Bath & North East Somerset Council

Findings from the Voicebox 15 Survey (2009)

Headline responses, data and charts for the commissioned questions within Voicebox 15 on: Behaviour Changes to Lower Carbon Emissions

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Policy and Partnerships

Better Outcomes for Communities though Partnership Working

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Introduction

Question 23 within Voicebox 15 – Quality of Life Survey (VB15) asked participants '*Would you be willing to consider making the following changes to your home or lifestyle to help reduce carbon emissions?',* giving respondents an option to select for each lifestyle change one response that best describes their willingness to change ranging from 'Already Doing' to 'Not Willing'. Participants were asked to describe their willingness to change the following seven behaviours:

- Insulating and/or draft proofing your home
- Switching off lights and appliances when not in use
- Installing renewable energy sources in your home (e.g. solar panels)
- Using reusable bags for your shopping
- Buying Products with less packaging
- Buying more locally produced food
- Taking more journeys on foot or by bike

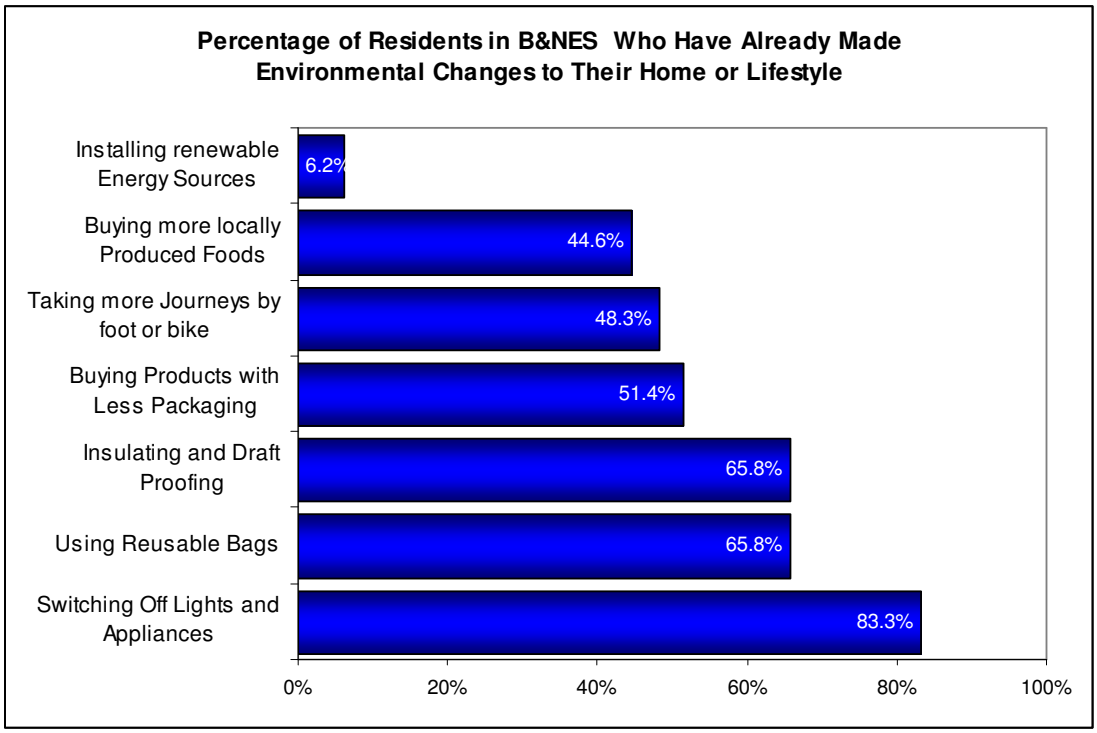

Figure 1: Percentage of Residents in B&NES Who Have Already Made Changes to Their Behaviour

On average 4,639 participants gave responses regarding their willingness to make the seven behaviour changes.

The three behaviour changes that residents of Bath and North East Somerset are most likely to have already made are:

- Switching off lights and appliances when not in use (83.3%)
- Using Reusable bags (65.8%)
- Insulating and Draft proofing the home (65.8%)

83.3% of residents indicated that they were already switching off lights and appliances when they were not being used. This was a significantly high number of people indicating that this behaviour change had already been made. Of the 16.6% of participants who have not already made this change only 0.5% indicated that they did not have a willingness to make this change.

A significantly low number of residents indicated that they had already installed renewable energy sources with only 6.2% of respondents (252 residents) having already made this behaviour change.
Although 19.2% of residents indicated that they did not have a willingness to make this behaviour change the biggest barrier to making these changes appear to be cost as 40.7% of respondents (1, 644 residents) indicated that they were willing but had concerns about the costs of making this behaviour change.

Willingness of Residents to Make Changes to Insulate & Draft Proof Their Homes

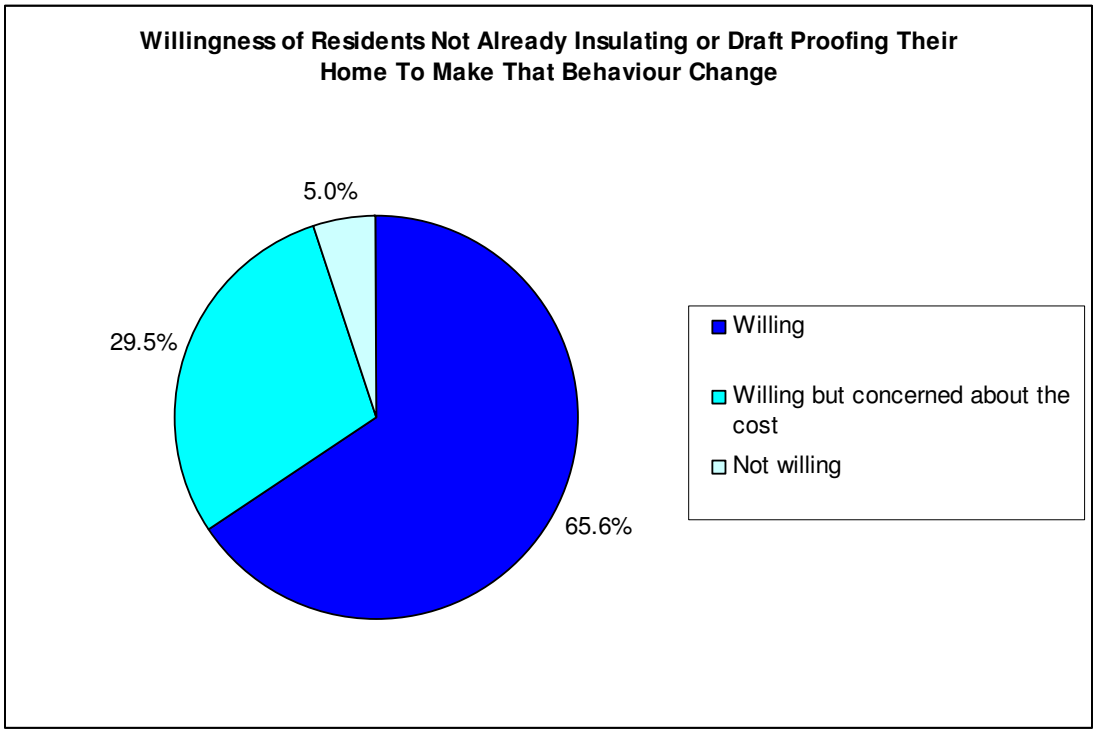

Figure 2: Pie Chart Illustrating the Willingness of Residents who have not already Insulated and /or Draft Poof Home to Make Behaviour Change

Of the 1,493 respondents that have not already insulated or draft proofed their home, 65.6% indicated that it would be a change that they were willing to make to help reduce carbon emissions.
74 residents (5%) indicated that they had no willingness and a further 440 residents (29.5%) expressed a willingness but were concerned about the costs associated with making that change.

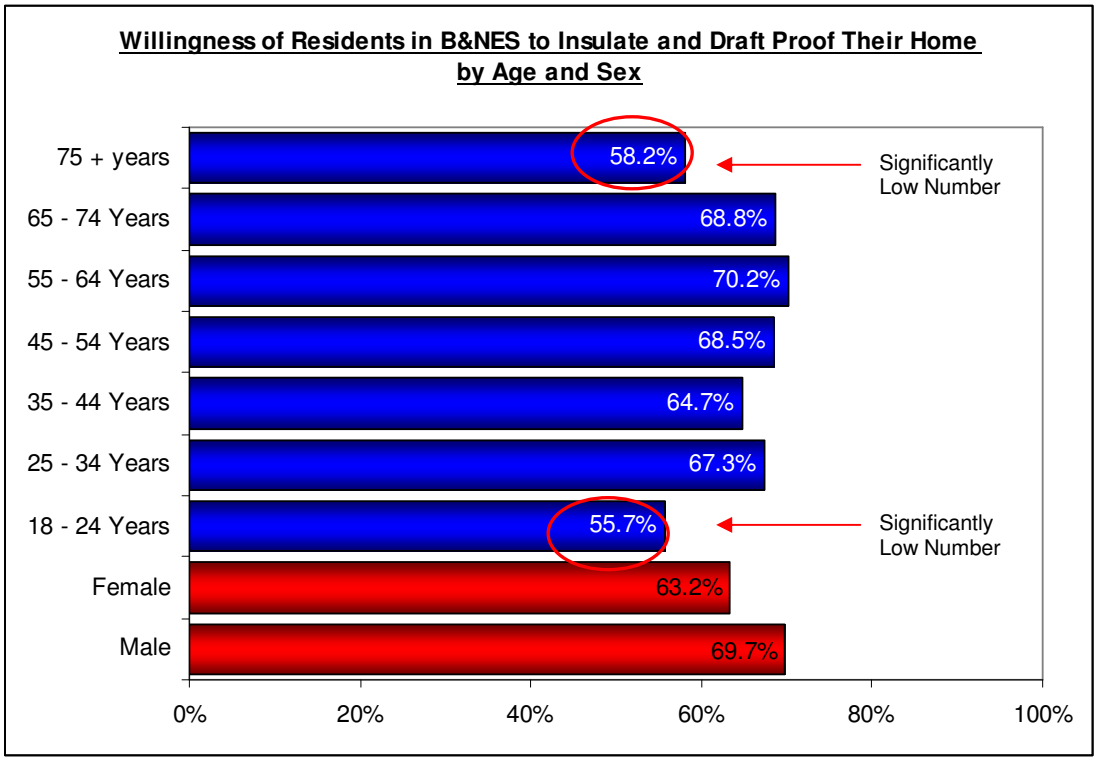

Figure 3: Willingness of Residents to Insulate and Draft Proof Home by Age and Sex

Looking into some of the demographic features of those that have expressed a willingness to make these changes it can be seen that there are no age groups that demonstrate a significantly high willingness level to insulate or draft proof their home.
However, the age groups with the highest proportion of willingness to make these changes are the 55-74 year olds.

The two groups who show a significantly low proportion of people who express a willingness to insulate or draft proof their home are:

- The 18-24 year olds (55.7% Willingness level)
- The Over 75 year olds (58.2% Willingness level)

However, 85% of the 612 over 75 year old residents who answered this question have already insulated and/or draft proofed their home. 110 residents over 75 years had not already insulated/draft proofed their home, with 30.9% stating they were worried about the cost and 10.9% expressing low willingness.

Only 102 18-24 year olds answered this question, probably due to their being a smaller number of home owners in this group. Of those that did answer this question only 4 people within this group stated an low willingness to make these behaviour changes.

6.5% more males stated a willingness to make these behaviour changes than females

Ward	Willingness
CLUTTON WARD	84.6%
LANSDOWN WARD	81.4%
KEYNSHAM SOUTH WARD	80.6%
BATHAVON WEST WARD	80.0%
LAMBRIDGE WARD	79.6%
SALTFORD WARD	76.9%
FARMBOROUGH WARD	53.3%
OLDFIELD WARD	52.3%
PAULTON WARD	45.5%
TIMSBURY WARD	44.4%
WESTMORELAND WARD	44.2%

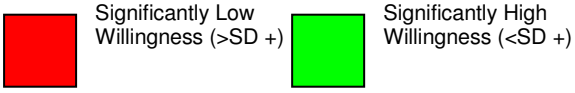

Figure 4 Willingness Levels by Ward to Insulate and/or Draft Proof Home

16.2% of all wards in Bath and North East Somerset showed a significantly high willingness level to insulate and/or draft exclude their home. These Six are illustrated in Figure 4 (above), with the most willing ward being Clutton Ward, with a 84.6% willingness level for those having not insulated or draft proofed their home to change their behaviour.

13.5% of wards exhibited a significantly low willingness level, these are marked in red in Figure 4 (above), with the least willing ward to change this behaviour as being Westmoreland Ward.

Willingness of Residents to Make the Change to Switching Off Lights and Appliances When Not in Use

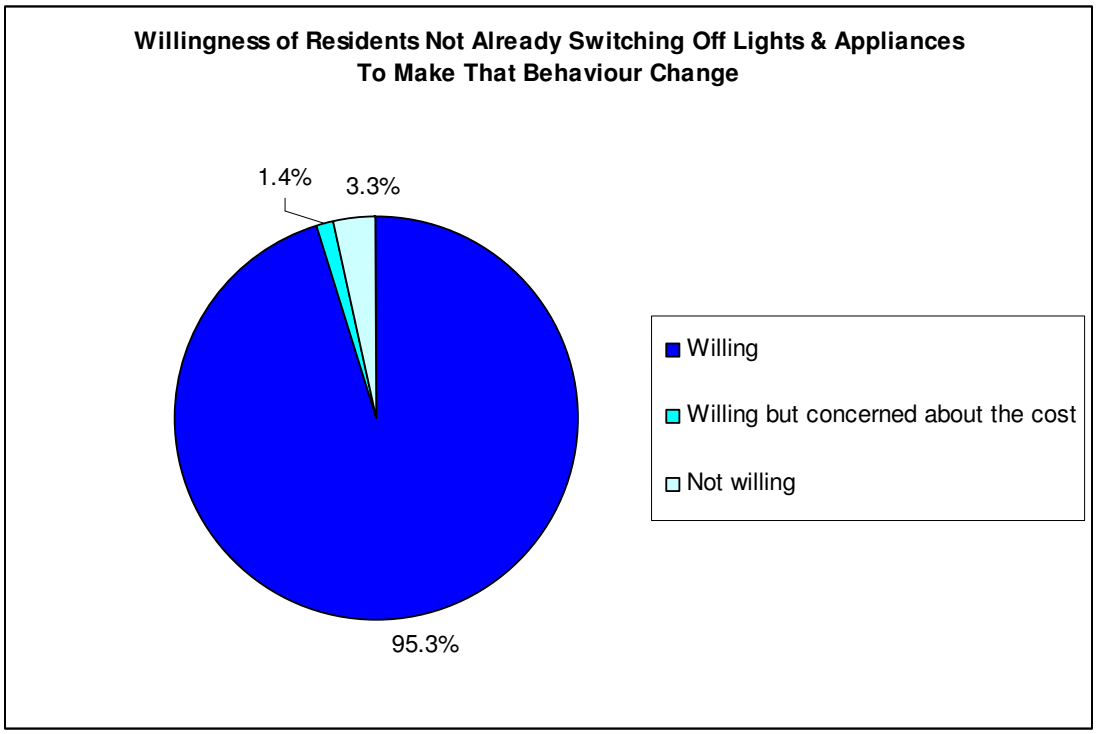

Figure 5: Pie Chart Illustrating the Willingness of Residents Who are Not Already Switching Off Lights and Appliances When Not in Use to Make a Behaviour Change

Of the 790 respondents who indicated that they were not already turning off lights and appliances when they are not in use a 95.3% majority indicated that this was a behaviour change they were willing to make.

Only 11 residents (1.4%) expressed a concern about the cost. This is an small, yet unsurprising number, as this exercise is generally regarded as being a money saving activity.
26 residents (3.3%) indicated a low willingness to change their behaviour.

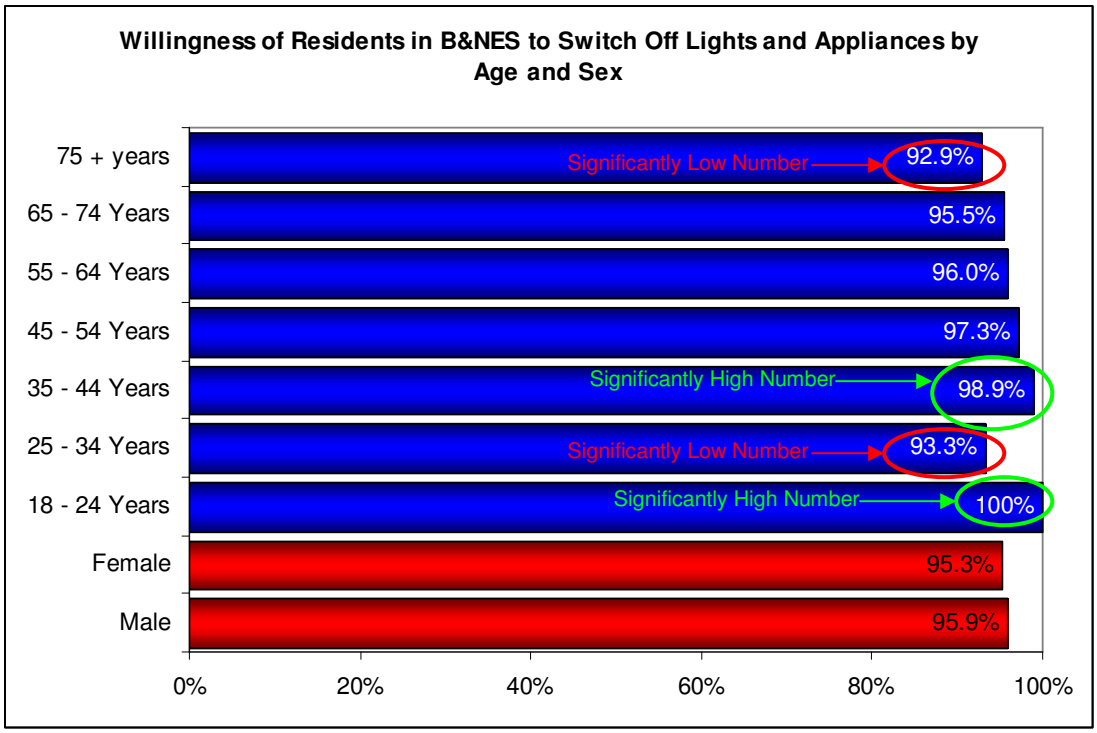

Figure 6: Willingness of Residents to Switch of Lights & Appliances by Age and Sex

Looking into some of the demographic features of those that have expressed a willingness to make these changes there are distinct age groups who express a significantly high willingness to change their behaviour in regards to switching off lights and appliances when they are not in use.

- 18 – 24 year olds – 100% of this group who were not already adopting this behaviour showed a willingness to change there behaviour
- 35 – 44 year olds – 98.9% of this group who were not already adopting this behaviour showed a willingness to change there behaviour

There are also two distinct groups who identified as having a significantly low willingness rate to change amongst them.

- 25 – 34 year olds – Only 93.3% of this group who were not already adopting this behaviour showed a willingness to change there behaviour
- 75 + year olds – Only 92.9% of this group who were not already adopting this behaviour showed a willingness to change there behaviour, making this group the least willing to change their existing behaviour about this issue.

Males were only 0.6% more willing to change this behaviour.

Ward	Willingness
KINGSMEAD WARD	88.9%
MIDSOMER NORTON REDFIELD WARD	88.9%
OLDFIELD WARD	88.0%
SOUTHDOWN WARD	86.4%
WESTON WARD	86.4%

Significantly Low Willingness (>SD +)

Significantly High Willingness (<SD +)

Figure 7 Willingness Levels by Ward to Switch Off Lights and Appliances When Not in Use by Ward

The Graph above illustrates that there are no wards within Bath and North East Somerset that exhibit a significantly high willingness level to change their behaviour around switching off lights and appliances that are not in use.

However, five wards had a significantly low willingness level of willingness to change their behaviour. These wards are shown in Figure 7 (above), with Weston Ward showing as being the least willing.

Willingness of Residents to Make the Change to Install Renewable Energy Sources in Their Home

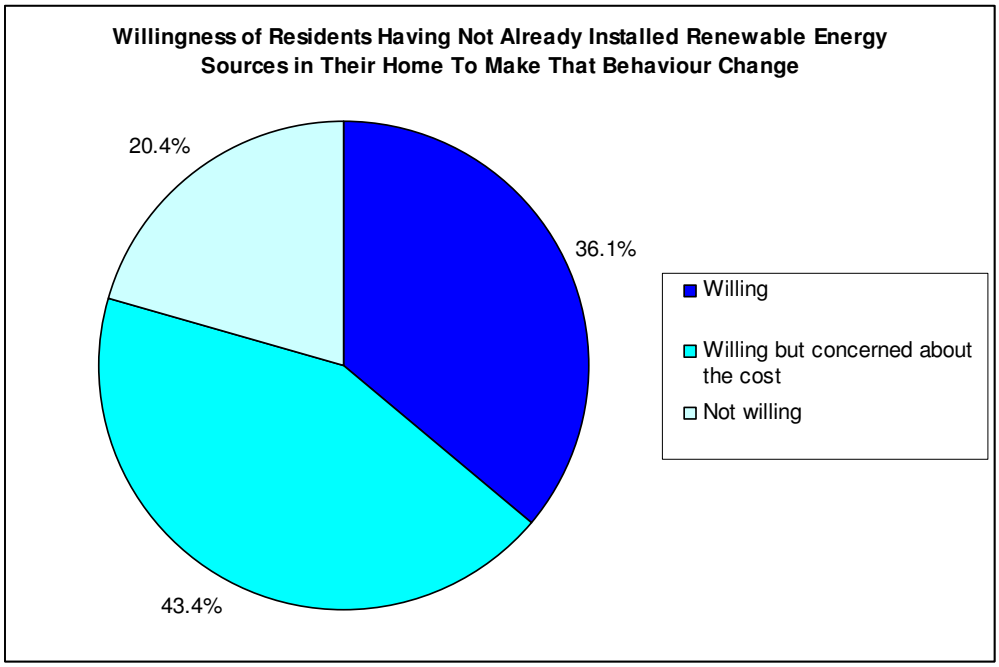

Figure 8: Pie Chart Illustrating the Willingness of Residents Who Have Not Already Installed Renewable Energy Sources to Make a Behaviour Change

Of the 3,784 residents that indicated that they had not already installed renewable energy sources such as solar panels in their home, only 36.1% indicated that they were willing to consider changing their behaviour. The

43.4% majority of participants indicated that although they were willing, they had concerns about the cost of making these changes.

Although cost is a prohibitive factor that is affecting resident willingness to make behaviour changes in regards to installing renewable energy, there appears to be other factors that are influencing residents' willingness. 20.4% of all respondents indicated an low willingness to change this behaviour, indicating there are other considerations, beside costs, that are putting residents off changing their behaviour.

Out of all behaviour changes reported about, this issue received the highest proportion of low willingness amongst residents.

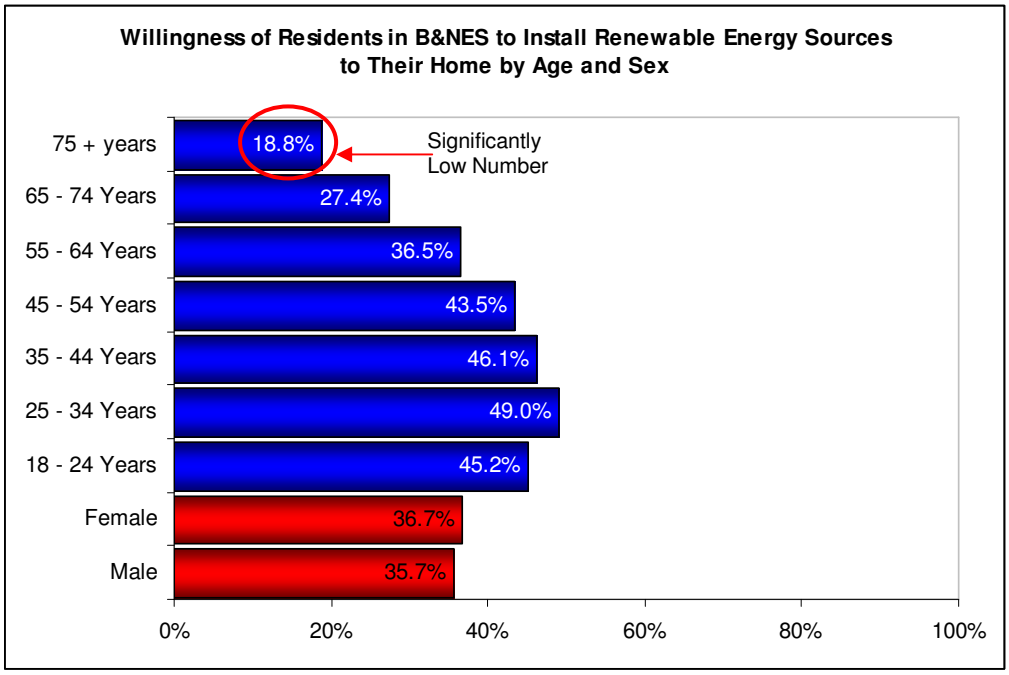

Figure 9: Willingness of Residents to Install Renewable Energy Sources by Age and Sex

Looking into some of the demographic features of those that have expressed a willingness to make these changes it can be seen that there are no age groups that demonstrate a significantly high willingness level to install renewable energy sources in their home.

However, the age groups under 45 years old seem to show a higher willingness than those over 45 years old.
The age group with the highest proportion of respondents indicating a willingness to install renewable energy sources into their homes are the 25 – 34 year olds with 49% indicating a level of willingness.
Past the age of 25 years old the willingness of respondents decreases as the age of respondents increases. The age group of those aged over 75 years old had significantly lower willingness level to install renewable energy sources into their homes, making them the least willing.

There is a 1% differences in willingness levels between sexes, with females being more willing.

Ward	Willingness
LANSDOWN WARD	52.6%
ABBEY WARD	52.6%
BATHWICK WARD	48.7%
KINGSMEAD WARD	48.6%
WALCOT WARD	47.9%
KEYNSHAM EAST WARD	26.8%
MIDSOMER NORTON NORTH WARD	26.5%
CHEW VALLEY SOUTH WARD	24.0%
WESTMORELAND WARD	23.0%
HIGH LITTLETON WARD	20.9%

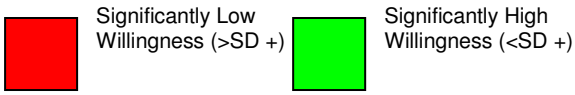

Figure 10 Willingness Levels by Ward to Install Renewable Energy Sources in Home by Ward

There are five wards within Bath and North East Somerset that show a significantly high willingness to installing renewable energy within their homes. These are illustrated in green in Figure 10 (above) which shows that both residents in Lansdown Ward and Abbey Ward have the highest willingness to installing energy sources such as solar panels with 52.6% of all residents of these wards indicating willingness.

There are also five wards that show a significantly low level of willingness to install renewable energy sources. These five wards are highlighted in red in the chart above. Of all wards in Bath and North East Somerset high Littleton is the ward whose residents show the lowest level of willingness to change this behaviour to save carbon emissions.

Willingness of Residents to Make the Change to Using Reusable Bags for Shopping

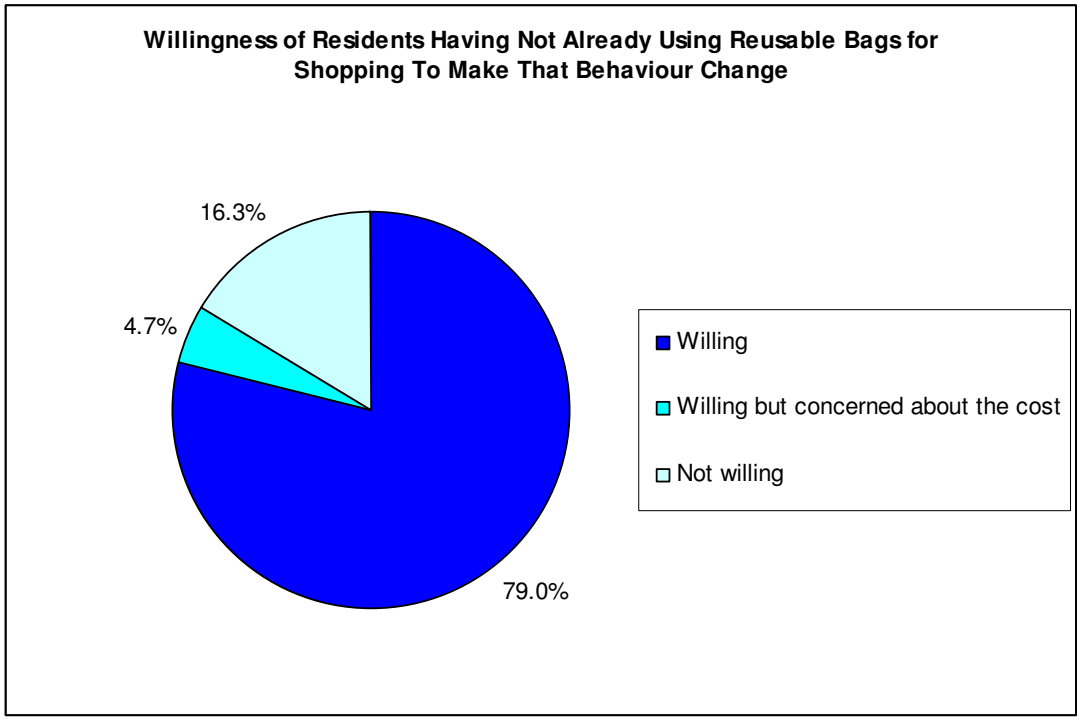

Figure 11: Pie Chart Illustrating the Willingness of Residents Who Are Not Already Using Reusable Bags for Shopping to Make a Behaviour Change

Of the 2,055 residents that responded as not already using reusable bags when going shopping, 79% indicated that they were willing to make the change to using reusable bags in the future to help reduce carbon emissions.

16.3% of those asked indicated that they were unwilling to make the change to reusable bags, whilst only 4.7% indicated that they were willing but concerned about the cost involved with using renewable bags for shopping.

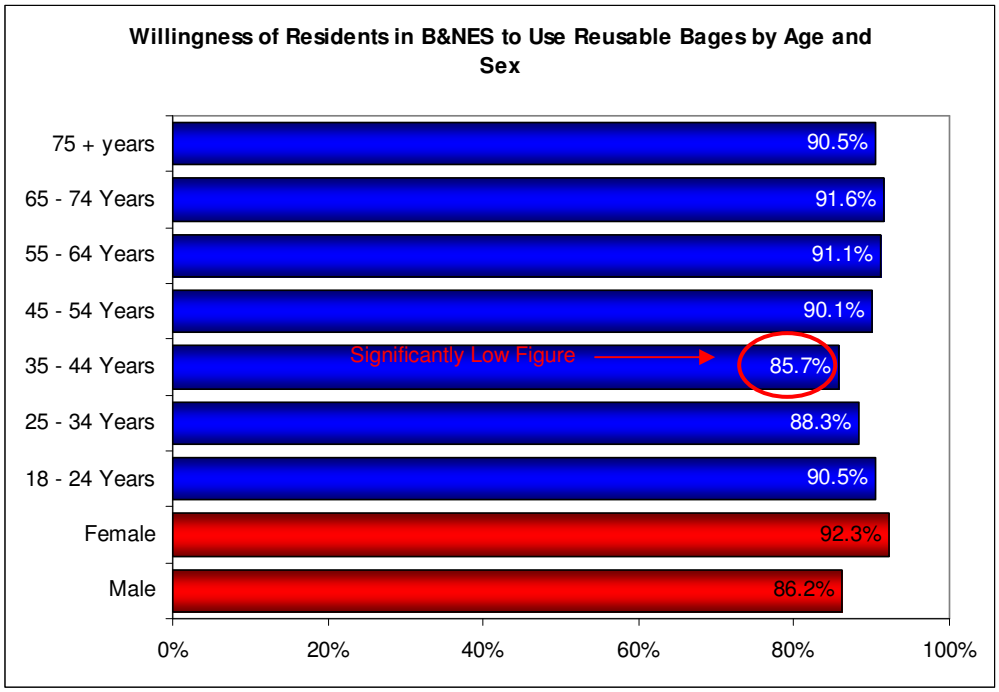

Figure 12: Willingness of Residents to Use Reusable Bags for Shopping by Age and Sex

Across the age groups there is an average proportion of willingness of 89.7% across the age groups.
The graph above demonstrates that five of the age categories are above average proportion for willingness to use reusable shopping bags, with the 65-74 year olds having the highest willing proportion amongst all the age categories.
However, no age group indicates a significantly high propensity to be more willing to change this behaviour than any other group.

Respondents between the ages of 25 – 44 years old have a below average proportion of respondents willing to start using reusable shopping bags, with 35 – 44 year olds being significantly less willing to change this behaviour than any other age group.

Female respondents are 6.1% more willing to use reusable shopping bags than their male counterparts with 92.3% of all females not already using reusable bags indicating a willingness to do so.

Ward	Willingness
CHEW VALLEY NORTH WARD	100.0%
CLUTTON WARD	100.0%
MENDIP WARD	100.0%
WESTMORELAND WARD	100.0%
BATHAVON NORTH WARD	97.6%
ABBEY WARD	80.0%
RADSTOCK WARD	79.3%
KEYNSHAM EAST WARD	78.8%
WESTON WARD	76.9%
BATHAVON SOUTH WARD	75.0%
MIDSOMER NORTON NORTH WARD	75.0%

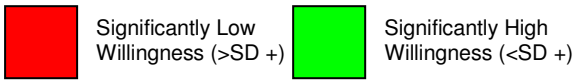

Figure 13 Willingness Levels to Use Reusable Shopping Bags by Ward

Of the five wards in Bath and North East Somerset that had significantly high levels of willingness to use reusable bags in the future, four of these ward had 100% willingness from all respondents to change their behaviour to reduce carbon emissions. These wards with 100% willingness levels are:

- Chew Valley North
- Clutton
- Mendip
- Westmoreland

However, six wards in the area also had significantly low levels of willingness to use reusable bags for shopping. These are illustrated in red in Figure 13 (above) and show that of all the wards in Bath and North East Somerset the wards with residents who are least likely to change there behaviour in regards to reusable bags are:

- Bathavon South (75% willingness amongst residents)
- Midsomer Norton North Ward

Willingness of Residents to Make the Change to Start Buying Products with Less Packaging

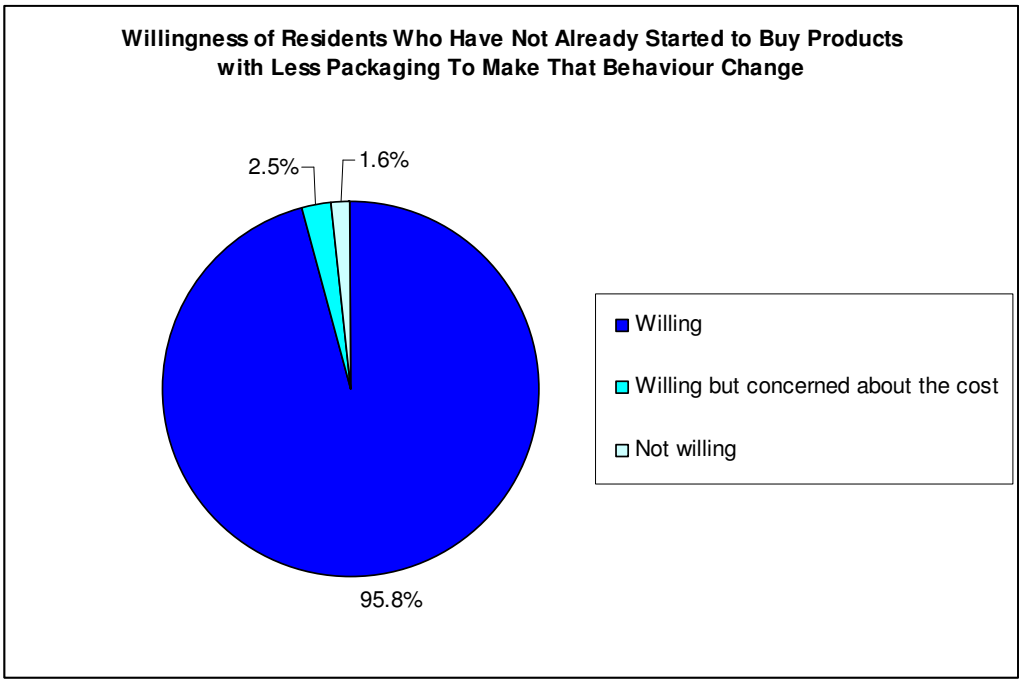

Figure 14: Pie Chart Illustrating the Willingness of Residents Who Are Not Already Buying Products with Less Packaging to Make a Behaviour Change

Of the 2,258 respondents who indicated that they were not deliberately buying products with less packaging 95.8% indicated that in future that this behaviour change would be one that they would be willing to make.

Only 94 respondents did not state a willingness, with 59% (2.5% of overall respondents) of those indicating that they were concerned about the costs associated with that behaviour change. The other 39% (1.6% of overall respondents) stating that they were not willing to make the behaviour change.

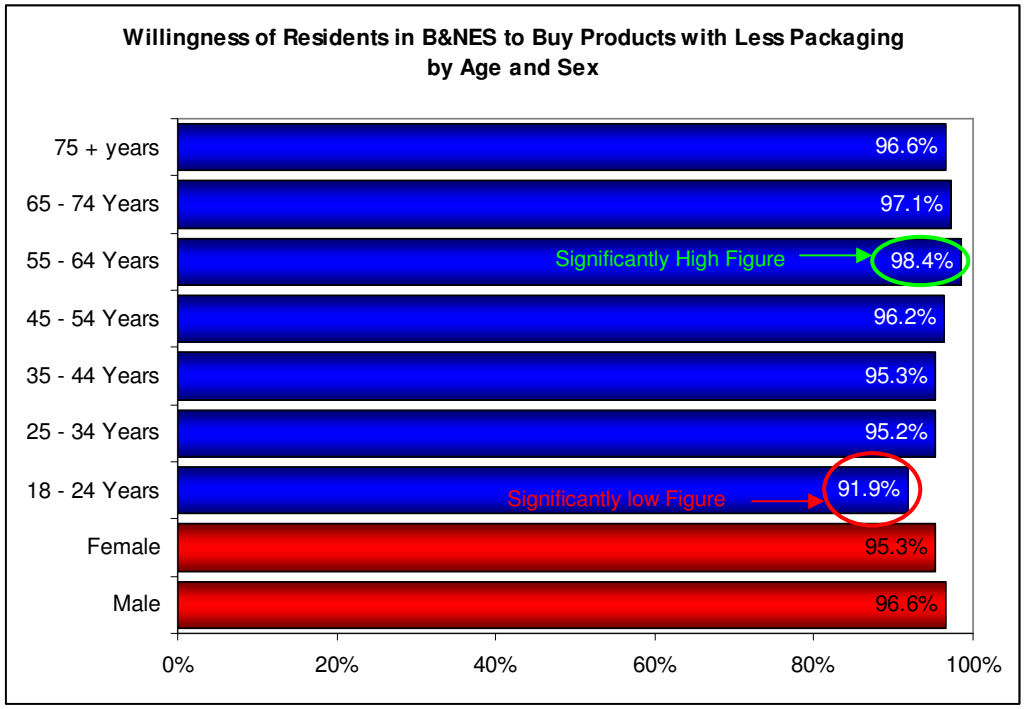

Figure 15: Willingness of Residents buy Products with Less Packaging by Age and Sex

The average level of willingness amongst the age categories to buy products with less packaging is 95.8%. The age categories from 45+ years all have a higher than average willingness to buy products with less packaging with those aged 55 – 64 years old being significantly more likely than any other group to be willing to make this behaviour change.

Those respondents aged between 18 – 24 years in age had a significantly lower willingness level to change their behaviour to buying products with less packaging than any other age group with only 91.9% indicating willing.

1.3% more males than females were willing to make this behaviour change, although both had a willingness level over 95%.

Ward	Willingness
CHEW VALLEY NORTH WARD	100.0%
FARMBOROUGH WARD	100.0%
LANSDOWN WARD	100.0%
BATHAVON SOUTH WARD	92.3%
WESTON WARD	92.1%
PAULTON WARD	91.8%
MIDSOMER NORTON NORTH WARD	90.9%
SOUTHDOWN WARD	90.5%
RADSTOCK WARD	90.4%
ODD DOWN WARD	88.9%
KINGSMEAD WARD	86.4%

Significantly Low Willingness (>SD +)

Significantly High Willingness (<SD +)

Figure 16 Willingness Levels to Buy Products with Less Packaging by Ward

Three ward in Bath and North East Somerset exhibit significantly high levels of willingness from residents to change their behaviour in regard to buying products with less packaging. These three wards are highlighted in green in Figure 16 (above), and all have a 100% willingness level amongst residents to change their behaviour.

However, there are eight wards in Bath and North East Somerset that had significantly low levels of willingness to change behaviours towards purchasing products that had less packaging.
These wards are illustrated in Figure 16 (above) in red. From this chart we can see that in Bath and North East Somerset the ward whose residents exhibit the least willing to change purchasing behaviour to products with less packaging is Kingsmead Ward with only 86.4% willingness amongst its residents.

Willingness of Residents to Make the Change to Start Buying More Locally Produced Foods

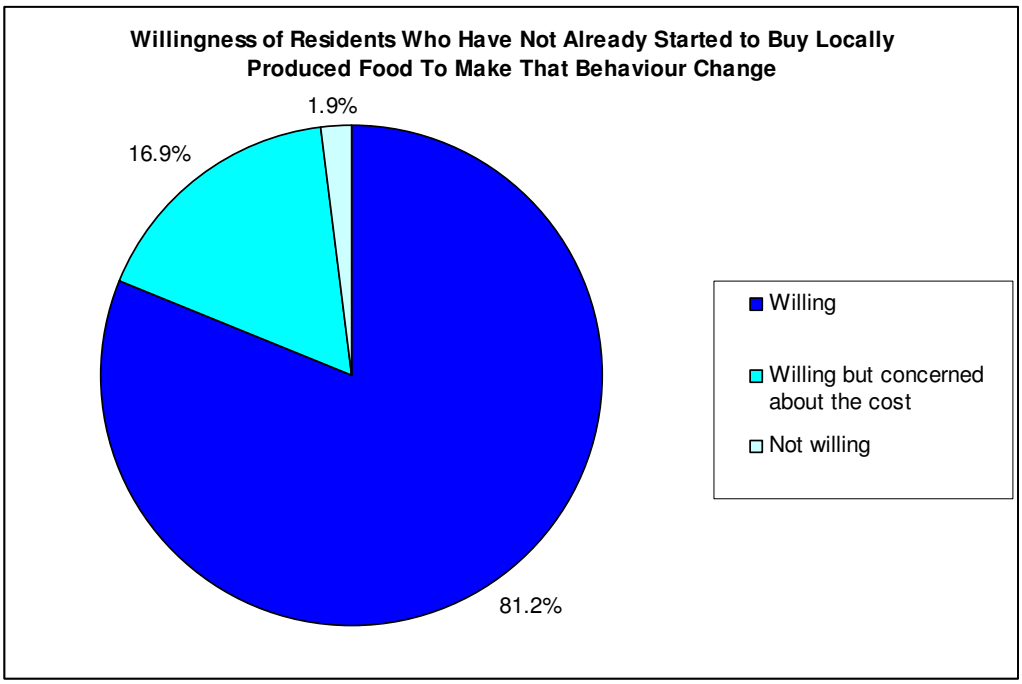

Figure 17: Pie Chart Illustrating the Willingness of Residents Who Are Not Already Buying Locally Produced Foods to Make a Behaviour Change

2,559 participants indicated that, at the time of the survey, were not already buying locally produced food to help cut down carbon emissions. However, of these people, 81.2% indicated that this would be a behaviour change that they would be willing to make.

However, only 1.9% of people indicated a low willingness to change their behaviour whereas 16.9% of people who are not made the behaviour change indicated that they were concerned about the costs involved with making the change as buying more local food was perceived to be more expensive by these people.

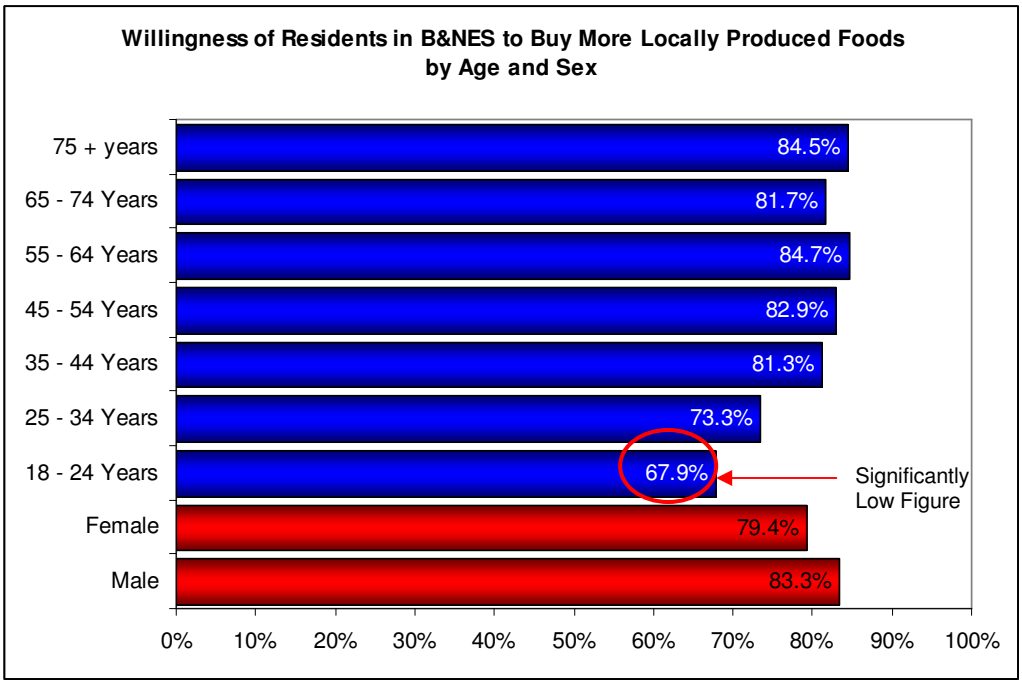

Figure 18: Willingness of Residents to Buy Locally Produced Food by Age and Sex

The average level of willingness amongst the age categories to buy products with less packaging is 79.5%. All residents in the aged above 35 years old displays a higher than average willingness to change their behaviour towards buying more locally produced foods with the age group 55-64 years old showing the highest level of willingness amongst the age categories.

However, there is no one particular age group that show a significantly high level of willingness across the age categories.

Those aged between 18 – 34 years of age have a lower than average willingness to change behaviours towards buying more locally produced food to reduce carbon emissions.
Participants aged between 18 – 24 years of age showed a significantly low level of willingness to making this behaviour change, making them the most unwilling across the ages.

Across the two sexes 3.9% more males were willing to buy locally produced foods compared to female respondents.

Ward	Willingness
CHEW VALLEY SOUTH WARD	95.5%
FARMBOROUGH WARD	90.9%
BATHWICK WARD	90.7%
CHEW VALLEY NORTH WARD	89.3%
LANSDOWN WARD	88.7%
KEYNSHAM EAST WARD	88.0%
PAULTON WARD	77.0%
MIDSOMER NORTON REDFIELD WARD	75.0%
CLUTTON WARD	74.2%
MIDSOMER NORTON NORTH WARD	72.3%
KINGSMEAD WARD	72.1%
WESTFIELD WARD	71.3%
ODD DOWN WARD	70.5%
RADSTOCK WARD	69.7%

Significantly Low Willingness (>SD +)

Significantly High Willingness (<SD +)

Figure 19 Willingness Levels to Buy Locally Produced Foods by Ward

Six wards in Bath and North East Somerset show significantly high willingness to change their behaviour and start buying more locally produced foods. These wards are highlighted in green in Figure 19 (above).
The Ward in Bath and North East Somerset that shows the highest willingness to change their behaviour surrounding this issue is residents within Chew Valley South Ward with 95.5% of residents expressing a willingness to change.

However, eight wards within Bath and North East Somerset show significantly low willingness to change their behaviours around this matter. This represents 21.6% of the wards in the area, with the wards showing significantly low willingness highlighted in red in Figure 19 (above). Looking at the chart above the ward of Radstock exhibits the lowest level of willingness of residents to change behaviours and purchase more locally produced foods in the whole of the area, with a willingness level of only 69.7% amongst its residents.

Willingness of Residents to Make the Change to Taking More Journeys by Bike or Foot

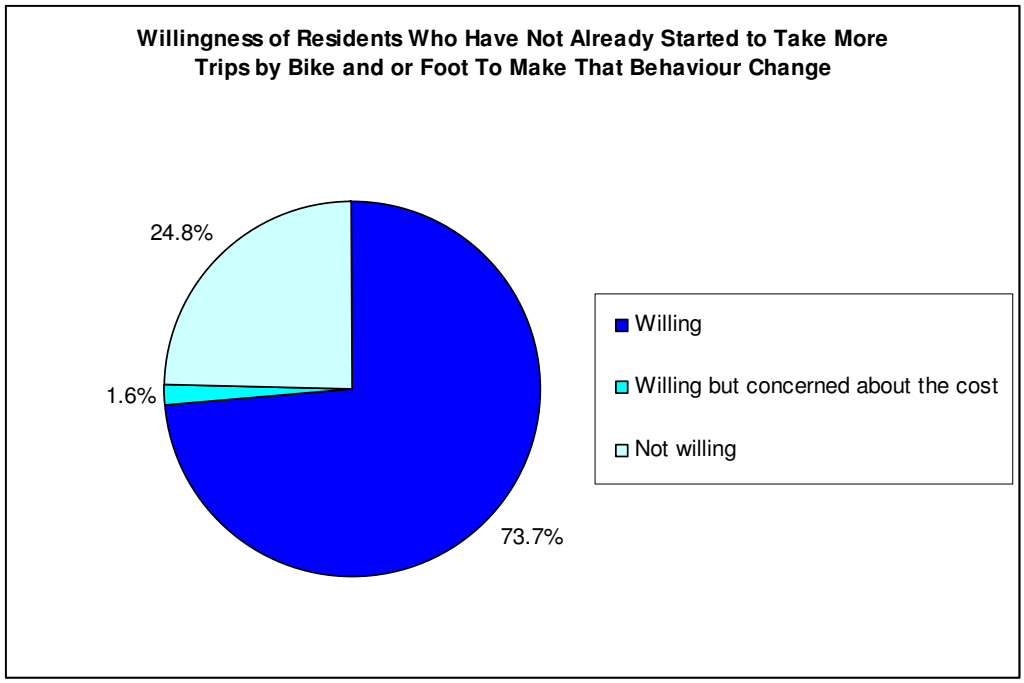

Figure 20: Pie Chart Illustrating the Willingness of Residents Who Are Not Already Taking More Journeys by Bike or Foot to Make a Behaviour Change

Of the 2,229 participants who answered this question indicating that they had not already made a behaviour switch to taking more journeys by bike or foot where possible, 73.7% indicated that this would be a behaviour change that they would have a willingness to make.

Whilst only 35 residents (1.6% of respondents) indicated that concerns about cost were a prohibitive factor to making the behaviour switch nearly a quarter of respondents (24.8%) indicated that this was a behaviour change that they were not willing to make. This behaviour sees the largest level of active low willingness amongst residents to change to reduce carbon emissions.

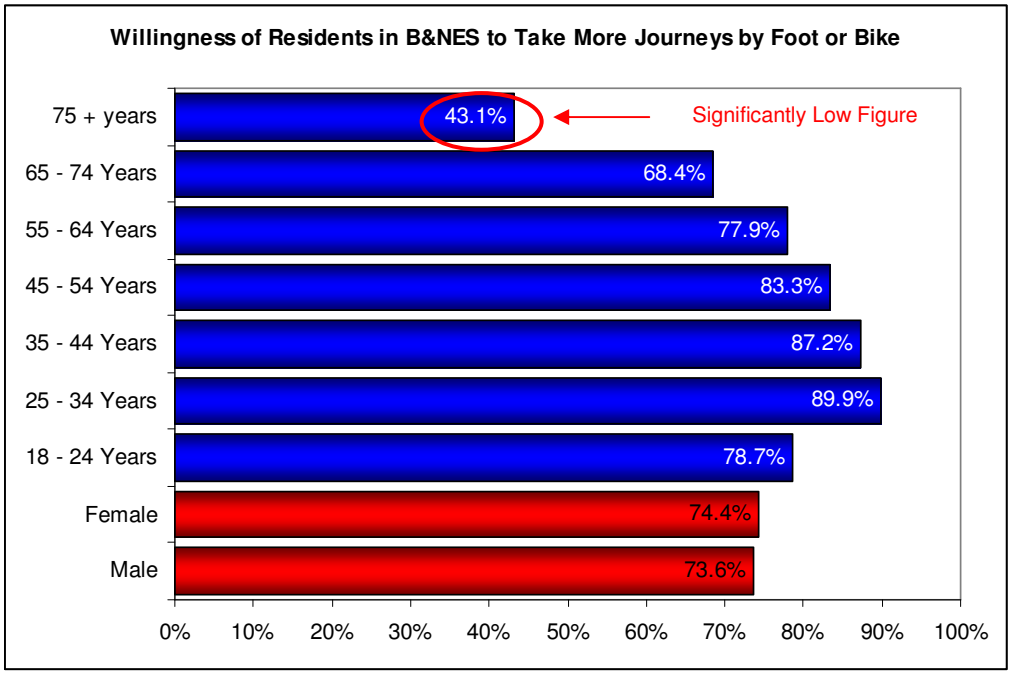

Figure 21: Willingness of Residents to Take More Journeys by Bike or Foot by Age and Sex

By looking into willingness levels among age and sex the average willingness level between the age groups is 75.5%. Figure 21 demonstrates that residents between the age of 18 – 64 years of age had a higher than average willingness to change their behaviour around methods of travel. The age group with the largest willingness level are the 25 – 34 year olds with 89.9% of all residents within this category demonstrating a willingness to change their behaviour.
However, amongst all the age categories there was no one specific group that demonstrated a significantly high level of willingness.

Respondents aged over 65 years had a below average level of willingness, with those aged over 75+ showing the lowest level of willingness to make this behaviour change. For these two age groups physical barriers such as state of health and mobility are likely to be driving down willingness rather than psychological or pecuniary barriers.

Although females demonstrate a 0.8% higher willingness to make this behaviour change, there were no significant differences in willingness between the two sexes.

Ward	Willingness
LANSDOWN WARD	87.2%
BATHWICK WARD	85.7%
ABBEY WARD	84.9%
HIGH LITTLETON WARD	84.4%
SALTFORD WARD	84.4%
TWERTON WARD	65.5%
FARMBOROUGH WARD	65.2%
CHEW VALLEY NORTH WARD	64.9%
BATHAVON WEST WARD	54.5%
CHEW VALLEY SOUTH WARD	53.6%

Significantly Low Willingness (>SD +)

Significantly High Willingness (<SD +)

Figure 22 Willingness Levels to Buy Locally Produced Foods by Ward

The graph above shows the wards in Bath and North East Somerset who have a significantly high or low level of willingness amongst residents to change their behaviour towards switching methods of transportation to foot or bike.

The wards highlighted in green show the five wards that have a significantly high level of willingness to change amongst residents. Lansdown Ward shows the highest level of willing with 87.2% of residents indicating that this would be a behaviour change they would have a willingness to make.
The five wards highlighted in red are the wards that have a significantly low level of willingness to make this change amongst residents.
The graph indicates that residents from Chew Valley South Ward are the least willing to make this behaviour change to reduce carbon emissions, with only 53.6% willingness amongst respondents.

Willingness by MOSAIC Type

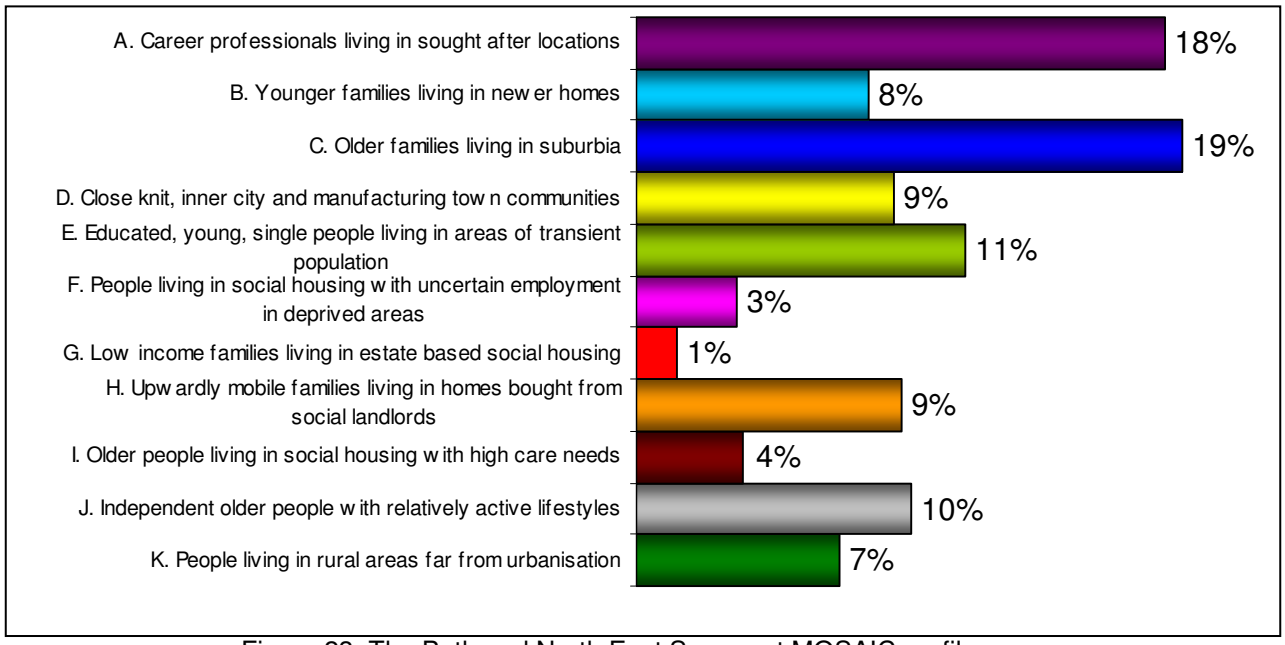

Figure 23: The Bath and North East Somerset MOSAIC profile

MOSAIC segments the national population into 11 standard classification groups, and 61 further more specific types. (Please refer to the appendix for a more detailed description)

Figure 20 shows the 71,115 households in the area broken down into their MOSAIC group. This chart illustrates that nearly 50% of the area fall into three distinct MOSAIC Groups:

- **C**: Older Families Living in Suburbia (19%)
- **A**: Career Professionals Living in Sought After Locations (18%)
- **E**: Educated, Young, Single People Living in Areas of Transient Populations (11%)

Willingness to Change Behaviours by MOSAIC Group

By creating an index for the results from each behaviour change discussed in Question 23 of Voicebox 15 we can identify if a particular MOSAIC group exhibit a propensity to be more willing or less willing than the average, when average is 100, to change their behaviour to help reduce carbon emissions.

Group A – Career Professionals Living in Sought After Locations

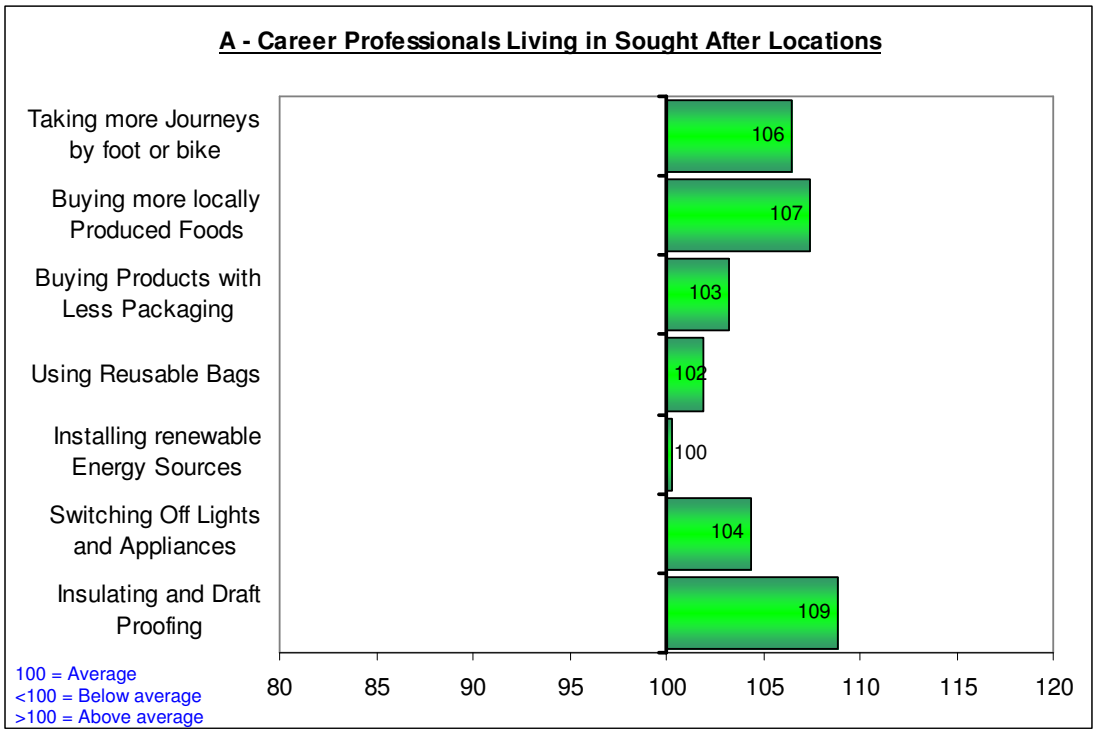

Figure 24: Index of Behaviour Changes for MOSAIC Group A

Figure 24 indicates that as a group, Group A shows a higher than average propensity to be willing to change their behaviours to help lower carbon emissions in the following areas (in rank order):

1. Insulating and draft proofing homes (index 109)
2. Buying Locally produced foods (index 107)
3. Taking more journeys by bike or foot (index 106)
4. Switching of lights and appliances when not in use (index 104)
5. Buying Products with less packaging (index 103)
6. Using reusable bags (index 102)

This group also show an average willingness level to installing renewable energy sources within their home.

	Broadsheets	Heavy Weight Magazines	Telephone Advice Lines	Internet	Terrestrial TV	Posters	Telemarketing	Digital TV
Group A					ß	ß	ß	ß

Figure 25: Preferences of Communication Channels for MOSAIC Group A

This group is not unreceptive to changing any of the behaviours explored by Voicebox in a bid to reduce carbon emissions and would be a receptive audience to target with communications about one or a number of behavioural changes discussed.

Figure 25 highlights which communication channels this group are actively engaged or disengaged with as identified by Experian. The channels marked with a tick indicate communication methods that Group A are particularly receptive too.
For localised and affordable targeting of this group by Bath and North East Somerset the best methods of reaching these groups with messages of change are through Telephone Advice lines or the Internet.

Group B – Younger Families Living in Newer Homes

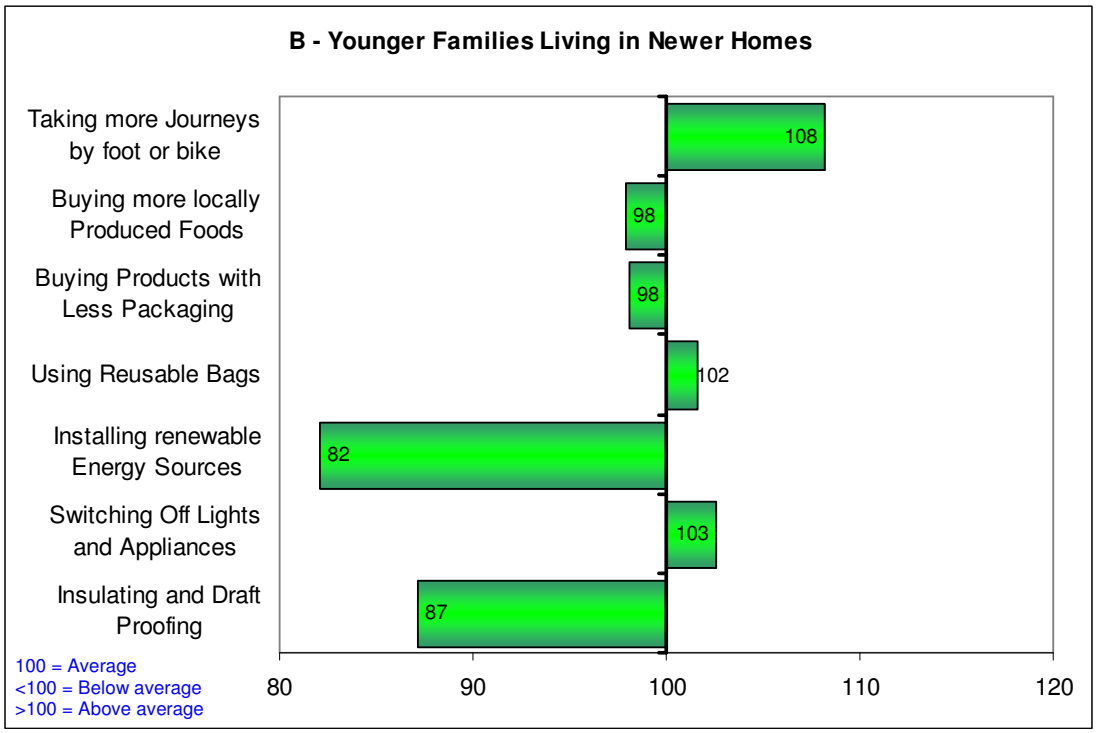

Figure 26: Index of Behaviour Changes for MOSAIC Group B

Figure 26 illustrates that this MOSAIC group show an above average willingness to change three areas of behaviour to help reduce carbon emissions. In rank order these behaviour changes are:

1. Taking more journeys by foot or bike (index 108)
2. Switching of lights and appliances (Index 103)
3. Using Reusable bags (Index 102)

This group show a below average willingness to changing all other areas of behaviour scoring particularly low on willingness to Install renewable energy sources into their home (index 82) and insulating and/or draft Proofing their home (index 87). Group B would not be the most receptive of groups to target for these issues.

	Internet	Email	Entertainment magazines	Mid Market tabloids	Digital TV	Terrestrial TV	Broadsheets
Group B						ß	ß

Figure 27: Preferences of Communication Channels for MOSAIC Group B

This group are the second largest over indexer demonstrating a willingness to take more journeys by bike or foot and Figure 27 shows the channels of communications that this group are most receptive to.

If Bath and North East Somerset were wishing to target this group with messages of change regarding taking alternative transportation methods where possible, the most feasible channels to reach this group on are through the internet or targeted emails.

Group C – Older Families Living in Suburbia

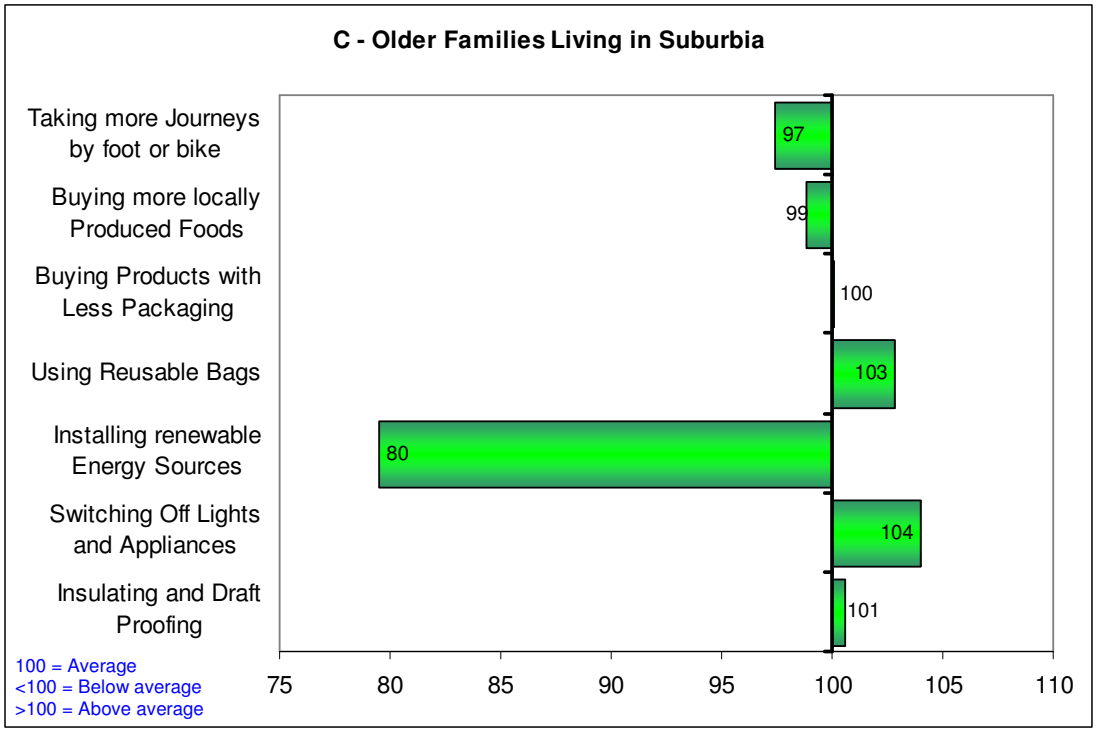

Figure 28: Index of Behaviour Changes for MOSAIC Group C

Figure 28 illustrates that this MOSAIC group show an above average willingness to change three areas of behaviour to help reduce carbon emissions. In rank order these behaviour changes are:

1. Switching Off Lights and Appliances (index 104)
2. Using Reusable Bags (index 103)
3. Insulating or Draft Proofing Home (index 101)

Group C are the group with the lowest level of willingness to install renewable energy sources into their home with an index of 80, 20% lower than the average.

	Broadsheets	Telephone Advice Lines	Terrestrial TV	Digital TV	Posters	GP Surgery
Group C			ß	ß	ß	ß

Figure 29: Preferences of Communication Channels for MOSAIC Group C

If Bath and North East Somerset Council were wishing to specifically target this group or engage this group the most feasible channel of communication available that Group C are shown to have a receptiveness to is Telephone Advice Lines.

Group D – Close Knit, Inner City and Manufacturing Towns

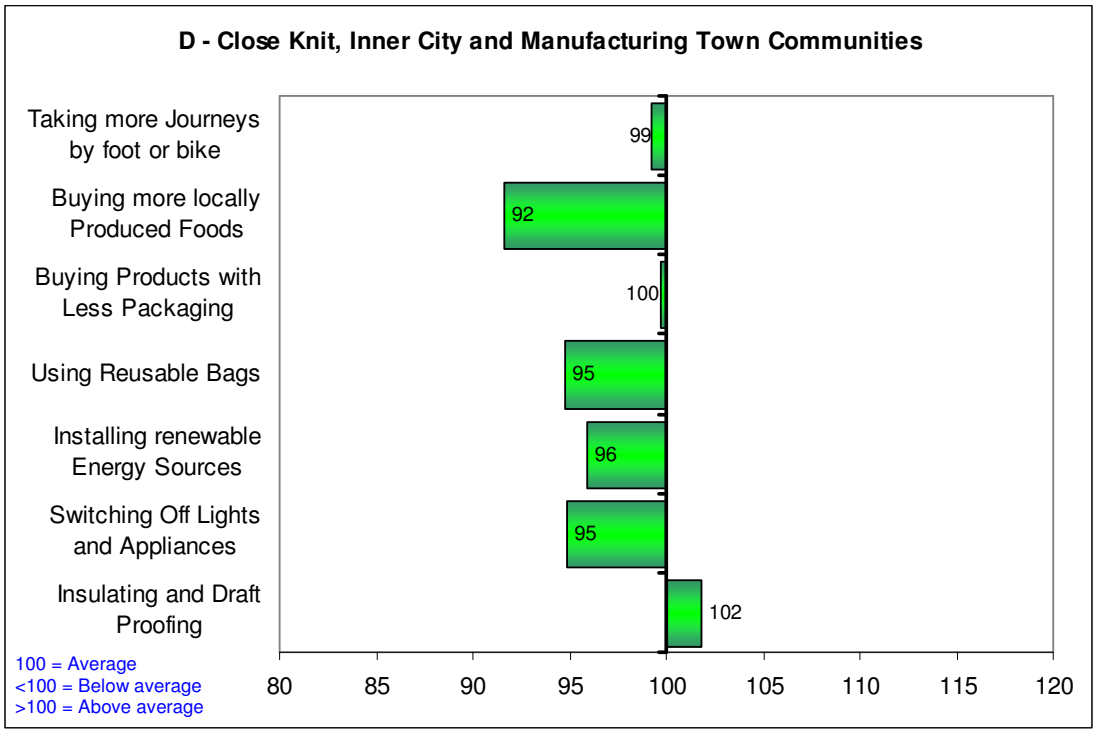

Figure 30: Index of Behaviour Changes for MOSAIC Group D

Group D show a below average willingness to change elements of their lifestyle to reduce carbon emissions in five of the seven behaviour changes explored in Voicebox 15.

This group show a slightly higher than average index in being willing to insulate and/or draft proof their home with an index of 102 and may be a group that could be targeted with communications surrounding this behaviour change.

	Red Top Newspapers	Communal Centres	Broadsheets	Heavy Weight Magazines
Group D			ß	ß

Figure 31: Preferences of Communication Channels for MOSAIC Group D

Figure 31 illustrates the channels of communication that these groups are receptive to.

If Bath and North East Somerset Council were wishing to affectively reach this group then the most accessible channel would be through Communal Centres within the district where large clusters of people belonging to this group are known to live.

Group E – Educated Young, Single People Living in Areas of Transient Populations

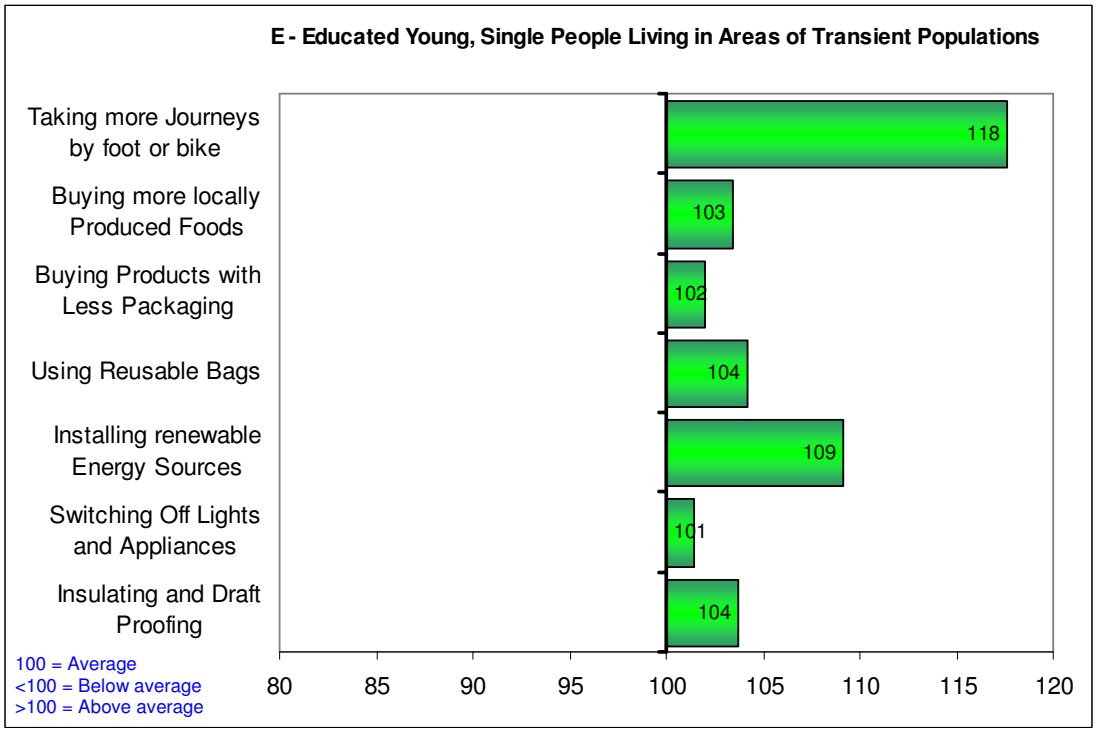

Figure 32: Index of Behaviour Changes for MOSAIC Group E

Group E over index in responding with a willingness to change in all seven behaviour changes explored in Voicebox 15. Out of all MOSAIC Groups group E had the highest index in willingness to take more journeys by foot or bike. In Rank order the index in all seven areas that group E have above average willingness to change are:

1. Taking more journeys on bike or foot (index 118)
2. Installing renewable energy sources (index 109)

3 = Insulating and draft proofing Home (index 104)
3 = Using reusable bags (index 104)

5. Buying more locally produced foods (index 103)
6. Buying products with less packaging (index 102)
7. Switching off lights and appliances (index 101)

	Telephone Advice Lines	Internet	Posters	Leaflets	Direct Mail	Local Shops	Magazines	Red Top Newspapers
Group E								ß

Figure 33: Preferences of Communication Channels for MOSAIC Group E

This group may be a receptive audience to target with messages of change about all issues explored in Voicebox 15.

Figure 33 shows channels of communication that Group E demonstrate receptiveness to. On a local level Bath and North East Somerset Council could use Telephone Advice Lines, The Internet, Posters, Leaflets and Direct Mail or Local shops as a channel to affectively get messages of change to reach this group.

Group F- People Living in Social Housing with Uncertain Employment in Deprived Areas

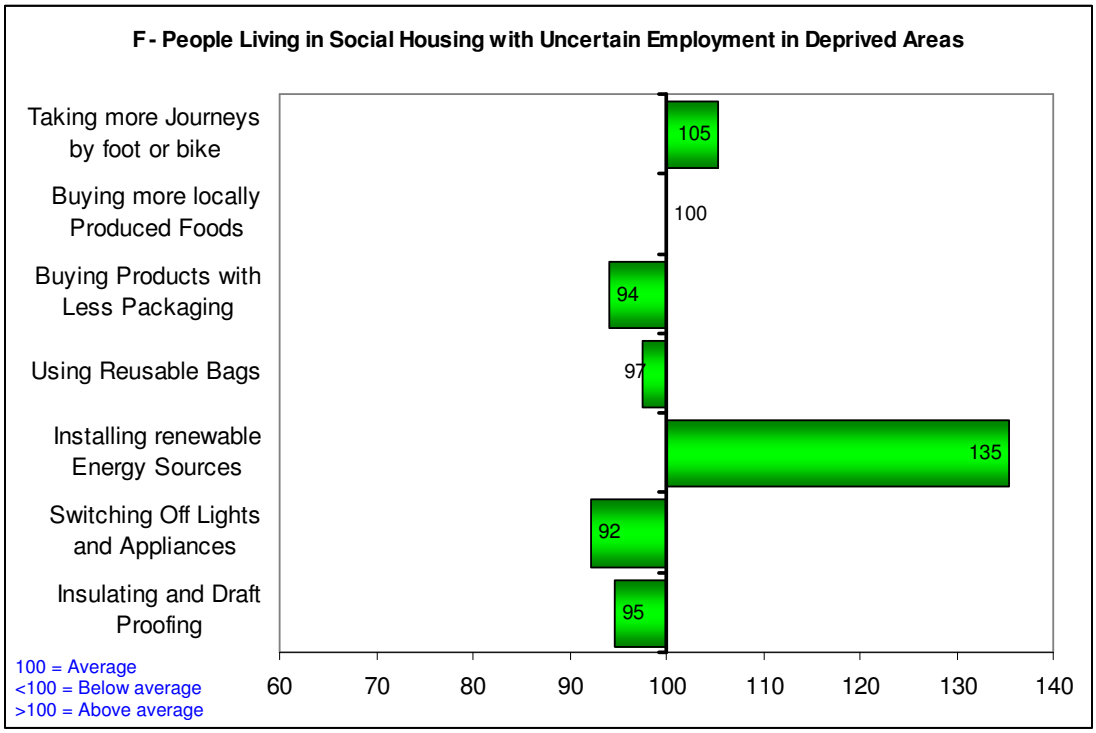

Figure 34: Index of Behaviour Changes for MOSAIC Group F

Of all behaviour changes explored in Voicebox 15, Group F over index in willingness in two behaviour changes. These changes are:

1. Installing renewable energy sources (index 135)
2. Taking more journeys by foot or bike (index 105)

Of all MOSAIC groups Group F show the highest level of willingness to install renewable energy sources such as solar panels into their home compared to all other residents in Bath and North East Somerset belonging to other MOSAIC groups.
This group display an average index in willingness to change their behaviour and buy more locally produced food items.

In regards to all other behaviour changes, this group display a lower than average score in regards to displaying a propensity to have a willingness to change.

	Terrestrial TV	Digital TV	Posters	Red Top Newspapers	Leaflets	Direct Mail	Telemarketing	Shopping Channels	Broadsheets	Internet	Magazine
Group F									ß	ß	ß

Figure 35: Preferences of Communication Channels for MOSAIC Group F

Bath and North East Somerset Council could target Group F with messages of change, particularly in regards to the cost saving benefits that switching to taking more journeys by alternative transport such as walking and on a bike or by installing renewable energy sources to their home.

Figure 35 displays channels of communication that this group is receptive to. Of these channels there are those that are more feasible to target this group at a local level. The sustainability team could use posters, leaflets, Direct Mail or a localised telemarketing campaign to affectively reach these groups.

Another feature of this group is their propensity to live in areas that are predominantly comprised of social housing. Another way to change behaviours of this group is to target social landlords directly to start installing more sustainable forms of energy within their properties.

Group G- Low Income Families Living in Estate Based Social Housing

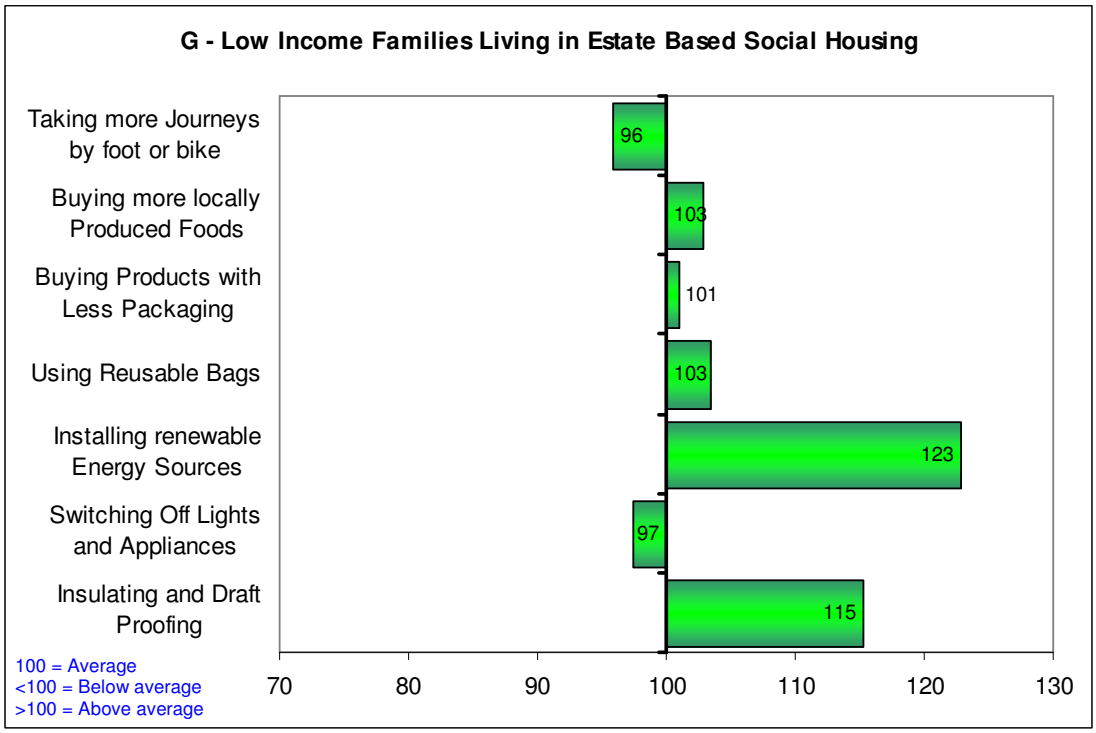

Figure 36: Index of Behaviour Changes for MOSAIC Group G

Figure 36 illustrates that as a cohort, Group G exhibit an above average willingness to change five aspects of the behaviours explored in Voicebox 15 in order to reduce their carbon emissions. These five behaviours are:

1. Installing renewable energy sources into their home (index 123)
2. Insulating and/or draft proofing their home (index 115)

3= Buying more locally produced foods (index 103)
3= Using reusable bags (index 103)
5. Buying products with less packaging (index 101)

This MOSAIC group exhibited the second highest index for willingness to install renewable energy sources into their home out of all the MOSAIC groups, and also the highest index for willingness to insulate and/or Draft proof their home making this group a willing group to target with messages of change regarding home efficiency improvements.

	Terrestrial TV	Digital TV	Posters	Telemarketing	Drop In Centres	Broadsheets	Heavy Weight Magazines	Telephone Advice Lines	Internet	Entertainment magazines	Mid Market tabloids	Red Top Newspapers	Magazines
Group G	✓	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗	✗

Figure 37: Preferences of Communication Channels for MOSAIC Group G

If Bath and North East Somerset Council were to target these people in regards to changing certain elements of their behaviour to reduce carbon emissions Figure 37 illustrates some of the communication channels that this group are most receptive to. For the purposes of reaching Group G at a local level then the suggested channels to use would be:

- Poster Campaigns
- Drop in Centres
- Localised Telemarketing

Like Group G, this group tend to live in areas that are predominantly comprised of social housing. Again, social landlords could be targeted directly to start installing more sustainable forms of energy within their properties.

Group H- Upwardly Mobile Families Living in Homes Bought From Social Landlords

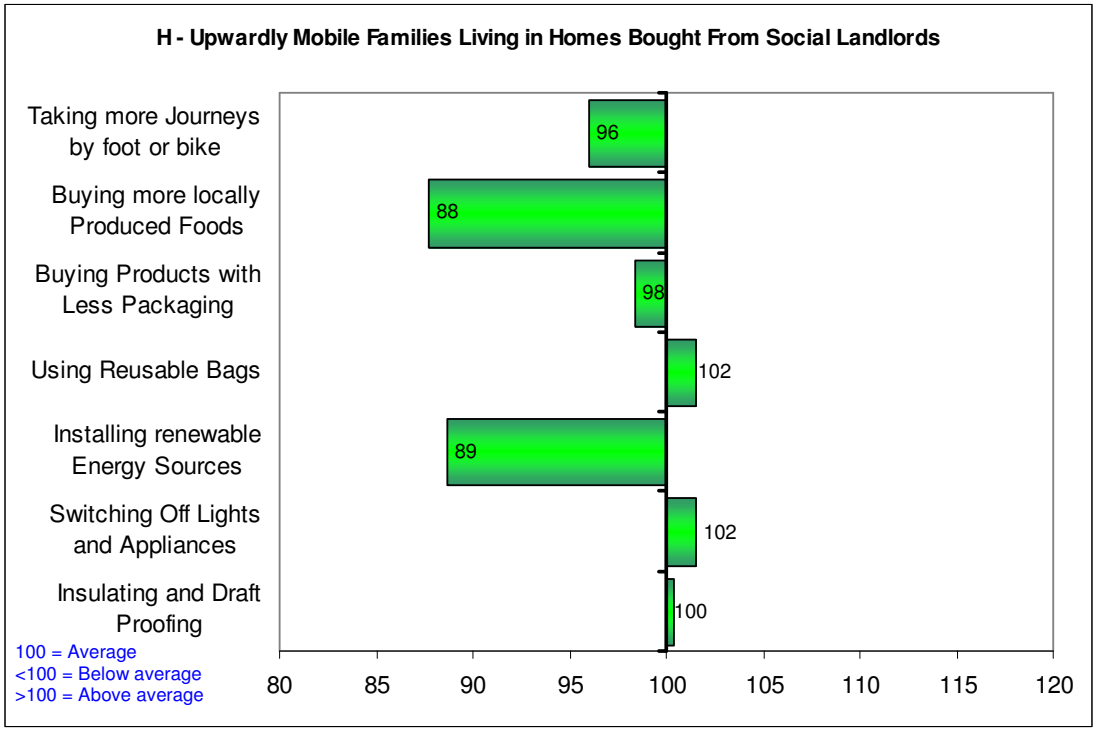

Figure 38: Index of Behaviour Changes for MOSAIC Group H

Figure 38 demonstrates that Group H exhibits an above average willingness to change two behaviours explored in Voicebox 15 in order to reduce their carbon emissions:

- Using reusable bags (index 102)
- Switching off lights and appliances when not in use (index 102)

This group show an average willingness level to Insulate and/or draft proof their home this group under index in all other behaviour changes.

Whilst Group H do exhibit a willingness to make small scale changes that pose minimum cost involvement or fundamental behaviour change this group seem change adverse to any behaviour which requires any significant involvement of time or cost. This group has one of the lowest index for willingness to install renewable energy sources in their home and the lowest index for willingness to switch towards consumption and purchasing of more locally produced food items out of all the MOSAIC groups in Bath and North East Somerset.

	Terrestrial TV	Telemarketing	Digital TV	Red Top Newspapers	Magazines	Broadsheets	Heavy Weight Magazines	Telephone Advice Lines	Internet
Group H					ß	ß	ß	ß	ß

Figure 39: Preferences of Communication Channels for MOSAIC Group H

Whilst the sustainability team may wish to target this group with messages of change involving habits such as using reusable bags or switching off lighting and appliances when they are not in use Figure 39 illustrates that the only channel that this group are receptive towards that could be used at a local level would be telemarketing.

A further cost based analysis would have to be undertaken to ascertain whether the benefits of targeting this group outweigh the costs associated with doing a targeted telemarketing campaign for this group.

Group I- Older People Living in Social Housing with High Care Needs

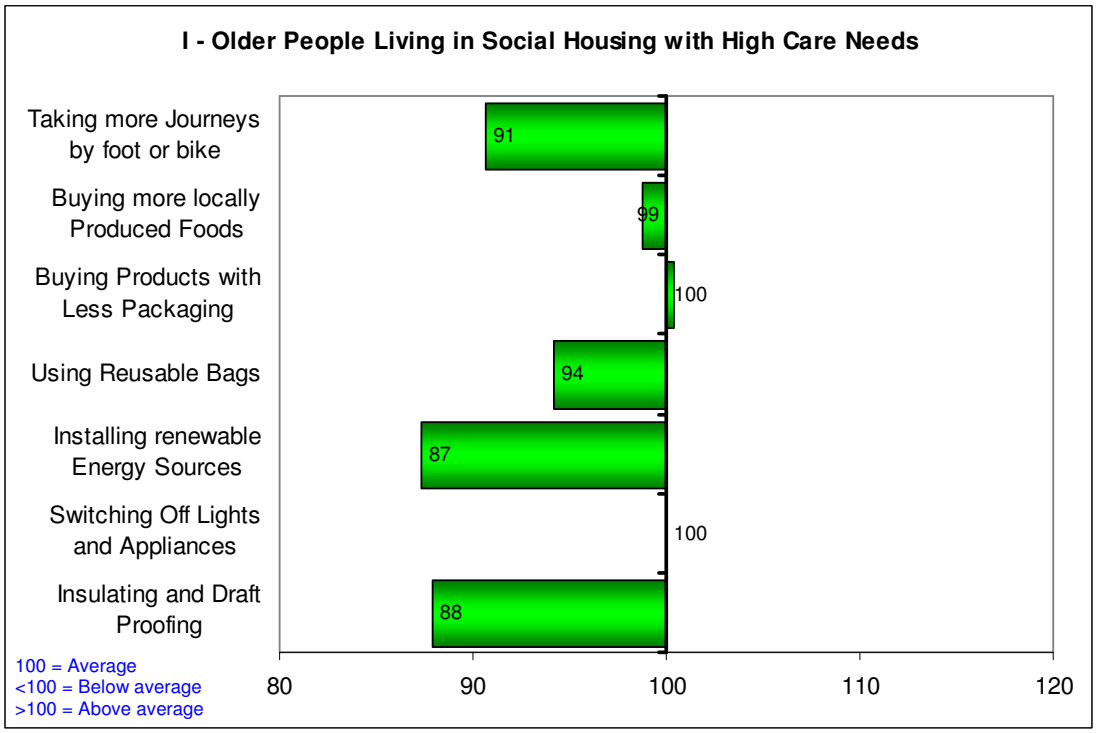

Figure 40: Index of Behaviour Changes for MOSAIC Group I

The chart above shows that whilst Group H have an average index for willingness to switching off lights and appliances and buying products with less packaging, this group under indexes in willingness to make most behavioural changes.

Group I isn't a feasible or receptive target group for reduce carbon emissions

Group J- Independent Older People Living with Relatively Active Lifestyles

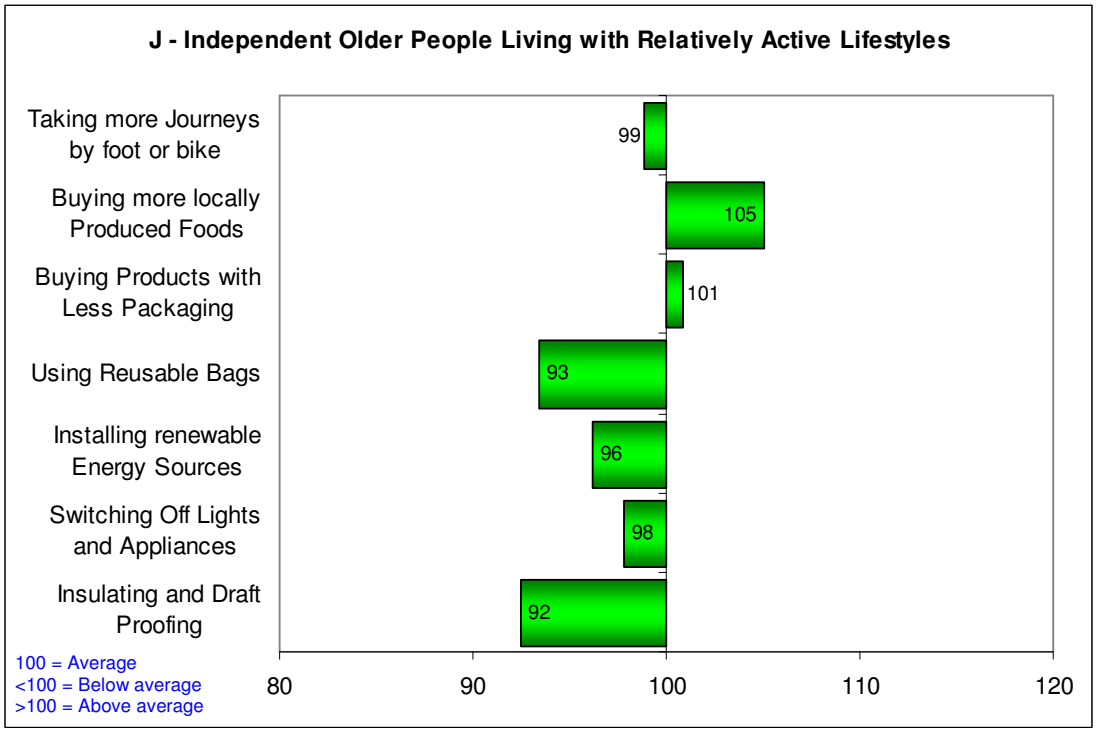

Figure 41: Index of Behaviour Changes for MOSAIC Group J

Group J exhibit a higher than average Willingness to change two of the seven behaviour changes explored in Voicebox 15. The changes that this group had a higher propensity to consider making were:

1. Buying more locally produced foods (index 105)
2. Buying products with less packaging (index 101)

This group scored below average on willingness to change all other aspects of their behaviour in order to reduce carbon emissions.

	Personal contact	Right-of-Centre Press	Internet	Terrestrial TV	Telemarketing	Digital TV	Posters
Group J			ß	ß	ß	ß	ß

Figure 42: Preferences of Communication Channels for MOSAIC Group J

If Bath and North East Somerset Council were wishing to target this group with any communication that promoted lifestyle changes to reduce carbon emission then Figure 42 illustrates which channels of communication that these groups are most receptive to.

In terms of localised targeting of this group within the area personal contact is the channel of communication that would be most effective at reaching Group J

Group K – People Living in Rural Areas Far From Urbanisation

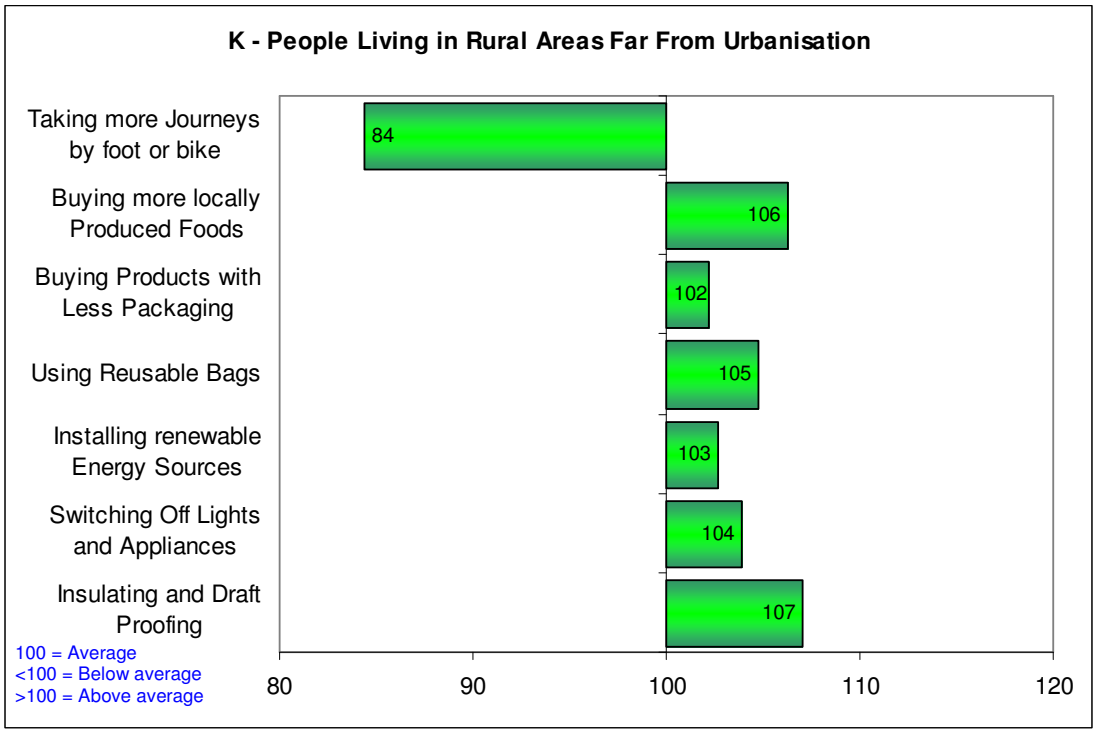

Figure 43: Index of Behaviour Changes for MOSAIC Group K

Figure 43 illustrates that Group K show an above average willingness to change their behaviour to reduce carbon emissions in all areas explored in Voicebox 15 except 'Taking more journeys by foot or bike', which may be more down to the rural nature of where these groups live rather than an active low willingness.

However these groups are willing to make behavioural changes in the following areas:

1. Insulating and/or draft proofing
2. Buying more locally produced foods
3. Using reusable bags
4. Switching off lights and appliances
5. Installing renewable energy sources
6. Buying products with less packaging

This group are not a suitable target for messages regarding switching journeys made by car to more sustainable modes of transport such as cycling or walking.
This low willingness could be driven by the locale of this group, who often reside in rural communities with frequently made journeys being outside the sphere of comfort to make by foot or push bike.

	Broadsheets	Heavy Weight Magazines	Telephone Advice Lines	Internet	Terrestrial TV	Posters	Telemarketing	Digital TV
Group K					ß	ß	ß	ß

Figure 44: Preferences of Communication Channels for MOSAIC Group K

If Bath and North East Somerset Council were wishing to target this group with any communication that promoted lifestyle changes to reduce carbon emission then Figure 44 illustrates which channels of communication that these groups are most receptive to.

In terms of localised targeting of this group within the area telephone advice lines and Internet is the channel of communication that would be most effective at reaching Group K.

Understanding the Willing Population

By creating a combined index for willingness to change all behaviours discussed in Voicebox 15 we can ascertain what groups tend to demonstrate more of a willingness to change their behaviour to reduce there carbon emissions.

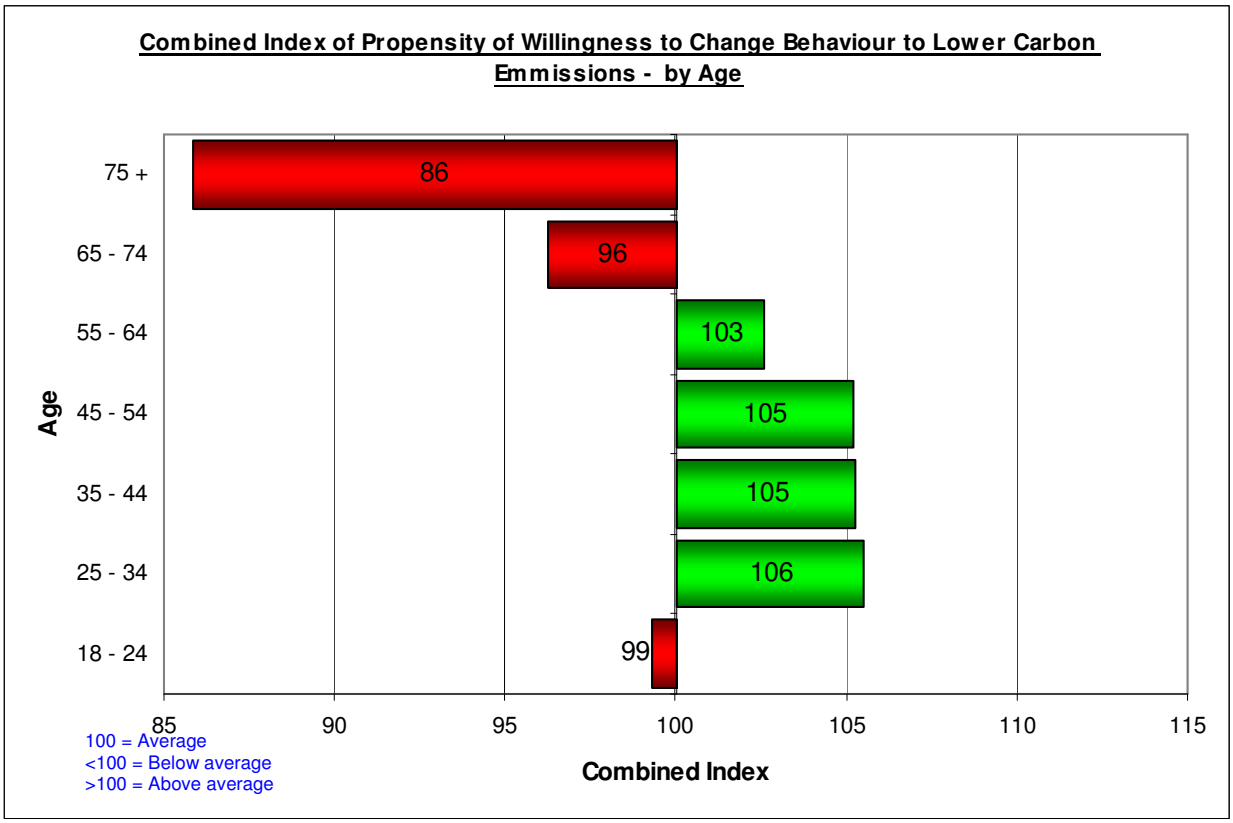

Figure 45: Combined Index to Change Behaviour (by age)

By creating a combined index of willingness to change by age group we can see that residents aged between 25 – 64 years of age demonstrated a higher than average willingness to change their behaviour to lower their carbon emissions, with those aged between 25-34 years in age having the highest combined index of all the age groups (106)

Residents aged over 65 years old and those aged between 18 – 24 years old had lower than average index scores indicating a tendency amongst these groups to be less willing to change their behaviours to lower carbon emission. Residents over the age of 75 years old have the lowest combined index (86), making them the group with the lowest tendency to change behaviours to reduce carbon emissions.

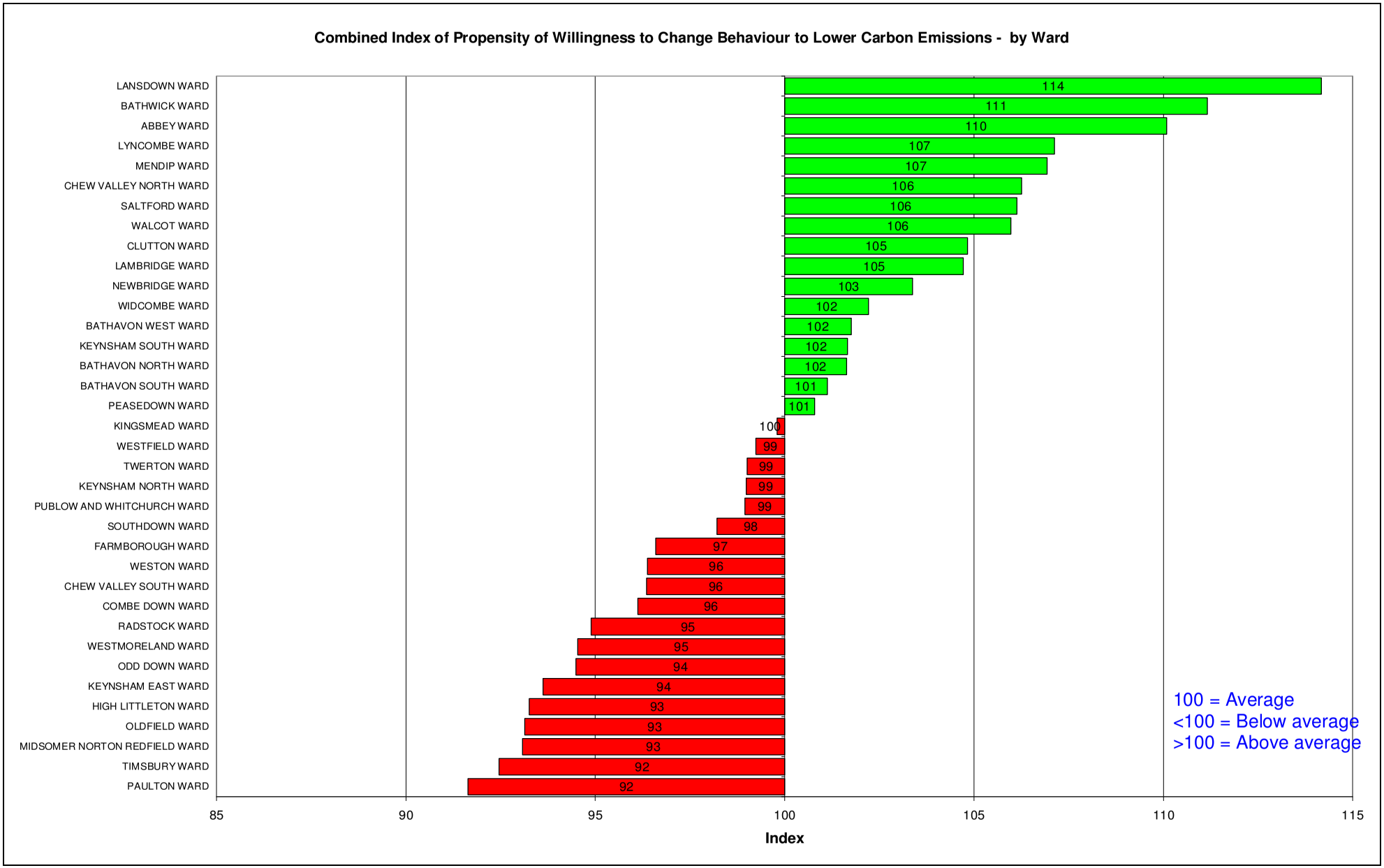

Figure 46: Combined Index to Change Behaviour (by ward)

By creating a combined index of tendency of willingness by ward we can see that 46% of all wards in Bath and North East Somerset demonstrate a higher than average tendency to be willing to change their behaviours to lower carbon emissions.

The top five wards in Bath and North East Somerset that show the largest tendency to overall willingness to change behaviours are:

- Lansdown Ward (Index 114)
- Bathwick Ward (Index 111)
- Abbey Ward (Index 110)
- Mendip Ward (Index 107)
- Chew Valley North (Index 107)

The five wards that have a lower than average tendency to be willing to change their behaviours in order to reduce personal carbon emissions are:

- Paulton Ward and Timsbury Ward (Index 92, the least willing residents in the area)
- Midsomer Norton Redfield Wards (Index 93)
- Oldfield Ward (Index 93)
- High Littleton Ward (index 93)

The wards that are illustrated in green in Figure 46 are those wards that would make more appropriate targets for messages or activities of change as there is a greater willingness amongst these communities.

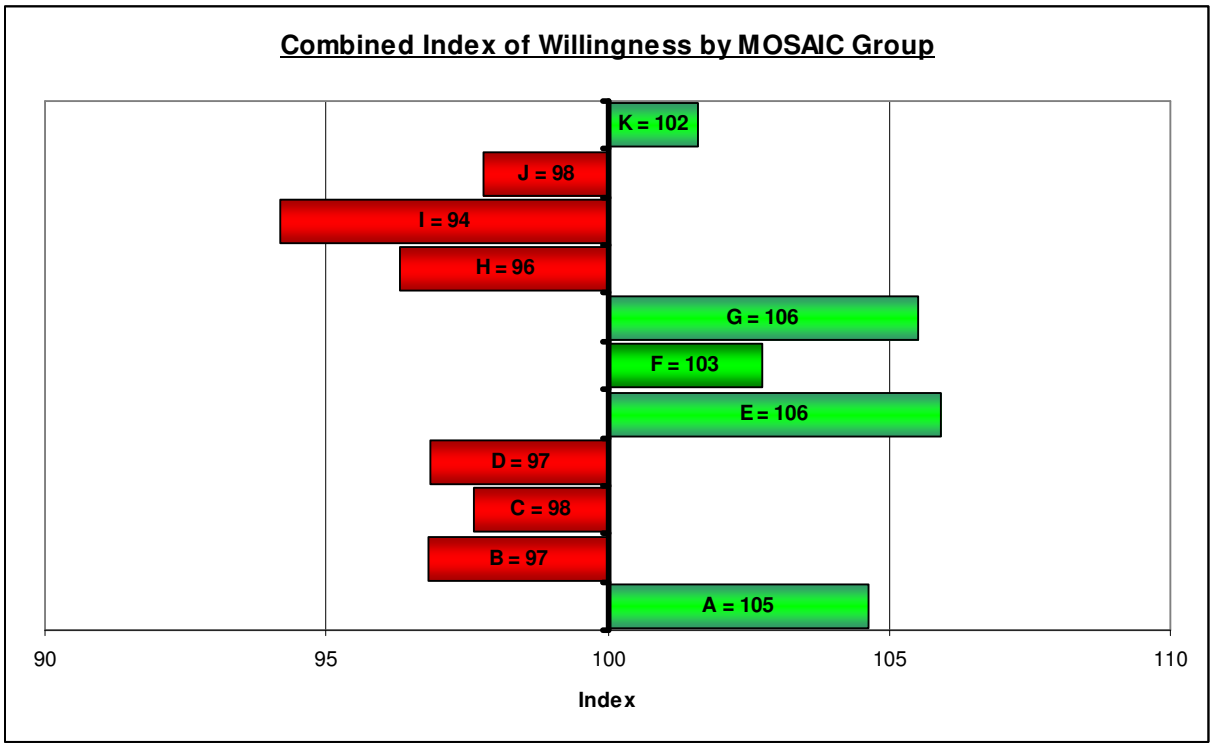

Figure 47: Combined Index to Change Behaviour (by Mosaic Groups)

By breaking the respondents by MOSAIC groups and creating a combined index for tendency to change behaviours to reduce carbon emissions it can be seen that there are five MOSAIC groups within the area that demonstrate a greater tendency to be willing to change areas of their lives. These groups are, in index order:

- **Group E** - Educated, Young, Single People Living in Areas of Transient Populations. (Index 106)
- **Group G** - Low Income Families Living in Estate Based Social Housing (index 106)
- **Group A** - Career Professionals Living in Sought After Locations (Index 105)
- **Group F** - People Living in Social Housing with Uncertain Employment in Deprived Areas (Index 103)
- **Group K** - People Living in Rural Areas Far From Urbanisation (Index 102)

Pen Portraits as to what these groups will look like in Bath and North East Somerset Areas:

Group E: Educated, Young, Single People Living in Areas of Transient Populations.

Experian indicate that there are 10,629 households in the area that are classified as Type E and represent 11% of the area MOSAIC. Below are the top ten wards in the area where Group E's are found. These ten wards have nearly 95% of all the areas Group E households, over half of which can be found in Widcombe, Walcot, Kingsmead and Abbey Wards.

Ward name	E
Widcombe	16%
Walcot	14%
Kingsmead	13%
Abbey	12%
Westmoreland	12%
Oldfield	8%
Bathwick	7%
Lansdown	6%
Bathavon West	4%
Newbridge	3%

Figure 48: Ten wards with the highest proportion of groups E's

A typical Group E household is made of young single or co-habiting couples living in urban areas. With 27% of this group being aged between 25-34 years old there is a large proportion of students or recent graduates living in housing that is close to universities or city centre job opportunities. This group is transient in their nature and often are comprised of people from a plethora of foreign born residents making neighbourhoods cosmopolitan and diverse.

This group demonstrates serious concerns for the environment serious concerns for the environment, often demonstrated in financial actions such as giving to environmental charities or buying eco friendly products. Due to the location of these people, carbon emissions from vehicle use is often low but the nature of the houses these people live in often make this groups households emission slightly above the average level.

Group G: Low Income Families Living in Estate Based Social Housing

There are 1,281 households in the area that are classified as Group G's, representing only 1% of the areas MOSAIC. Figure 45 shows the ten wards within the area that have the highest proportion of Group G households. 98% of these households are within these ten wards with over one third being in Twerton Ward alone.

Ward name	G
Twerton	36%
Oldfield	10%
Southdown	10%
Odd Down	10%
Combe Down	9%
Midsomer Norton Redfield	7%
Timsbury	6%
Lyncombe	4%
Westmoreland	4%
Keynsham North	2%

Figure 49: Ten wards with the highest proportion of Groups G's

Group G's are typified by low income families, between ages of 25 – 44 years old, living in post war council estates on the outskirts of large cities. These homes are often small; two story households in short terraces or as semi-detached properties, many with their own gardens. The average income on this group is under £7,500 per annum and 15% of this group are unemployed. Often these tenants have not or cannot exercise their right to buy their property. This group manage money on a week by week basis and often are indebted and rely on benefits such as income support to live. Over 50% of this group have no formal education and children in these families often mirror parental attainment rates with very low admissions into higher education institutes amongst these children.

Whilst this group does not have the income to contribute financially to addressing environmental issues this group generally do not express concerns about the environment and often will not partake in tasks such as recycling. Due to low car ownership amongst group G's, vehicle emissions associated with this group are below average.

Group A: Career Professionals Living in Sought After Locations:
Experian indicates that there are 17,044 Group A households in Bath and North East Somerset. This group represents 18% of the area and is the second largest MOSAIC group in Bath and North East Somerset.

Ward name	A
Saltford	12%
Keynsham East	12%
Lyncombe	9%
Bathavon North	7%
Lansdown	7%
Chew Valley North	5%
Widcombe	4%
Newbridge	4%
Combe Down	4%
Bathavon South	4%

Figure 50: Ten wards with the highest proportion of groups A's

Figure 50 shows the ten wards that have the highest percentage of Group A households in the area. These ten wards have 65% of all Group A's Households with the two most populated wards being Saltford and Keynsham East which represent nearly a quarter of all Group A households.

A typical Group A household comprises of 'successful', well educated career men and woman whom are often married with dependent children or children away at higher education institutes. People in this group will often live in neighbourhoods they deem to be nice places in large detached housing providing spacious accommodation both inside and out. This group often have off street parking or storage facilities for the 2 or more cars that this group are likely to process

Whilst this group are concerned and aware of environmental issues often their homes and travelling habits are in conflict with their concerns. Some members will spend money by contributing to environmental charities or buying eco friendly products, but often this group will not change their lifestyles.

Group F: People Living in Social Housing with Uncertain Employment in Deprived Areas

Ward name	F
Abbey	23%
Kingsmead	19%
Twerton	12%
Combe Down	10%
Lansdown	8%
Walcot	8%
Keynsham South	7%
Widcombe	3%
Radstock	3%
Oldfield	2%

Figure 51: Ten wards with the highest proportion of Groups F's

With 3,219 households in the area, Group F's represent 3% of the overall households in the area. 97% of all group F's fall into the ten wards listed in figure 51. Over half of these households fall into Abbey, Kingsmead and Twerton Wards.

A typical Group F household often comprises of younger single people living in deprived urban areas in public rented accommodation, often in high or medium rise accommodation. Although this accommodation type is often cramped and unsuitable
many Group F's are children, often under four years old, as one of a large family. These are often single parent families or transient family formations where one adult may not be the natural parent.

15% of this group are unemployed and those that do work are often in low paid or uncertain employment where the average annual income is under £7,500.
As a result this group are heavily indebted and rely on benefits such as income support and job seekers allowance just to make ends meet.

Due to the housing stock these people reside in, low car ownership and a reliance of public transport Group F's tend to be fairly neutral in terms of vehicle and household emissions. However this is more as a result of their financial circumstances than a concern for the environment and many people in group F actually feel that people are overly concerned about the environment

Group K: People Living in Rural Areas Far From Urbanisation

Ward name	K
Chew Valley South	15%
Mendip	13%
Farmborough	13%
Chew Valley North	12%
Clutton	8%
Bathavon South	8%
Bathavon West	8%
Bathavon North	7%
Timsbury	5%
High Littleton	4%

Figure 52: Ten wards with the highest proportion of groups K's

There are 6,529 households in Bath and North East Somerset that are Group K households. This represents 7% of the total area MOSAIC. Figure 52 represent the ten wards within the area that have the highest concentration of Type K households. These ten wards represent 93% of the Group K households in the area, but it must be remembered that this group do not exclusively reside in these wards

A typical Group K household consists of slightly older married couple who no longer have dependent children living in rural communities out of city centres and, often, deep in rural landscape. Whilst these communities often rely on agriculture or tourism these idyllic setting provide there is also people within these groups that are dedicated commuters, often covering many miles to commute to work.
Financially speaking this group tends to have a low disposable income but are high value through non-liquid assets. However, this group generally have sufficient income not to be reliant on the state for financial assistance.

Large and often older houses and the reliance on cars make group K the least environmentally friendly out of all the MOSAIC groups with high Carbon emissions. However, this is through circumstance rather than choice as this group is very concerned about the environment. Often people in this group will choose to buy environmentally friendly products or choose more efficient cars if I is practical. However, other members of Group K do upmarket vehicles such as Jeeps or Land Rover.

Recommendations:

- Group E's are a willing group to target for changing behaviours in terms of transportation and taking more journeys by foot or by bicycle as supposed to cars

- The high interest in home improvements and installing renewable energy sources amongst Somer Housing indicates that any work that focuses on home insulation and draft prevention or installing renewable energy focuses on Somer Housing Stock (Mosaic Groups F and G)

- Groups A and K are very willing to making changes to their lifestyles both behaviourally and financially to help lower their carbon emissions

- Older People are relatively disinterested in making lifestyle changes to reduce carbon emissions, in particular those who have high care needs such as MOSAIC Group J.

- Lower income families are shown as not being particularly willing to make changes to their lifestyles to reduce carbon emissions. This is through both financial restrictions and sustainability issues not being a high priority for them. Particularly Mosaic Groups D and H.

- There are wards within the areas that are more willing in general to making behavioural changes than others and these are the wards that should be targeted to make behavioural changes.

- The two biggest barriers to change are:

    - Financial constraints that people are under, with those who are more affluent being more willing and able to make changes to their behaviour.

    - Geography, with some behavioural changes such as taking more journeys by bike or foot being rendered impractical in the more remote wards/

Appendix

MOSAIC is a segmentation tool which can be used to identify and better understand communities which lie within specific geographies. This tool makes the assumption that people with similar economic, demographic and social characteristics will be more likely to share other facets and factors as well.

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