

BEHAVIOUR CHANGE – SCOPING THE WAY FORWARD

Report prepared for:

Waste and Resources R&D Programme
Defra

Project Reference: WRT 087
Contract Reference: RMP2146

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Supported by AEA Technology Environment plc

Date: **March 2005**



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1 INTRODUCTION

This short Scoping Study was commissioned in March 2005 by the Waste and Resources R&D Programme to provide a broad overview of the current and developing research relating to behaviour change programmes in the UK. The work was scheduled over a three-week period to be completed by the end of March 2005.

The scoping study focussed on those areas relating to pro-environmental behaviour specifically in relation to sustainable waste management. However, other areas outside of the scope were identified where there is potential for 'transferability' of research outputs such as transport and climate change. The work was designed to:

- Identify and gather recent and developing research and materials (over the last 5 years).
- Develop a categorised matrix to record the characteristics of the research and materials identified.
- Undertake a gap analysis.
- Prepare recommendations for opportunities and priorities to inform waste policy of the way forward in this area.

A core focus for this work was to identify evidence-based research and work that could inform future waste policy. However, it should be noted that, within the timeframe available, this short scoping study could not claim to be totally comprehensive or as robust as it would like to be in its classifications, definitions and assessments of evidence and non-evidence-based research projects. Despite these limitations, the work identified a number of themes, gaps and opportunities that require further review.

This report attempts to provide some insight into the recent and developing research of relevance to pro-environmental behaviour policy making and is structured as follows:

- Outline of the approach taken
- Key findings and main observations - highlights the evidence and policy base
- Pro-Environmental Behaviour: Key Themes – provides for future research work
- Prioritised recommendations
- Concluding comments

2 APPROACH

The work was conducted in the main through desk research, involving an extensive literature review. This was supported by a shortlist of telephone calls to authors and collaborators to verify some aspects of the research and determine future activities. A list of those contacted is provided in Appendix 1.

An Excel spreadsheet (accompanying this report) was developed to capture and categorise the research identified. The spreadsheet contains the project title, the author, reference and contact details, the date commissioned a brief summary and where available an abstract. The spreadsheet also provides a list of 31 classifications (see Appendix 2 for definitions) against which each piece of research was broadly assessed. Worksheets containing additional information on secondary research sources and behaviour change tools are also provided.

An evaluation and gap analysis were conducted to identify opportunities for further development and to strengthen the evidence base. Recommendations were distilled to provide practical opportunities and priorities for steering future waste policy and the successful implementation of behaviour change.

3 KEY FINDINGS AND MAIN OBSERVATIONS

This section provides the key findings and analytical observations resulting from the scoping study. Graphical representations are provided in Appendix 3.

A total of 251 primary research projects were identified as part of this review, an additional 45 secondary pieces of research from the primary sources, i.e. from references and bibliographies (this could have been significantly higher had research pre-2000 been included), and 17 evidence-based behaviour change tools. Appendix 2 contains the number of research projects¹ identified in each classification.

The range of research work identified covered the following areas:

- High level policy-based research on topics such as sustainable lifestyles, public participation and motivation produced in the main by ‘Think Tanks’.
- Theoretical and empirical research to understand household waste behaviour, attitudes and barriers produced in the main by academia.
- Local surveys and impact assessments of community and regional campaign activities undertaken in the main by NGOs and research agencies.
- Background research used to inform national communication campaigns such as Rethink Rubbish and Are You Doing Your Bit?
- Scheme-funded research and monitored projects including those funded by the Landfill Tax Credit Scheme (LTCS) and the Environmental Action Fund (EAF).

Each piece of research could have a range of characteristics attributed to it depending upon the scope and depth.

3.1 Understanding Behaviour and Behaviour Change (Appendix 3, Figure A3.1)

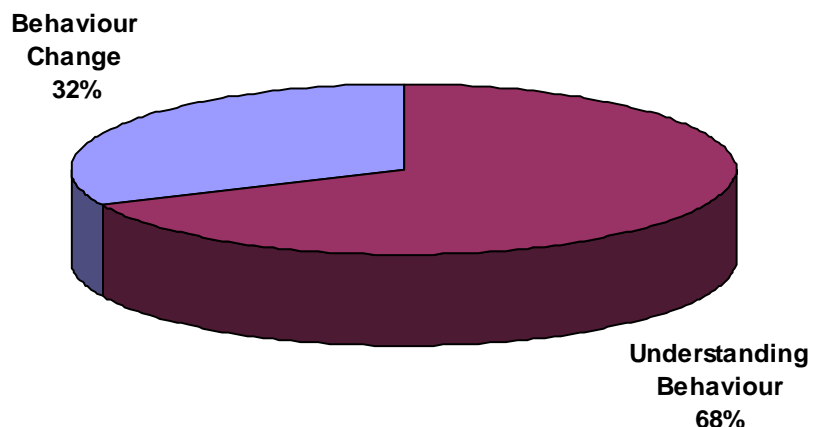
The primary research formed two categories which have been defined as follows:

Understanding Behaviour:
Comprising theoretical studies and quantitative surveys that aim to understand behaviour in order to identify catalysts for change.

Behaviour Change:
Comprising research that is based on practical application based around trials, pilot studies and delivery projects. Tends to be community focused.

The relative proportions are represented in Figure 1.

Figure 1: Relative Proportions of Research “Behaviour Change” and “Understanding Behaviour”



¹ Each piece of research could fall into one or more of the classifications depending upon its objectives and the depth covered.

3.2 Evidence-Base (Appendix 3, Figures A3.2 and A3.3)

Evidence-based² research comprises theoretical studies which build on established or validated assumptions, is undertaken as an empirical study, survey or impact assessment.

Of the 251 pieces of research identified, these are the main findings:

- 72% of all the research is evidence-based
- ‘Understanding behaviour’ research dominates representing almost two thirds of the research, of which 84% is evidence-based
- Of the ‘behaviour change’ research, 37% is evidence-based.

Understanding behaviour – There is a good evidence base in key areas such as:

- Recycling and reduction/prevention measures. This is reflected in the high number of theoretical, quantitative and qualitative studies that have been undertaken by academia.
- Policy-based research reflecting the requirement for high level policy-based research on topics such as sustainable development and consumption, public attitudes and participation. In particular, sustainable development is reasonably well covered because of the links to long term, high level policy objectives. The recent Government strategy ‘Securing the Future³ *Delivering UK Sustainable Development Strategy*’ focuses on, among other areas, evidence-based behaviour change and community action.

The reasonable evidence-base here is probably not surprising since there have been numerous research studies, not all of which will have been captured in this short term study. There do not appear to be any major gaps in evidence-based understanding of behaviour.

Behaviour change – In relation to the waste hierarchy, there appears to be a reasonable evidence base in recycling, waste reduction and prevention measures mainly arising from local quantitative and qualitative surveys undertaken in recycling, home and community composting, and real nappy schemes. However, there are many areas lacking in behaviour change evidence:

- Sustainable development (including sustainable waste management) - a significant amount of local work is being undertaken, or is just about to start. However, this work has not yet reached a stage where it can be evaluated.
- More than 50% of community research is not evidence-based. However, it is likely that work resulting from the LTCS, EAF and other funding schemes could be visited to establish behaviour change evidence.
- In ethical purchasing, there is a lack of evidence to support sustainable waste management through local purchasing practices.
- In education, there is a lack of evidence of the long term benefits of teaching sustainable waste management to young children in schools.
- Increasingly local champions and volunteers are being used to support waste management activities. However, there appears to be a distinct lack of evidence to support this work.
- Measurement and key performance indicators are mainly focused on achieving recycling, home and community composting participation. Although some work has been carried out to develop behaviour change indicators, this could be explored further.
- Partnerships can provide valuable support by working together to achieve sustainable waste management at local level. They can form county-wide networks thereby

² Non-evidence-based research comprised work where there were no supporting materials that could be viewed at the time of the review. Therefore a full assessment could not be made. This was particularly the case for work carried out under the LTCS and EAF

³ <http://www.sustainable-development.gov.uk/documents/publications/strategy/Chap%202.pdf>

maximising existing resources, improving access to information and funding, and sharing ideas and skills to develop new projects. This work lacks an evidence-base.

Some evidence-based tools do exist, however, that aim to:

- Measure participation and yield (developed by WRAP, the Community Recycling Network and NRW).
- Support community, partnership and waste action projects (developed by the Community Development Foundation, the Recycling Consortium and the Environment Council).

3.3 Policy-Base (Appendix 3, Figures A3.4 and A3.5)

Policy-based research is research which is aligned to policy or research which aims to inform policy.

Of the 251 pieces of research identified, these are the main findings:

- 26% of all the research is policy-based
- Of 'understanding behaviour' research, 33% is policy-based
- Of the 'behaviour change' research, only 10% is policy-based.

Understanding behaviour - Most of the policy work focuses on sustainable development, reduction/prevention and recycling of waste. Areas that tend to lack a policy base include:

- Social capital and its link to sustainable waste management practices.
- Reuse which was mostly combined with recycling and waste reduction/prevention. However, a small handful of research exists focusing specifically on reuse, e.g. furniture.
- Locally-based and community activity that could have stronger links with policy.
- The impact of sustainable waste management on social inclusion and the local economy.
- Understanding lifestyles and lifestyle choices that impact on sustainable waste management.

Behaviour change – The amount of policy-based research is thin in this area. There are only eight pieces of research which span a number of characteristics. There is a total absence of policy-based research in the following areas:

- Locally-based activities
- Reuse
- Education

A number of the recommendations identified in this report will help to bridge this gap. However, the reasons for this gap need to be identified and evaluated.

In conclusion:

- The evidence-base is strong.
- Research on understanding behaviour dominates, although there are still some gaps.
- Policy-based research needs to focus more on behaviour change rather than on understanding behaviour.

4 PRO-ENVIRONMENTAL BEHAVIOUR: KEY THEMES

During the course of this work, the research characteristics formed natural groupings and a number of themes were identified. These themes can be used to inform future research programmes, in particular Research Theme 5.1 - Understanding pro-environmental behaviour and how to enhance it.

Measurement is key

A number of studies have been undertaken and measurement techniques developed by WRAP, Rethink Rubbish and the Community Recycling Network. They tend to focus on recycling, home and community composting participation and yield. The recommendations resulting from this work should provide opportunities to ensure that all future research work provides measurable outputs. These could lead to the development and testing of future behaviour change indicators and contribute to the work of Research Theme, 5.3 - Development of tools to facilitate behaviour change.

The focus for future programmes

It is recommended, therefore, that all future research programmes are underpinned by the following:

- Their potential for deliverability, i.e. focusing on the next steps, on the 'how' rather than the 'what' and development of tools to facilitate behaviour change.
- Identification and measurability of a range of behaviour change indicators and how these contribute to the whole.
- Strong relationships between academia, NGO and the private sector in order to improve communication between understanding behaviour and behaviour change.
- Working with the grain of sustainable development policy objectives as set out in the Sustainable Development Unit's 'Securing the Future' strategy.

There are some cross-cutting themes within existing Defra work, including the Waste and Resources Research Programme, and these have been identified where they occur. Each theme is discussed in turn, outlining the potential for integration and linkage with other research activities:

- Community and locally-based activity
- Sustainable waste management
- Lifestyle changes
- Segmentation
- Communication and education
- Transferable research

4.1 Communities and Locally-Based Activity

The characteristics drawn together here form a strong community focus providing linkages to sustainable development, sustainable waste management, quality of life and well being policy objectives, incentives and education. This work links to Research Themes 5.2 Understanding socio-economic benefits of recycling: local and regional level, 5.3 Development of tools and instruments to facilitate behaviour change.

COMMUNITIES AND LOCALLY-BASED ACTIVITY						
Sustainable Development	Sustainable Waste Management	Social Capital	Social Inclusion	Partnerships	Local Champions/ Volunteers	Socio-Economic Development

Increasingly, communities are recognised by their power to devise new social norms. Recent evidence suggests that sustainable development often works best when driven by people working together in groups and where social support can help break old habits⁴. Furthermore, there are between 850 and 1000 organisations in the UK that comprise the community waste sector⁵ alone.

Research demonstrates that this sector is achieving multiple sustainable development objectives and making significant contributions to the social, environmental and economic welfare of communities throughout the UK, doing so in a way that promotes increased community involvement. This work suggests that sustainable waste management is best tackled by community groups.

With this in mind, future work should explore and identify socio-economic indicators that contribute to the measurement of behaviour change in sustainable waste management. Work should focus on identifying the following:

- Investigate the long-term sustainability of the community waste sector as a mechanism to secure growth in this area and reduce reliance on future Government funding. This work should be based on existing research undertaken by the University of Bradford and the Community Development Foundation.

The concept of social capital has been around since the 1920s, however there has been an explosion of interest in the importance of social relationships, norms and networks. The term is increasingly used by policymakers as another way of describing 'community', but it is important to recognise that a traditional community is just one of many forms of social capital. Work-based networks, diffuse friendships and shared or mutually acknowledged social values can all be seen as forms of social capital⁶. There are a range of potential beneficial outcomes of social capital in that it may facilitate higher levels of local economic performance and contribute the efficient functioning of markets, e.g. between local firms and the community. Future work should explore:

- The potential contribution of social capital to sustainable waste management practices and the potential impact of the changing dynamics of family life. The work should build on research undertaken by the Cabinet Office and Families & Social Capital ESRC Research Group.

⁴ Helping people make better choices, Chapter 2, Securing the Future, Defra strategy <http://www.sustainable-development.gov.uk/documents/publications/strategy/Chap%202.pdf>

⁵ Community Waste Projects: Sustainable Development in Practice?, University of Bradford

⁶ Social Capital, A Discussion Paper, Performance & Innovation Unit, April 2002

- Opportunities and key success factors for making sustainable waste management accessible to hard to reach groups. This is an area that is starting to be explored and has the potential to provide employment for disadvantaged groups and provide improved housing. Work in this area appears to be disjointed and should build upon existing research and recently-funded community projects.
- The evidence-base to support the work of local champions and volunteers. This type of work is increasingly being used to support waste management activities. This should build on previous work undertaken by existing local activities and the Community Development Foundation.

4.2 Sustainable Waste Management (SWM)

This area links strongly to communities, locally-based activity and target audience profiling where SWM can provide the stimulus for sustainable development, economic and social development. This work links to Research Themes 1.3 Household waste prevention, 5.2 Understanding socio-economic benefits of recycling: local and regional level, 5.3 Development of tools and instruments to facilitate behaviour change.

SUSTAINABLE WASTE MANAGEMENT			
Recycling	Reuse	Reduction & Prevention	Local Acceptability

Local community sustainable waste management has a pivotal role in contributing to the local economy⁷, stimulating employment, quality of life and social capital. In particular, the community waste sector is able to assist local authorities in meeting their household waste recycling and composting targets, whilst providing additional local community benefits⁸.

The EU Landfill Directive is one of the key drivers for sustainable waste management and consumer attitudes and behaviour are key to achieving this. Work in this area has focused primarily on understanding behaviour in relation to recycling and reduction/prevention or on a total waste management approach involving all the '3Rs' at both a national and local level.

Very little research, however, appears to have been carried out to fully understand reuse behaviour and the potential socio-economic benefits. This is also true, to a certain extent of waste reduction/prevention where a number of local schemes have developed, e.g. home and community composting, real nappy schemes. Some of the socio-economic benefits have been identified in various reports, although it is not certain whether this has been properly defined.

Further work is needed to fill these gaps and to understand the potential socio-economic benefits of both reuse and waste reduction/prevention. This would expand Research Theme 5.2 - Understanding socio-economic benefits of recycling: local and regional level. This work should focus on identifying:

- The outputs from previous work, undertaken as part of a total waste management approach, to identify the most effective contributions socio-economic benefits, social inclusion, and identify any gaps in this area. All outputs from this work should identify socio-economic indicators that could contribute to behaviour change in sustainable waste management.
- Previous research on local acceptability. Only a limited amount of research was identified in this review and it is likely that there is other research available in this area which could be further investigated, particularly if alternative waste management options, such as incineration, are to be considered in the future.
- 'Actual' rather than 'intentional' or 'declared' behaviour. There is no real evidence to demonstrate actual householder behaviour and habits and to identify the services and infrastructure required to facilitate new habitual behaviour. Most research studies focus on the 'declared' behaviour and predictive behaviour models are devised to take account of over-reporting. This could be explored further by working more closely with households.

⁷ Community Waste Projects: Sustainable Development in Practice?, University of Bradford

⁸ The Community Waste Sector - added value in sustainable waste management, Community Recycling Network

This work identified a number of recent and current sustainable development and sustainable waste management local activities (both research and project based) being undertaken or just about to start. A substantial amount of this work is being funded by the Environmental Action Fund.

The impact of this work should be monitored and evaluated to identify key successes and evidence based behaviour change. Other work may exist which is funded by other schemes that should also be explored, for example:

- Environmental Action Fund
- Waste Partnership Fund
- CRED
- Biffaward
- Hanson
- Community Sector Support Programme
- Shell Better Britain Campaign
- LTCS
- WRAP Local Authority Community projects

4.3 Lifestyle Changes

The activities identified here link strongly to well-being and quality of life policy objectives, community and sustainable development activities. This work links to Research Themes 1.3 Household waste prevention, 1.4 Understanding waste composition and trends and 7.3 Role/use of economic incentives and penalties to promote and support change in resource use and waste generation.

LIFESTYLE CHANGES					
Incentives	Awards and Recognition	Economic Instruments	Ethical Consumerism	Convenience	Habits

Sustainable lifestyles are patterns of action and consumption, used to affiliate and differentiate ourselves from other people. These need to: meet basic needs, provide a better quality of life, minimise the use of natural resources and emissions of waste and pollutants over the lifecycle, and not jeopardise the needs of future generations.

To be effective, any attempts to change lifestyle patterns in the interests of sustainability need to: understand why people consume products in the way that they do, promote an awareness of the positive impact which changing that consumption pattern will have on a individual's quality of life, and establish the likelihood of a person's willingness to participate in change⁹.

Coupled with the fact that our current consumer culture may not, in fact, even be making us happy¹⁰, our changing lifestyles and the implications this has on the environment is a difficult challenge to overcome.

The role of incentives and disincentives can help consumers to experience some kind of inducement. However, this is often achieved by a careful balance of persuasive and dissuasive policy levers. Sometimes the design of policy package, which containing some persuasive measures, will, overall, create a disincentive. It will try to change behaviour by putting people off – perhaps by making something harder, more expensive or more inconvenient¹¹.

There has been a reasonable amount of high level evidence-based research carried out to understand lifestyles and incentives and their impact on sustainable development and sustainable waste management. Most of this work, however, is policy-based and very little appears to exist on delivering lifestyle behaviour change. Future work in this area should focus on:

- Consolidating recent and current research with a view to identifying measurement and promotion opportunities, and gaps aimed at sustainable lifestyles.
- Identifying future lifestyle trends and their impact on the waste stream.
- Building on existing incentives work and segmentation analysis to identify what works best and the context in which incentives can best be delivered.
- Identifying effectiveness of award schemes and how these schemes could contribute to behaviour change. There appears (mainly in reviewing the LTCS) to be a number of

⁹ Every Little bit helps..... Overcoming the challenges to researching, promoting and implementing sustainable lifestyles, Centre for Sustainable Development

¹⁰ Consuming Passion - Do we have to shop until we drop?, Global Action Plan

¹¹ 16 Pain free ways to save the planet, NCC

award schemes aimed at the individual, community and business. Although it may exist, no research was identified in this review.

- Ensuring cross linkages with economic instruments, incentives, awards and recognition. There are essentially two types of instrument, mandatory and voluntary. Some evidence and policy-based research in the voluntary context was identified mainly as part of wider research objectives. There is certainly scope for more development in this area which should involve both types of instrument.
- Identifying the benefits of local ethical purchasing to sustainable waste management. There are a number of new projects (funded by the EAF) focusing on local community ethical purchasing. However, due to the newness of these projects there is very little evidence base.
- Identifying the optimum infrastructure and service requirements that generate convenience. Convenience is by far the greatest factor in behaviour terms and can reinforce persistence. As such increased convenience and heightened saliency are considered to be the major triggers of behavioural change¹². Behaviour change research also points to new “habits” if a sustainable way of living and working is to be achieved. However, there appears to be little evidence around facilitating ‘habitual’ behaviour and the requirements for convenient systems and infrastructure to support this.
- Identifying integrative behaviour patterns. There was no evidence to suggest that research has been undertaken to identify the inter-relationships between home and work, home and leisure patterns and lifestyles in the context of sustainable waste management or sustainable development. Work in this area would provide a holistic lifestyle approach and should seek to identify supporting services and infrastructure that would support this type of approach.
- Understanding the consumption lifecycle and the way consumers interact with products, i.e. buyer behaviour, product use and product disposal. This work would support a future policy framework for innovation, product design and product lifecycle assessment.

¹² Government Targets versus Public Participation: Bridging the Gap, Peter Tucker, Environmental Initiatives Research Centre, University of Paisley

4.4 Segmentation

These activities provide insight on targeting individual and householder groups and link across the board, i.e. with community, sustainable waste management, lifestyles and communication and education. This work links to Research Themes 1.3 Household waste prevention, 5.2 Understanding socio-economic benefits of recycling: local and regional level, and 5.3 Development of tools and instruments to facilitate behaviour change.

SEGMENTATION			
Teenagers	Students	Rural	Urban

Segmentation establishes criteria by which consumers with similar needs can be identified. It allows the ability to meet consumer needs more precisely by seeking to understand consumer buyer behaviour¹³. Understanding buyer behaviour allows communications, services and products to be targeted more effectively and consumer needs to be met more precisely. In the waste management context, these skills have been used to identify different types of recyclers and their propensity to act. In the case of teenagers, ENCAMS gained a better understanding of the intermediary state between childhood and adulthood¹⁴. The teenage mass cultural influences gave a list of guidelines they could follow when constructing campaigns aimed at changing behaviour in this age group.

There is evidence-based work on segmentation most of which is focused on recycling behaviour with very little linked to policy. There is scope here to draw this research together, identify the range of target audience groups within specific waste management contexts, identify any gaps and produce working segmentation tools. Future work in this area should focus on:

- Understanding the psychological differences between the recycling, reuse and waste reduction/prevention household behaviour. Isolated work has been conducted in this area and further work is needed to explore and direct messages tailored to each waste management behaviour.
- Building on the work undertaken on teenagers by ENCAMS. This could be further explored to identify the effectiveness of this work and how it could be used in sustainable waste management.
- Identifying and verifying research that is aimed at students. Despite the limited research identified in this review, more is known to exist, particularly for halls of residence.
- Identifying and collating available research on local sustainable waste management activities. A substantial amount of local research exists (both rural and urban) on sustainable waste management undertaken as baseline surveys and follow up impact assessments. However, very little research exists that is specifically focused on either the rural or urban context or the differences between them. Further research should identify previous local studies and identify the relevant issues and benefits in each context.

¹³ Strategic Marketing, Graeme Drummond and John Ensor

¹⁴ Teenage Dirtbag, ENCAMS

4.5 Communication and education

This theme identified research that covered testing campaign approaches, evaluating campaign results, and understanding and devising the optimum campaign approach. This area has strong links to communities and locally-based activities. This work links to Research Themes 1.3 Household waste prevention.

COMMUNICATION AND EDUCATION	
Education	Communication Campaign

Taking part in learning strengthens the general value parents place on their own children's learning. Education contributes to social capital including opportunities to put civic skills to use and strengthening of social networks. A key implication for policy relates to the sustaining effect of education on personal lives and the social fabric¹⁵. There is a distinct lack of evidence on the long term benefits of teaching sustainable waste management to young children in schools. Future work in this area should focus on:

- Identifying and evaluating the existing educational research base to build upon and identify synergies in environmental citizenship and education.
- Develop a framework for investing in long term research to deliver measurable outputs on the benefits of long term education.

Communication plays an important role in helping to influence the public but cannot work in isolation. In reality, a combination of measures is required to influence people to achieve a sustainable outcome. This influencing role relies on a sophisticated understanding of people's motivations and behaviour.

Information does not necessarily lead to increased awareness, and increased awareness does not necessarily lead to action. Information provision, whether through advertisements, leaflets or labelling, must be backed up by other approaches¹⁶.

Therefore, even though high level policy research exists, it does not appear to be adopted into the strategic design of local and regional 'so-called' behaviour change campaigns. These and emerging communication campaigns need to take account of policy conclusions. Work in this area should focus on:

- Developing a framework to support the transition of policy understanding into the practical delivery of communication campaigns.

¹⁵ Learning, Continuity and Change in Adult Life, The Centre for Research on the Wider Benefits of Learning

¹⁶ Carrots, sticks and sermons: influencing public behaviour for environmental goals, Green Alliance and DEMOS

4.6 Transferable research

These activities provide opportunities for 'transferability' to inform waste policy.

SUSTAINABLE WASTE MANAGEMENT			
Sustainable transport	Climate change	Reducing water use	International research

Only a limited amount of other related research was identified within the timeframe. However, much more exists, particularly in health, education and crime prevention.

This work specifically identified:

Sustainable Transport – An extensive review was undertaken to identify the impact of soft measures aimed at voluntary participation. These 'soft' initiatives seek to give better information and opportunities, aimed at helping people choose to reduce their car use whilst enhancing the attractiveness of alternatives. They are fairly new as part of mainstream transport policy, mostly relatively uncontroversial, and often popular. They include: workplace and school travel plans, personalised travel planning, travel awareness campaigns and public transport information and marketing, car clubs and car sharing schemes, teleworking, teleconferencing and home shopping.

Climate Change & Energy Efficiency – A number of research studies were identified. In particular, the evidence-based Climate Change strategy document which sets out a series of recommendations to change attitudes towards climate change in the UK. The strategy focuses on generating the policy support for attitude change and not behaviour change. The aim is to use growing awareness to open the door to behaviour change.

International - Only a limited amount of international research was identified and this is not representative of the true picture. Other research studies undertaken for Defra have looked more extensively at international work and made comparisons with the UK.

Reducing Water Use - No research was identified in the time limit and this does not represent the true picture.

It is recommended that work focus on reviewing other areas of potential transferability, e.g. health and education and the relevance to waste policy of the work carried out in sustainable transport.

5 OVERARCHING ISSUES

5.1 Cross-cutting themes

As identified in Section, there are a number of cross-relationships with the Defra R&D Research Themes. It is, therefore, recommended that the first call for proposals is checked to see if there is any overlap or where this work can add value and that the following Research Themes are expanded:

Theme 5.2 Understanding socio-economic benefits of recycling: local and regional level:

This should be extended to include the wider community aspects including social capital and social inclusion and expanded to other areas of the waste hierarchy, i.e. reuse and waste reduction/prevention.

Theme 5.3 Development of tools and instruments to facilitate behaviour change:

Opportunities exist to ensure that all future research work provides measurable outputs. This could lead to the development and testing of future behaviour change indicators. This could be achieved by breaking down the individual behaviour change components and their contribution to, for example, community development and the social economy, from which a series of evidence-based indicators to support sustainable waste management could be derived.

Theme 7.3 Role/use of economic incentives and penalties to promote and support change in resource use and waste generation:

This work should include both mandatory and voluntary economic incentives/instruments and should draw on work undertaken by OECD, ESRC and NRW and be given a lifestyle and behaviour change dimension.

5.2 Coordinating with other Government departments

Changing behaviour forms part of the Sustainable Development Unit's thinking on sustainable development. This is a cross cutting priority and provides the rationale and guidance on how Government intend to encourage more sustainable behaviour. The 'Securing the Future'¹⁷ strategy, recently produced by the Sustainable Development Unit, has developed evidence based strategies for behaviour change and working with communities. Therefore, pro-environmental behaviour change delivery must not be seen in isolation, it will need to work with the grain of Sustainable Development policy objectives.

It is recommended that the Waste Research Team contact the following with a view to creating and coordinating inter-departmental synergy.

Head of Sustainable Development Unit (SDU), Defra: Bronwen Jones

The Sustainable Development Research Network (SDRN): Dr Malcolm Eames.
SDR-Network Co-ordinating Office, Policy Studies Institute
Tel: 020-7468- 0468 e-mail: m.eames@psi.org.uk

The SDRN was formed to help deliver evidence-based policy making and has produced a guide mapping out sustainable development research across the UK. This work is coordinated by the Policy Studies Institute. A guide¹⁸ to experts and interdepartmental contacts is provided through the link below.

¹⁷ http://www.sustainable-development.gov.uk/documents/publications/strategy/SecFut_complete.pdf

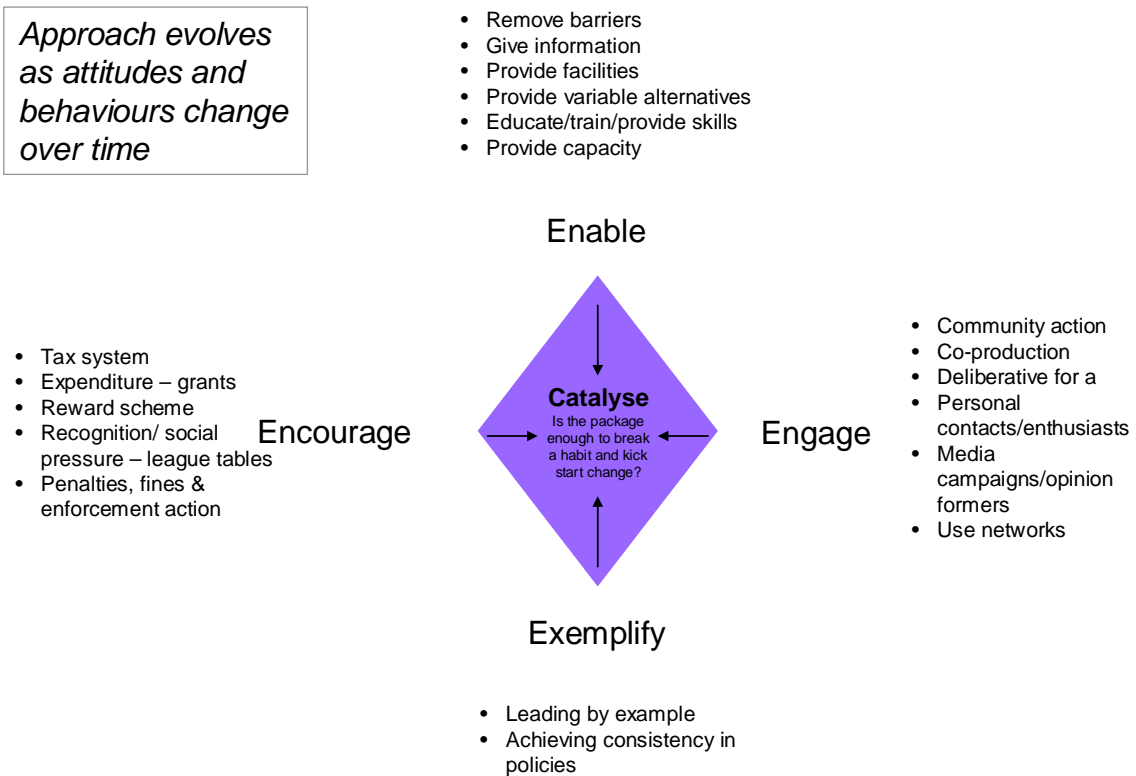
¹⁸ http://www.sd-research.org.uk/researchreviews/documents/SC_expertslist.doc

ODPM:

Neighbourhood Renewal Unit
 Sustainable Communities
 Social Exclusion Unit

5.3 Models of behaviour change

The SDU has developed a new evidence-based model of behaviour change¹⁹. This model is designed to be flexible and interchangeable and therefore can be used in relation to pro-environmental behaviour. In essence the model draws together all the issues and research raised in this report. An outline is provided below and further information can be obtained from the link below.



It is recommended that this model is adopted in future pro-environmental behaviour change.

¹⁹ <http://www.sustainable-development.gov.uk/documents/key/Change%20behaviour%20model.pdf>

6 RECOMMENDATIONS

The recommendations are provided in brief together with an indication of the level of importance of each, for example:

- Priority 1: High importance
- Priority 2: Medium importance
- Priority 3: Low importance

Research categories are highlighted as follows:

- Research that is designed to develop or enhance the evidence-base - identified by 'E'
- Research that can inform policy - identified by 'P'
- A gap in research – identified by 'G'
- Research not identified by 'G' is existing work that needs further development.

The detail behind each recommendation is provided in Section 4, Pro-Environmental Behaviour: Key Themes.

PRIORITY	CAT	RECOMMENDATION
OVER-ARCHING RECOMMENDATIONS		
1	P	Review the first call for proposals to see if there is any overlap with the recommendations stated here. Identify where the recommendations can add value.
1	P	Expand the scope of the Research Themes.
1	P	Make contact and draw synergy with inter-departmental activities.
2	P	Identify and evaluate the reasons for the lack of policy-based behaviour change research.
2	P	Adopt the sustainable development evidence-based behaviour change model in future pro-environmental behaviour change activities.

PRIORITY	CAT	RECOMMENDATION
COMMUNITY AND LOCALLY-BASED ACTIVITY		
1	P G	Work should focus on the following: <ul style="list-style-type: none"> • Investigate the long-term sustainability of the community waste sector as a mechanism to secure growth in this area and reduce reliance on future Government funding. • Identifying the evidence-base to support the work of local champions and volunteers. • Identifying the potential impact of the changing dynamics of family life on sustainable waste management practices and the potential contribution of social capital. • Identifying the opportunities and key success factors for making sustainable waste management accessible to hard to reach groups.
1	P E G	
2	P E G	
2	P E G	

PRIORITY		RECOMMENDATION
SUSTAINABLE WASTE MANAGEMENT		
1	P E G	<p>The work should focus on the following:</p> <ul style="list-style-type: none"> ● Identifying ‘actual’ rather than ‘intentional’ or ‘declared’ behaviour by working more closely with households.
1	E G	<ul style="list-style-type: none"> ● Identifying key successes and evidence based behaviour change by monitoring and evaluating the recent and current local sustainable development and sustainable waste management activities, e.g: <ul style="list-style-type: none"> ○ Environmental Action Fund ○ Waste Partnership Fund ○ CRED ○ Biffaward ○ Hanson ○ Community Sector Support Programme ○ Shell Better Britain Campaign ○ LTCS ○ WRAP Local Authority Community projects
2	P E	<ul style="list-style-type: none"> ● Identifying, for reuse and waste reduction/prevention, the most effective sustainable waste management approaches that contribute to the local social economy, social inclusion etc and any gaps in this area. All outputs from this work should identify the range of socio-economic indicators that can contribute to behaviour change in sustainable waste management.
2	P E	<ul style="list-style-type: none"> ● Identifying additional previous research on local acceptability and gaps in this research. This is required to support alternative waste management options, such as incineration, if they are to be considered in the future.

PRIORITY		RECOMMENDATION
LIFESTYLES		
		The work should focus on the following:
1	P E	<ul style="list-style-type: none"> Consolidating recent and current research to identify measurement and promotion opportunities, and gaps aimed at sustainable lifestyles.
1	P E G	<ul style="list-style-type: none"> Identifying future lifestyle trends and their impact on the waste stream.
1	P E	<ul style="list-style-type: none"> Building on existing incentives work and segmentation analysis to identify what works best and the context in which incentives can best be delivered.
1	P E G	<ul style="list-style-type: none"> Ensuring cross linkages with economic instruments, incentives, awards and recognition.
1	P E G	<ul style="list-style-type: none"> Understanding the consumption lifecycle and the way consumers interact with products, i.e. buyer behaviour, product use and product disposal.
2	E G	<ul style="list-style-type: none"> Identifying effectiveness of award schemes and how these schemes could contribute to behaviour change.
2	P E G	<ul style="list-style-type: none"> Identifying the benefits of local ethical purchasing to sustainable waste management.
2	P E G	<ul style="list-style-type: none"> Identifying integrative behaviour patterns to identify the inter-relationships between home and work, home and leisure patterns and lifestyles.
3	P E G	<ul style="list-style-type: none"> Identifying the optimum infrastructure and service requirements that generate convenience and facilitate habitual behaviour.

PRIORITY		RECOMMENDATION
SEGMENTATION		
		Future work in this area should focus on:
1	P E	<ul style="list-style-type: none"> Understanding the psychological differences between the recycling, reuse and waste reduction/prevention household behaviour.
1	P E	<ul style="list-style-type: none"> Building on the work undertaken on teenagers by ENCAMS to identify the effectiveness of this work and how it could be used in sustainable waste management.
2	P E	<ul style="list-style-type: none"> Identifying and collating available research on local sustainable waste management activities to identify the relevant issues and benefits in a rural and urban.
3	E	<ul style="list-style-type: none"> Identifying and verifying research that is aimed at students.

PRIORITY		RECOMMENDATION
COMMUNICATION AND EDUCATION		
1	G	Future work in this area should focus on: <ul style="list-style-type: none"> • Developing a framework to support the transition of policy understanding into the practical delivery of communication campaigns. • Identifying and evaluating the existing educational research base to build upon and identify synergies in environmental citizenship and education. • Develop a framework for investing in long term research to deliver measurable outputs on the benefits of long term education.
2	P E G	
2	P E G	

PRIORITY		RECOMMENDATION
OTHER RELATED RESEARCH		
3	P E G	Future work in this area should focus on reviewing other areas of potential transferability, e.g. health and education and the relevance to waste policy of the work carried out in sustainable transport.

7 CONCLUSIONS

The main conclusions are:

This work has identified that the evidence-base is strong, research on understanding behaviour dominates, although there are still some gaps, and policy-based research needs to focus more on behaviour change rather than on understanding behaviour. The recommendations identified in this report will go some way to addressing this.

Sustainable development is providing the lead in terms of behaviour change, therefore sustainable waste management and pro-environmental behaviour should work with the grain of sustainable development.

A new model of behaviour change has been established by the Sustainable Development Unit and it is recommended that this is used in all future sustainable waste management behaviour change activities.

Sustainable waste management and pro-environmental behaviour should be coordinated within Government departments.

APPENDIX 1: Contact List

The Recycling Consortium also on behalf of the Community Recycling Network	Jane Stephenson Tel: 0117 930 4355 e-mail: jane.stephenson@recyclingconsortium.org.uk
Save Waste & Prosper	Gareth Morton Tel: 0113 243 8777 E-mail: gareth@swap-web.co.uk
Waste Watch	Barbara Herridge Tel: 0207 7549 0300 e-mail: barbara@wastewatch.org.uk
University of Surrey	Professor Tim Jackson Tel: 01483 689072 e-mail: t.jackson@surrey.ac.uk
Global Action Plan	Trewin Restorick Tel: 020 7405 5695 e-mail: trewin.restorick@globalactionplan.org.uk
Defra	Charles Harkness Tel: 0207 082 8668 e-mail: charles.harkness@defra.gsi.gov.uk
Oxford Brookes University	Teresa Smallbone Tel: 01865 485741 e-mail: tsmallbone@brookes.ac.uk
Environment & Human Behaviour Programme (ESRC/PSI)	Professor Paul Ekins Tel: 020 7468 0468 e-mail: ehb@psi.org.uk
AEA Technology Environment	Andy Maunder Tel: 0870 190 6527 e-mail: andy.maunder@aeat.co.uk

The following calls were made but no response was received within the timeframe:

Professor Peter Tucker, University of Paisley
Andrew Darnton
WRAP

APPENDIX 2: Classifications

Classification	Identifier	No of Studies	Description
Policy based	1	65	Specifically aims to deliver wider policy objectives at central Government level
Evidence-based	2	180	Research, trials, pilots, surveys, evaluations, social behaviour theory
Reduce/Prevent	3	82	Waste reduction and prevention including home and community composting initiatives
Reuse	4	41	In home reuse or community reuse projects, e.g. furniture reuse
Recycle	5	79	Recycling behaviour
Education	6	27	Information dissemination, tools, training, advice, schools
Local Champions & Volunteers	7	5	Supporting SWM through the use of exemplars and using volunteers to support SWM messages
Ethical Consumerism	8	26	Encouraging SWM through local purchasing, understanding consumer/purchasing behaviour
Sustainable Development	9	70	Sustainable consumption, sustainable waste management, sustainable lifestyles
Communication Campaign	10	45	Evidence-based or monitoring of behaviour change communication campaigns
Community	11	81	Community projects aimed at sustainable development also links to social capital and social inclusion
Partnership	12	21	Local community, regional or national partnerships aimed at SWM
Incentives	13	10	Loyalty cards, community reward schemes includes disincentives such as charging schemes
Awards and Recognition	14	0	Community, regional and national award schemes
Measurement & Key Performance Indicators	15	23	Research aimed at identifying and validating measurement and evaluation techniques
Local Acceptability	16	7	Public confidence in waste management e.g. incineration, landfill
Social Capital	17	5	Work relating to neighbourliness, families, networks and social norms also links to communities and social inclusion
Rural	18	6	Research of SWM in the rural environment
Urban	19	4	Research of SWM in the urban environment
Social Inclusion	20	11	Involvement of black, minority and ethnic groups, including people with learning difficulties, disabilities, disadvantaged groups and the elderly
Lifestyles	21	11	Current and future research on lifestyles
Students	22	3	Colleges, universities and schools
Teenagers	23	6	Research in relation to engaging teenagers
Generating Employment	24	3	New schemes stimulating local employment
Segmentation	25	11	Target Audience Profiling
International Research	26	5	Non-UK based behavioural change research
Climate Change/Energy Efficiency	27	15	Research activities aimed at public reducing climate change and encouraging energy efficiency
Sustainable Transport	28	8	Research activities aimed at encouraging use of public transport, cycling, walking etc.
Reducing Water Use	29	0	Research activities aimed at reducing public water consumption
Economic Instruments	30	5	Policy based, e.g. charging schemes
Locally-based Activity	31	55	Activities focused at borough, county or regional level

APPENDIX 3

Figure A3.1: Primary research characteristics

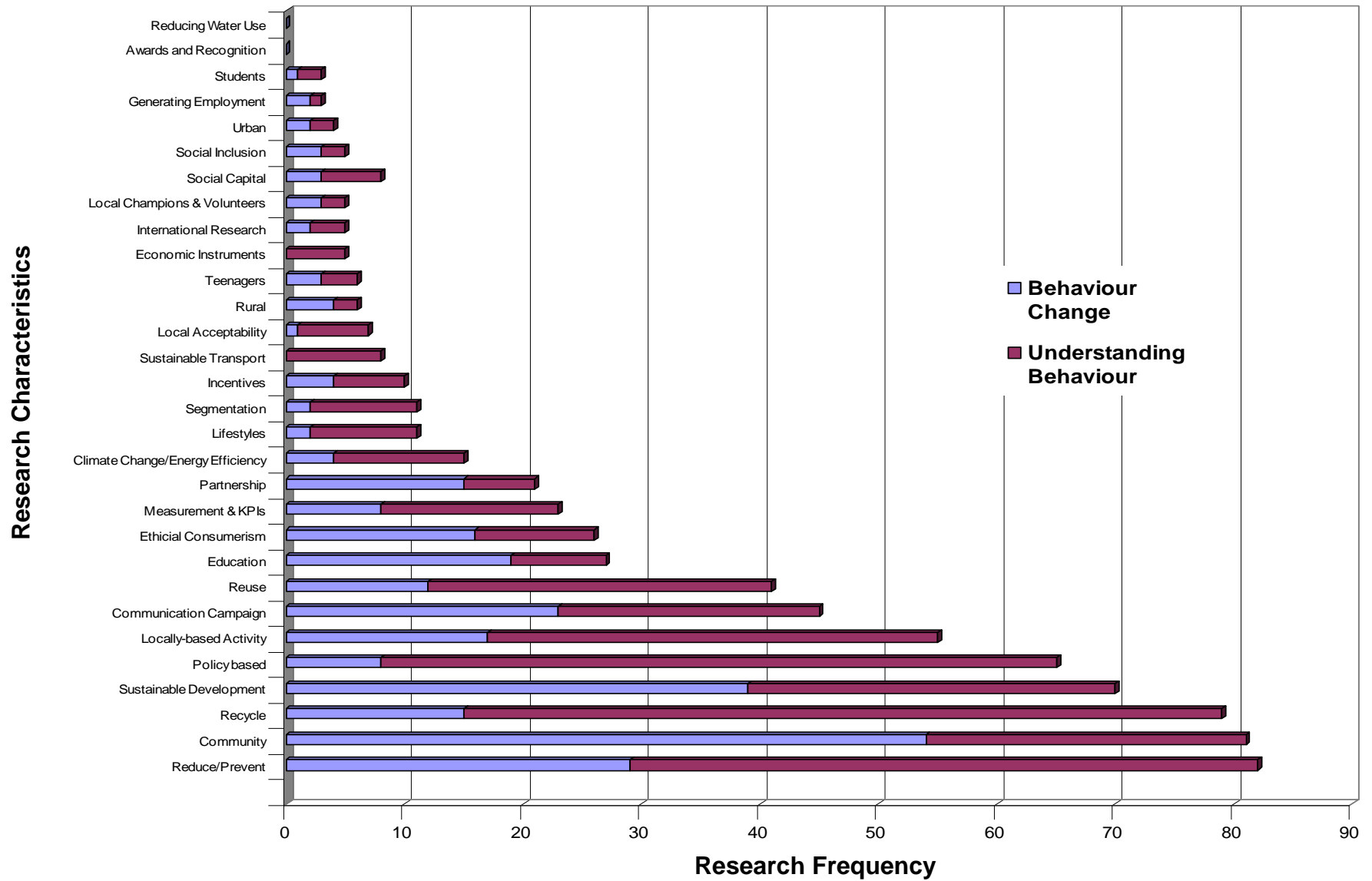


Figure A3.2: Research supporting the evidence base (behaviour change)

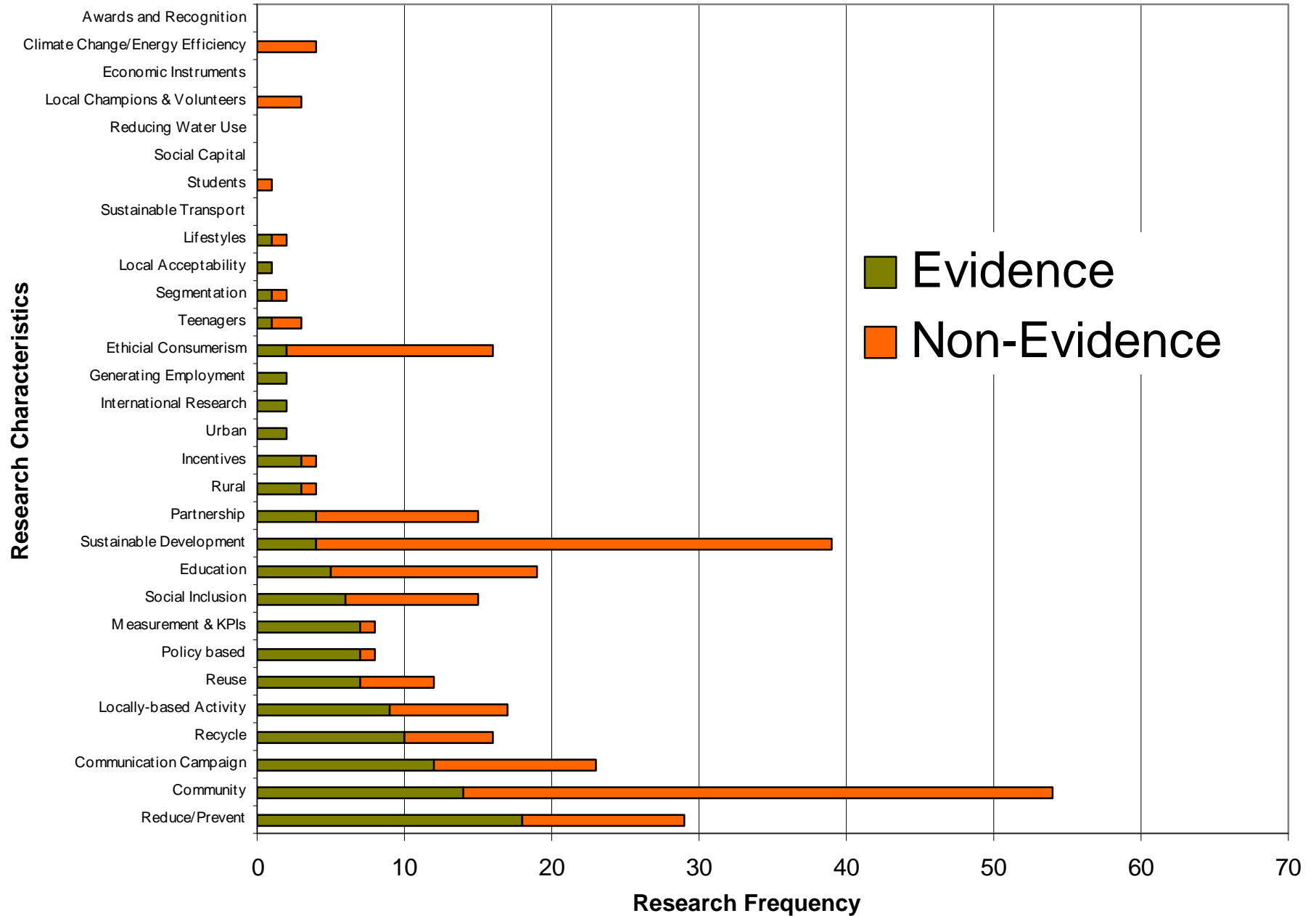


Figure A3.3: Research supporting the evidence base (understanding behaviour)

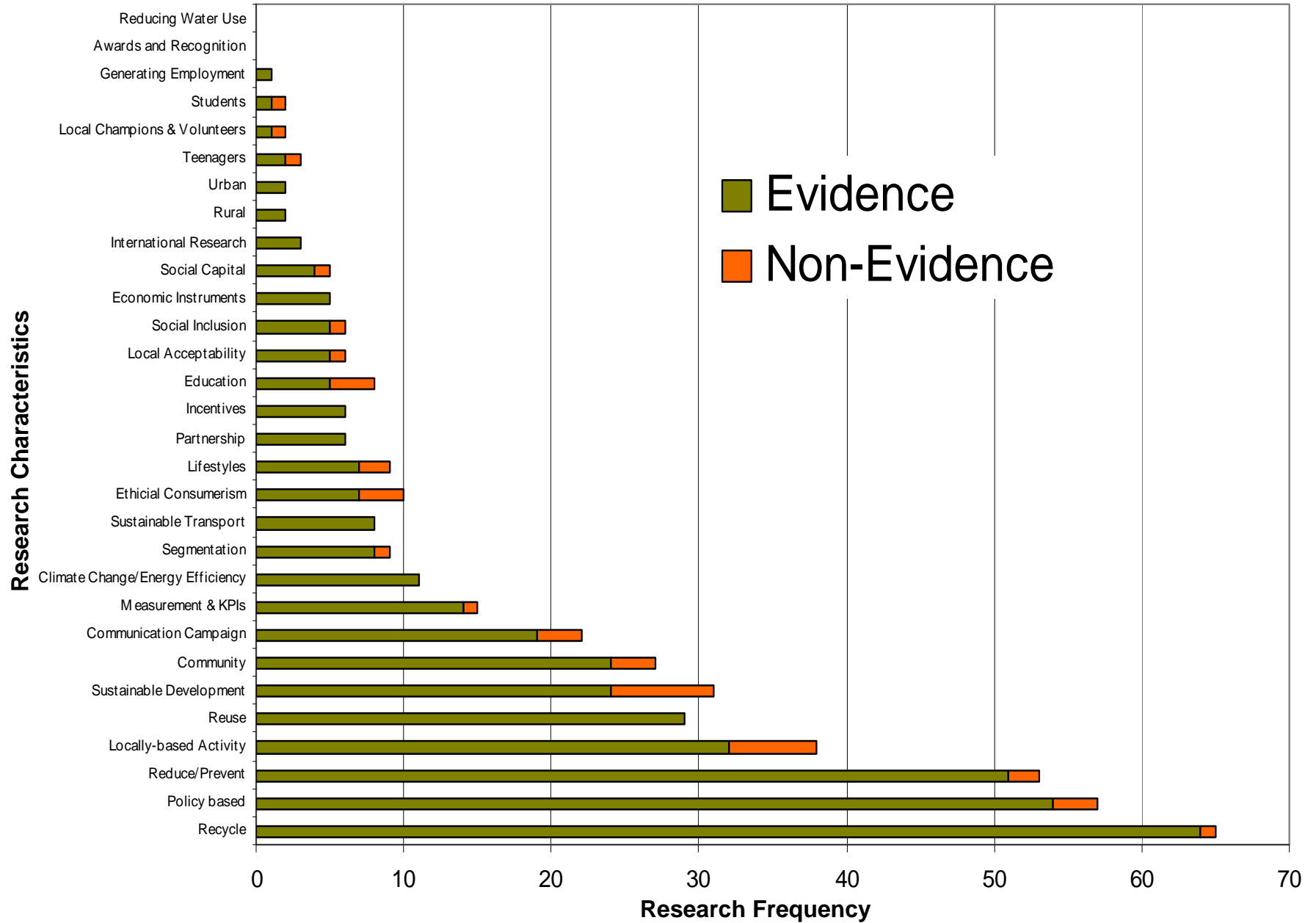


Figure A3.4: Research informing policy (behaviour change)

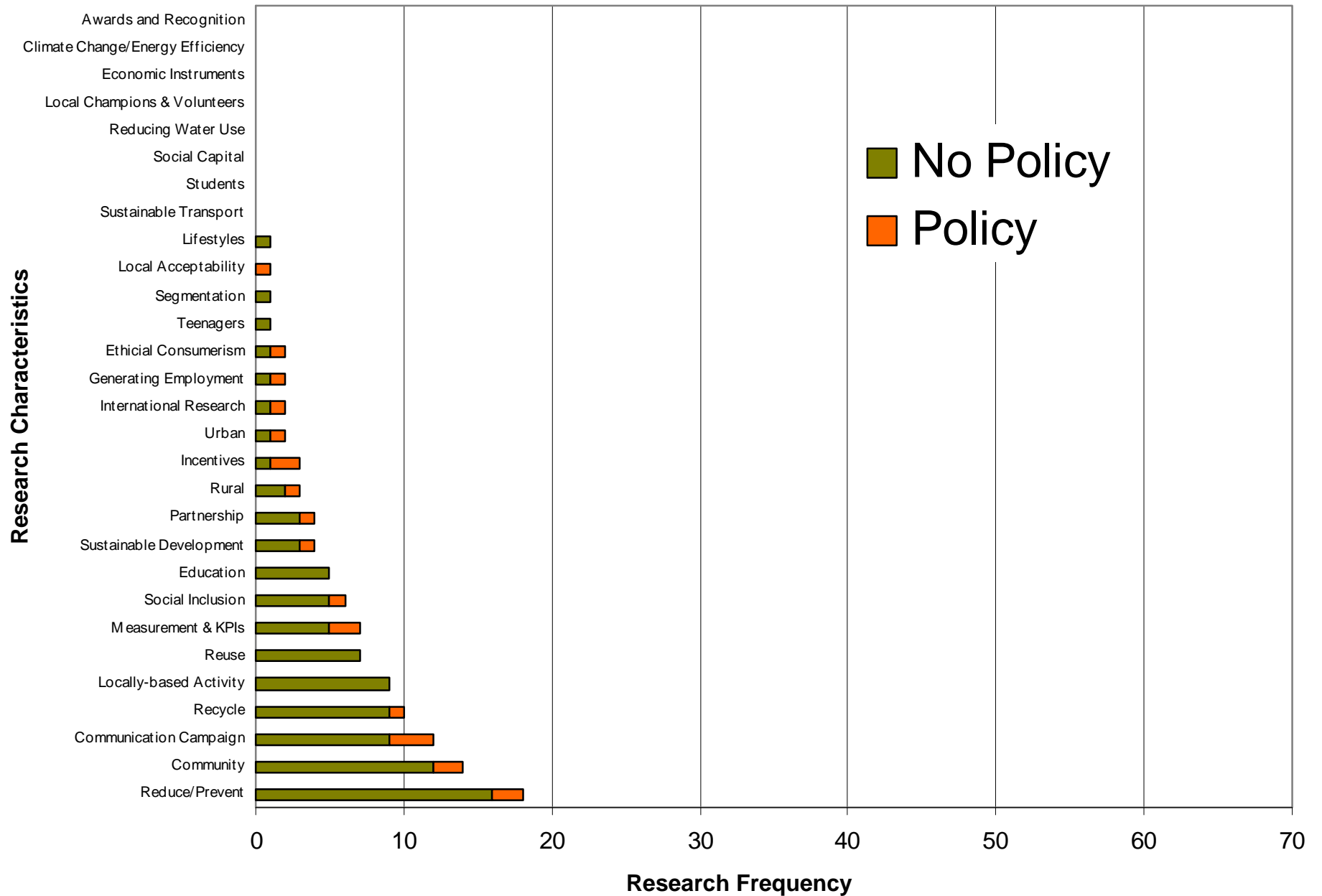


Figure A3.5: Research informing policy (understanding behaviour)

