matrix where there were the highest concentrations of distinct traits. These 20 cells represent 19% of the total UK population as detailed in the following table:

Group	Number	% of UK pop	% within model
Greener Graduates	202,460	0.83%	4.42%
Busy Starters	154,092	0.63%	3.37%
Unconvinced Dependents	217,669	0.90%	4.75%
Early Enterprisers	524,940	2.16%	11.46%
Middle Grounders	1,083,765	4.46%	23.67%
Successful Ruralites	145,518	0.60%	3.18%
Urban Constrained	581,666	2.39%	12.70%
Transitional Retirees	374,307	1.54%	8.17%
Elderly Established	855,402	3.52%	18.68%
Stretched Pensioners	438,987	1.81%	9.59%
TOTAL	**4,578,806**	**18.8%**	

Figure 4 – Current numerical distribution of segments

The next step is to take these initial core matches and add other population segments where perceived similarities exist, boosting the segmentation model to cover the majority of UK households. The 5.3 and 5.4 research then allows a

vehicle for validating the core assumptions and segmentation attributes as well as the proposed clusters.

As such, the current change potential is relatively high (although changes are unlikely to be drastic and yield a model unrecognisable to the current iteration). Assumptions and limitations include:

- The segmentation model is based on cross-tabulated data representing a small number of the full 69 Mosaic groups. It has yet to be refined or clustered to cover the full UK housing stock comprehensively;
- The nature of the stereotypes is that the segments will not accurately and comprehensively describe large proportions of the UK public, but rather that it will allow the EZC to explore the statistical *likelihoods* of certain variables and values being common to each other across the population. Further analysis and research from the later deliverables will allow more detailed analysis, refinement and commentary on the accuracy of key variables in each segment;
- In its current state, the model can not identify the number of households or proportion of the UK population that will eventually fall into each segment. Rather it is based on a reasonable spread of ages and incomes with Mosaic groups that show distinct and strong clusters toward certain behaviours and attitudes;
- Although the key variables for each segment use data that is linked to EHS values and variables (in line with WP1 and 2 requirements), it has not been possible to achieve a perfect match in all cases, in particular with the current draft property types specified in the WP1 model (See Appendix B) due to the age bandings used and the lack of equivalent data in the Mosaic database. Further work using a combination of BRE input and 5.4 research is needed to align these values;
- The current model is light on specific retrofit values as identified in the previous section (due to a lack of availability of any existing data). Deliverables 5.3 and 5.4 will allow us to focus the model specifically on retrofit, help identify the values that are important to specific segments and further develop the model in line with OTEoEH's objectives;

- It is worth, also, noting that the segmentation is based on customers identified as residents, not necessarily the building owner – i.e. the segmentation does not explicitly cover private landlords or social landlords. Whilst it identifies households linked to these segments, the focus is on the tenant and not the landlord. Discussion is needed to decide whether it would be valuable in altering the segmentation to cover landlords rather than tenants.

Development of the model

Although it has been commented that the change potential for the model is high, this should not be seen as a limitation of the current iteration. As a logical starting point it allows for a more focused approach to the ongoing research of the project and it remains flexible enough to change for the ongoing benefit of the project.

At the time of writing the report, the segmentation had already been used effectively as a basis for a WP4 focus group engaging stakeholder organisations to design value propositions and supply chains that focus on specific segments. Participants commented that the segmentation aided the process of identifying with the customer and developing solutions that were more likely to be appealing to them. It was also noted that the segments were clear and simple to understand allowing users to develop a quick mental picture of segment stereotypes.

The workshop has resulted in the creation of a series of hypothesised perceptions attached to the segments (*Self perception now, Would like to be, Perception I believe others have of me now* and *Would like others to see me as*). These hypothesised perceptions are closely linked to customer values and can form a further resource in developing the research methodology for future WP5 work, helping to align with WP4 and deliver joined-up results.

It is envisioned that the model is refined over the following 12 months, with input from WP1 and 2 (to ensure it is aligned with the OTEoEH models) as well as ongoing WP5 research. The EZC's license for Experian materials expires in

December 2011, giving time to continue to use these resources as references to develop the model. Furthermore, Experian have expressed a strong desire to continue to work with the EZC and the project. Ongoing discussion within the consortium and with the ETI is highly recommended to explore the commercial and research opportunities available to build on the initial relationship with Experian and develop a more sophisticated and commercially valuable segmentation model.

Furthermore, early indications suggest that the ongoing research in WP5 and the wider project may show that certain segments emerge as key retrofit target groups either for being likely “early adopters” or for groups that will give the biggest “bang for your buck”. These groups could feasibly then be focused on as test beds for retrofit mass roll out to help develop supply chains and validate the work of the project commercially.

APPENDIX A – Extract of Micro DE 1.3 Report

[The following is an excerpt from the ETI Micro Distributed Energy Project's 1.3 report – Oikonomou, E. et al (2010), pp 3-13]

Review of existing market segmentation approaches

Geo-demographic segmentation is a marketing process that uses multivariable statistical classification techniques to discover whether the individuals of a population fall into different groups. The groups are defined by undertaking a quantitative comparison of multiple characteristics, assuming that the differences within any group should be less than the differences between groups (Wikipedia 2010). The resulting segments and their characteristics can be used to identify the different markets and understand customers' lifestyle, behaviour and attitudes in order to identify profitable prospects, evaluate local markets and develop location planning strategies. This is particularly useful for people undertaking marketing activities as they can determine the most appropriate messages, communication channels and products to reach and influence each segment (Wright n.d.).

Widely known geo-demographic segmentation systems in the UK include CAMEO, A Classification of Residential Neighbourhoods (ACORN) and MOSAIC while new systems targeting subgroups of the population are also emerging (Wikipedia 2010). However, we are not aware that any of these classification systems have been linked to energy use. We are aware Energy Saving Trust (EST) has also developed its own consumer segments – relevant to energy consumption - based on MOSAIC.

ACORN system

The ACORN system claims to be the first geo-demographic tool used to identify and understand the UK population and the demand for products and services. The system was developed by Consolidated Analysis Centres Incorporated (CACI) and segments small neighbourhoods, postcodes, or consumer households into 5 categories, 17 groups and 56 types (Table 2.1a). It categorises all 1.9 million UK postcodes using over 125 demographic statistics within England, Scotland, Wales and Northern Ireland and employing over 287 lifestyle variables (CACI n.d.).

Table 2. 1a: ACORN Classification (CACI n.d.)

Category	Group	Type
Wealthy Achievers	Wealthy Executives	01 – Affluent mature professionals
		02 – Affluent working families with mortgages
		03 – Villages with wealthy commuters
		04 – Well-off managers, larger houses
	Affluent Greys	05 – Older affluent professionals
		06 – Farming communities
		07 – Old people, detached houses
		08 – Mature couples, smaller detached houses
	Flourishing Families	09 – Larger families, prosperous suburbs
		10 – Well-off working families with mortgages
		11 – Well-off managers, detached houses
		12 – Large families & houses in rural areas
Urban Prosperity	Prosperous Professionals	13 – Well-off professionals, larger houses and converted flats
		14 – older Professionals in detached houses and apartments
	Educated Urbanities	15 -Affluent urban professionals, flats
		16 – Prosperous young professionals, flats
		17 – Young educated workers, flats

		18 – Multi – ethnic young, converted flats
		19 – Suburban privately renting professionals
	Aspiring Singles	20 – Student flats and cosmopolitan sharers
		21 – Singles & sharers, multi-ethnic areas
		22 – Low income singles, small rented flats
		23 – Student Terraces
Comfortably Off	Starting Out	24 – young couples, flats and terraces
		25 – White collar singles/sharers, terraces
	Secure Families	26 – Younger white-collar couples with mortgages
		27 – Middle income, home owning areas
		28 - Working families with mortgages
		29 – Mature families in suburban semis
		30 – Established home owning workers
		31 – Home owning Asian family areas
	Settled Suburbia	32 – Retired home owners
		33 – Middle income, older couples
		34 – lower income people, semis
	Prudent Pensioners	35 – Elderly singles, purpose built flats
		36 – older people, flats
Moderate Means	Asia Communities	37 – Crowded Asian terraces
		38 – Low income Asian families
	Post Industrial Families	39 – Skilled older family terraces
		40 – Young family workers
	Blue Collar Roots	41 – Skilled workers, semis and terraces
		42 – Home owning, terraces
		43 – Older rented terraces
Hard Pressed	Struggling Families	44 – Low income larger families, semis
		45 – Older people, low income small semis
		46 – Low income, routine jobs, unemployment
		47 – Low rise terraced estates of poorly-off workers

Hard Pressed	Struggling Families	44 – Low income larger families, semis
		45 – Older people, low income small semis
		46 – Low income, routine jobs, unemployment
		47 – Low rise terraced estates of poorly-off workers
		48 – Low incomes, high unemployment, single parent
		49 – Large families, many children, poorly educated
	Burdened Singles	50 – Council flats, single elderly people
		51 – Council terraces, unemployment, many singles
		52 – Council flats, single parents, unemployment

CAMEO system

On an international scale, the CAMEO classifications (developed and maintained by Eurodirect) are used by organisations for the segmentation, profiling, analysis and targeting of consumers. CAMEO UK, in particular, has been built at postcode level and classifies over 60 million British consumers. It has been built using a wide range of actual data resources (Appendices, Table 7.1). In addition, a whole range of different geo-demographic, socio-economic and lifestyle variables have been used within the clustering and descriptive process, including four groups of data and 26 different variable types (Appendices, Table 7.2):

CAMEO segments the British market into 57 distinct neighbourhood types and 10 key marketing segments (Table 2.2a). Each of the 57 defined clusters has been comprehensively tested for their homogeneity in make-up, present in enough numbers to be of practical use and non-biased towards specific geographic regions in the UK. The CAMEO UK Classification has been tested against a range of different client datasets (Eurodirect n.d.).

Table 2. 2a: Key marketing groups (CallCredit Information Group n.d.)

Code	Key marketing group	CAMEO UK type
1	Affluent singles & couples in exclusive urban neighbourhoods	1A – Opulent couples & singles in executive city & suburban areas 1B – Wealthy singles in small city flats & suburban terraces 1C – Urban living professional singles & couples 1D – Wealthy & educated singles in student areas
2	Wealthy neighbourhoods nearing & enjoying retirement	2A – Opulent older & retired households in spacious rural properties 2B – Affluent mature families & couples in large exclusive detached homes 2C – Affluent mature couples & singles some with school age children 2D – Wealthy suburban professionals in mixed tenure
3	Affluent home owning couples &	3A – Wealthy older families in spacious suburban & rural

	families in large houses	detached & semis 3B – Young & mature couples & families in large rural dwelling 3C – Well-off older couples & families in large detached & semis 3D – Wealthy mixed households living in rural communities
4	Suburban home owners in smaller private family homes	4A – Executive households in suburban & semis 4B – Professional home owners in detached & semi suburbia 4C – White collar home owners in outer suburbs & coastal areas 4D – mature owner occupiers in rural & coastal neighbourhoods 4E – Couples & families in modern rural & suburban developments 4F – Mature couples & families in mortgaged detached & semis
5	Comfortable mixed tenure neighbourhoods	5A – Singles, couples & school age families in mixed housing 5B – Young & older single mortgages & renters in terraces & flats 5C – Mature & retired singles in areas of small mixed housing 5D – Young & older households in coastal, rural & suburban areas 5E – Mature households in Scottish industrial suburbs & rural communities 5F – Young & older households in areas of mixed tenure 5G – Older couples & singles in suburban family semis
6	Less affluent family neighbourhoods	6A – Less affluent communities in areas of mixed tenure 6B – Older & mature households in suburban semis & terraces 6C – Mixed households in mostly welsh suburban communities & rural areas 6D – Couples & families with school age & older children in spacious semis 6E – Mature households in less affluent suburban & rural

		areas 6F – Less affluent couples in suburban family neighbourhoods 6G – Young single & family communities in small terraces & rented flats
7	Less affluent singles & students in urban areas	7A – Single mortgages & renters in pre-school family neighbourhoods 7B – Singles & families in ethnically mixed inner city & suburban areas 7C – Young flat dwelling singles & couples in inner city student areas 7D – Young singles, couples & students in urban areas 7E – Young singles in privately rented & housing association properties
8	Poorer white blue collar workers	8A – Poorer retired households in owned & rented accommodation 8B – Older & mature households in suburban areas of mixed tenure 8C – Older households with school age children in towns & suburbs 8D – Poorer young singles in suburban areas 8E – Mixed mortgages & council tenants in outer suburbs 8F – Singles & couples in small terraced properties
9	Poorer family & single parent households	9A – Poorer singles in outer suburban family neighbourhoods 9B – Poorer singles & families in mixed tenure 9C – Suburban Scottish households in small terraces & flats 9D – Ethnically mixed young families & singles in terraced housing 9E – Poorer couples & school age families in terraced & semis 9F – Flat dwellers in council & housing association accommodation 9G – Young & older households in housing association & mortgaged homes
10	Poorer council tenants including many single parents	10A – Hi-rise flat dwellers in cosmopolitan areas of mixed tenure

10B – Council tenants & morgages in Scottish suburbia

10C – Poorer mortgages & council renters in family neighbourhoods

10D – Singles & single parents in suburban hi-rise flats

10E – Mature households in small terraces 7 semis

10F – Poorer singles in local authority family neighbourhoods

10G – Single renters in mixed age hi-rise communities

XXX – Communal establishments in mixed neighbourhoods

MOSAIC system

Mosaic (developed by Experian) is one of the biggest consumer segmentation models that is linked to postcodes with the aim of targeting all UK households (Wright n.d.). Mosaic UK is part of a family of Mosaic classifications that covers 29 countries that include most of Western Europe, the United States, Australia and the Far East. Mosaic Global is Experian's global consumer classification tool. It is based on the simple proposition that the world's cities share common patterns of residential segregation. Mosaic Global is a segmentation system that covers over 400 million of the world's households using local data from 29 countries. It has identified 10 types of residential neighbourhood that can be found in each of the countries (Wikipedia 2010).

The latest version of Mosaic UK was released in 2009 and is based on the analysis of the trends in UK society, a wealth of high quality, comprehensive data sources and a sophisticated proprietary approach to cluster analysis, supported by analysis of market research to validate the classification. 155 Mosaic person types aggregate into 67 household types and 15 groups (Table 2.3a), to create a 3 tier classification that can be used at the individual, household or postcode level (all UK postcodes are included). This classification is identical regardless of whether it is assigned to a person, a household address or a postcode to create one integrated and consistent classification that is easy to implement (Experian n.d.).

Table 2. 3a: MOSAIK UK groups and types (Experian n.d.)

Group	Description	Type
A	Alpha Territory	A01 – Global Power Brokers
		A02 – Voices of Authority
		A03 – Business Class
		A04 – Serious Money
B	Professional Rewards	B05 – Mid-Career Climbers
		B06 – Yesterday's Captains

		B07 – Distinctive Success
		B08 – Dormitory Villagers
		B09 – Escape to the Country
		B10 – Parish Guardians
C	Rural Solitude	C11 – Squires Among Locals
		C12 – Country Loving Elders
		C13 – Modern Agribusiness
		C14 – Farming Today
		C15 – Upland Struggle
D	Small Town Diversity.	D16 – Side Street Singles
		D17 - Jacks of All Traders
		D18 – Hardworking Families
		D19 – Innate Conservatives
E	Active Retirement	E20 – Golden Retirement
		E21 – Bungalow Quietude
		E22 – Beachcombers
		E23 – Balcony Downsizers
F	Suburban Mindsets	F24 – Garden Suburbia
		F25 – Production Managers
		F26 – Mid-Market Families
		F27 – Shop Floor Affluence
		F28 – Asian Attainment
G	Careers and Kids	G29 – Footloose Managers
		G30 - Soccer Dads and Mums
		G31 – Domestic Comfort
		G32 – Childcare Years
		G33 – Military Dependants
H	New Homemakers	H34 – Buy-to-Let Territory
		H35 – Brownfield Pioneers
		H36 – Foot on the Ladder

H	New Homemakers	H34 – Buy-to-Let Territory
		H35 – Brownfield Pioneers
		H36 – Foot on the Ladder
		H37 – First to Move In
I	Ex-Council Community	I38 - Settled Ex-Tenants
		I39 – Choice Right to Buy
		I40 – Legacy of Labour
		I41 – Stressed Borrowers
J	Claimant Cultures	J42 – Worn-Out Workers
		J43 – Streetwise Kids
		J44 – New Parents in Need
K	Upper Floor Living	K45 – Small Block Singles
		K46 – Tenement Living
		K47 – Deprived View
		K48 – Multicultural Towers
		K49 – Re-Housed Migrants
L	Elderly Needs	L50 – Pensioners in Blocks
		L51 – Sheltered Seniors
		L52 – Meals on Wheels
		L53 – Low Spending Elders
M	Industrial Heritage	M54 – Clocking Off
		M55 – Backyard Regeneration
		M56 – Small Wage Owners
N	Terraced Melting Pot	N57 – Back-to-Back Basics
		N58 – Asian identities
		N59 – Low-Key Starters

The key to understanding the behaviour of each Mosaic UK type is the richness of the descriptive data. Experian owns and sources a number of authoritative sources of media and market research that allows to build a rich picture of the nation's socio-cultural diversity. Mosaic UK relies on census current year

estimates, which accounts for 38% of the data and on other sources of data that includes Experian's UK Consumer Dynamics Database, which provides consumer demographic information for the UK's adult population and households and accounts for the remaining 62%. This database is built from a variety of privacy – compliant public and Experian proprietary data and statistical models. These include the edited Electoral Roll, Council Tax property valuations, house sale prices, self-reported lifestyle surveys and other compiled consumer data. These estimates provide an accurate and up-to-data measure of the key demographic characteristics of local areas and address changes that have taken place since the 2001 Census. The information used to build Mosaic is continuously updated twice a year (Experian n.d.).

EST segmentation model

The Energy Saving Trust (EST) developed 10 consumer segments (Table 2.4a) using 61 Mosaic types. This was done by overlaying energy consumption (relevant to household and transport) and attitudinal data across Experian's Mosaic model. In particular, the EST model was constructed by measuring each Mosaic type for a) the amount of Homes' CO_2 emissions, using home energy bills data and comparing this with the average for that type of home; b) the amount of Cars' CO_2 emissions, using car ownership and mileage data and comparing this with average use and c) the attitude towards the environment (including concern for environment, recycling and pollution) and comparing these against average attitudes (Wright n.d.).

Table 2. 4a: EST MOSAIC UK Segments (Wright n.d.)

	Segments	Description	Behaviour and Energy Consumption
1	Environmentally mature	Affluent Couples, Large homes. Well educated	High consumers of HH and vehicle energy
2	Educated Advocates	Young couples & professionals. Well educated	Critical Gp in next few yrs as lifestyle will develop to larger homes and more cars
3	Discerning Elders	On cusp of retirement, mortgages paid off	Energy bills still quite high. Moderate vehicle ownership
4	Comfortable Conservatives	Professional couples. Don't like to be pressured into change	HH and vehicle emissions above average – scope for reducing emissions
5	Little Britain	Across section of modern Britain. Suburban couples	HH & vehicle emissions not high. Below average attitude towards environment
6	Restful Retirement	Elderly couples and widowers. Low car ownership	Those that are independent will want to save money & so potentially interest in saving energy
7	Driving Dependency	Young sharers or couples. Car is a lifeline	Relatively new houses with lowest CO_2 emissions score
8	Financially Burdened	Families with high expenditure on everyday living	New large housing. Demands of family make energy consumption

8	Financially Burdened	Families with high expenditure on everyday living	New large housing. Demands of family make energy consumption relatively high
9	Ethnic Tradition	High importance on Family. Extended households	High proportion of extended families resulting in high energy consumption
10	Fixed Horizons	Poorer families and elderly couples. Live in council or ex-council property	CO_2 emission just below average. Vehicle ownership low

The resulting segmentation is used to target those individuals most interested in protecting the environment and with the largest capacity for saving on CO_2 emissions through targeted market activities. Specifically, segments 1-4 (Environmentally Mature, Educated Advocates, Discerning Elders and Comfortable Conservatives) were found to have relatively high EST awareness and trust, higher likelihood of energy saving products in home, higher personal concern and motivation and higher interest in energy saving products and renewable technologies. On the contrary segments 7-10 (Driving Dependency, Financially Burdened, Ethnic Tradition and Fixed Horizons) were found to have lower EST awareness, fewer energy saving products in home and lower personal concern or motivation regarding environment issues. In addition, good correlation was found between the EST segments and various levels of behavioural change as can be seen in Figure 2.4a (Wright n.d.).

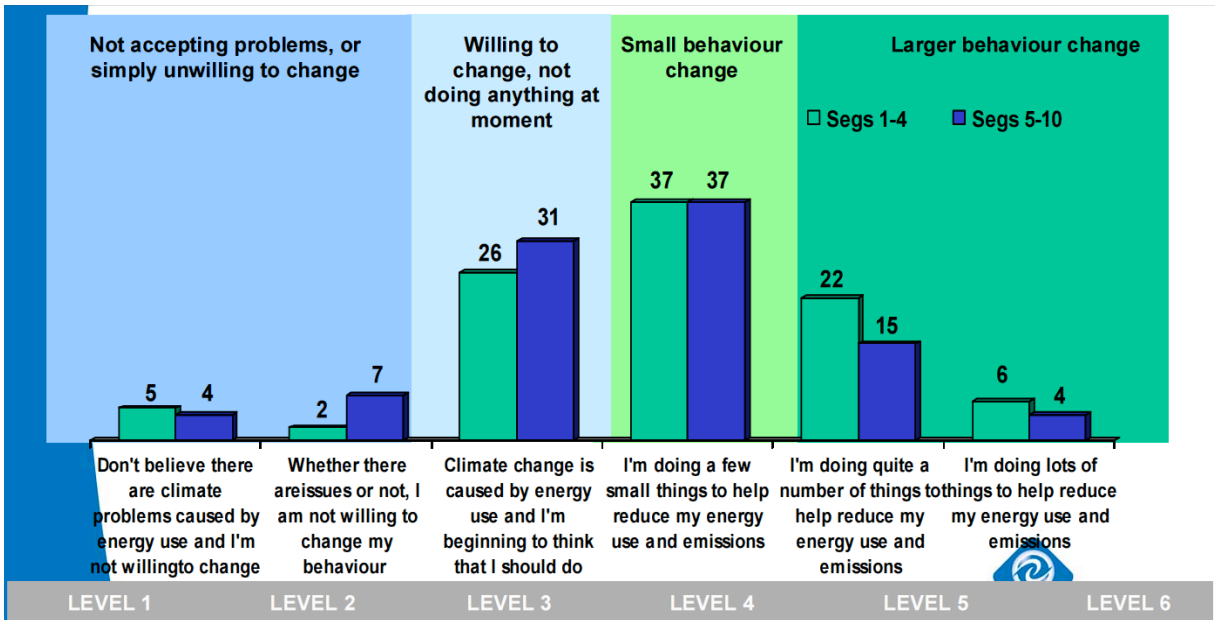

Fig. 2.4a Correlation between the EST Segments and the six levels of behavioural change

APPENDIX B – Key datasets

Demographic datasets linked to EHS variables:

Variable Information		
Variable	Position	Label
hhcompx	2	Household composition
agehrp6x	15	Age of household reference person - 6 band
tenex	37	Extended tenure of household
hhinc5x	44	All households - income in 5 bands
hhvulx	49	Household vulnerable - on means tested or WF benefits?

Variable Values		
Value		Label
hhcompx	-9a	does not apply
	-8a	no answer
	1	couple, no dependent child(ren) under 60
	2	couple, no dependent child(ren) aged 60 or over
	3	couple with dependent child(ren)
	4	lone parent with dependent child(ren)
	5	other multi-person households
	6	one person under 60
	7	one person aged 60 or over
agehrp6x	-9a	does not apply
	-8a	no answer
	1	16 - 24
	2	25 - 34
	3	35 - 44
	4	45 - 54
	5	55 - 64
	6	65 or over
tenex	-9a	does not apply
	-8a	no answer
	1	own with mortgage
	2	own outright
	3	privately rent
	4	rent from LA
	5	rent from RSL
hhinc5x	-9.00	not applicable
	1.00	lowest 20%
	2.00	quintile 2
	3.00	quintile 3
	4.00	quintile 4
	5.00	highest 20%
hhvulx	1.00	Yes
	2.00	No

Household type	EHS variable **hhcompx**
Age	EHS variable **agehrp6x**
Tenure	EHS variable **tenex**
Property type	Based on WP1 model categories
Income	EHS variable **hhinc5x**
Vulnerable?	EHS variable **hhvulx**

Work Package 1 property types:

1 Pre-1919,mid terrace
2 1919-1944,semi detached
3 1945-1964,semi detached
4 Post-1980,detached
5 1965-1980,semi detached
6 1965-1980,purpose built flat,low rise
7 Post-1980,purpose built flat,low rise
8 1965-1980,detached
9 Pre-1919,semi detached
10 1965-1980,bungalow
11 Pre-1919,converted flat
12 1919-1944,mid terrace

As noted in the report, the data available in developing the segmentation hypothesis did not provide property age in the bandings noted above. For the purpose of the segmentation, the following property types were used:

1 Mid-terrace
2 Semi-detached
3 Detached
4 Purpose-built, low rise
5 Bungalow
6 Converted flat

In developing the segmentation further, WP5 will work with WP1 and 2 to further align the customer value segmentation with the WP1 and 2 models by incorporating age and other variables.

Further detail on hhinc5x income quintiles:

The income quintiles are taken from the published 2008 EHS data (see table below). This defines the households basic Income (annual net household income (HRP + Partner) including savings). This income variable does not include income from any other adult household members or any housing related benefits.

EHS Basic Income (annual net household income (HRP + Partner) including savings)

All households - income in 5 bands	Mean	Median	Minimum	Maximum	N	Std. Deviation
lowest 20%	7709	7800	2436	10734	4354936	1922
quintile 2	13683	13619	10419	17094	4307376	1840
quintile 3	20747	20654	16828	24903	4217879	2238
quintile 4	30177	29930	24739	36892	4348819	3450
highest 20%	56605	48224	36836	517834	4178223	28224
Total	25588	20514	2436	517834	21407233	21226

'Vulnerable' people are defined as those on means tested benefits. This classification is in line with the EHS classification

Acknowledgments

Mosaic and Green Segments base data provided by Experian Limited.