Institution: University of Northampton

Unit of Assessment: 17 Geography, Environmental Studies and Archaeology

Title of case study:
Driving the waste reduction agenda: facilitated uptake by Local Authorities of knowledge, ideas and techniques for developing waste prevention plans

1. Summary of the impact (indicative maximum 100 words)

Wastes management represents a major global environmental challenge. In the early 2000s Defra recognised that the UK's emphasis needed to change from managing waste to preventing it arising, and that Local Authorities must be equipped to produce cost-effective waste reduction plans. To this end, WRAP (Waste and Resources Action Programme) financed a major Local Authority training programme involving the Centre for Sustainable Wastes Management (CSWM) due to its track record of research expertise. Evaluation of this training demonstrated that over 90% of 204 delegates (from 33% of Local Authorities) developed a deeper understanding of waste prevention and 41% consequently upgraded their plans, embedding sustainable practice into their organisations and reducing arisings. The ultimate impact of this has been to save Local Authorities money and reduce the amount of waste going to landfill.

2. Underpinning research (indicative maximum 500 words)

The research outputs and expertise of the CSWM form a substantial resource that has been widely employed in developing waste strategies and plans and practice in prevention (hereafter called plans) for Local Authorities, as well as contributing to the evidence base in England. This goes back to the late 1990s where, for example, work by the CSWM published in 2000 **(1)** on regional trends in waste minimization policies made clear the need for strategies to address the emerging waste prevention agenda.

CSWM research, based on robust design, provided valuable knowledge that showed for Local Authority Collected Waste recycling and waste prevention are two separate and distinct domains of activity, leading to the corresponding need to design programmes to utilise pro-environmental messages that promote prevention activity rather than recycling (**2**). This requirement for validated research on Local Authority Collected Waste led the CSWM to design and deliver the 'Corby Waste Not' project **(2)**, at that point the largest prevention project in England, which synthesised Local Authority Collected Waste and Commercial & Industrial waste into a holistic model of waste prevention. The research showed that all campaigns and public communication had to be based upon prevention messages rather than recycling. Using the Theory of Planned Behaviour to design messages, the `win-win` data from large savings in commercial audits were used to encourage, engage and convince a wide range of community groups that prevention was the most cost effective and sustainable practice. This was (at that point) a highly original approach to understanding the drivers of waste prevention and facilitating their deployment. Subsequently, this model guided a significant number of projects run by the CSWM and partners both across England (e.g. Betre – see reference **3**), and internationally (e.g. projects in Finland and Mexico). The need to consider Commercial & Industrial waste issues together with Local Authority Collected Waste in holistic prevention projects for Local Authorities was demonstrated to be essential if a profound alteration in public behaviour is to occur so as to have a significant impact on waste minimisation. The model remains an important point of reference in this field. This led to CSWM research in 2004 that contributed to the Defra Waste and Resource Research Strategy, focusing on public pro-environmental behaviour, using the Theory of Planned Behaviour (**4).**

In 2008, the CSWM published work on household waste prevention, based on its research from the Defra-funded Dorset project (2005-2008) that for the first time in England evaluated a range of methodologies designed to increase public uptake of waste prevention **(5)**. This was a major advance in investigation and analysis techniques that has informed guidance given by Defra, through WRAP, for designing public campaigns, and has been used in Local Authority planning.

The CSWM has been an international leader in the area of Commercial & Industrial waste prevention focusing on Resource Efficiency Clubs (RECs) (**6**). This paper presented a radical new approach for regional funding to support RECs in light of changes to the Landfill Tax Credit Scheme (2004), in partnership with the then Parliamentary Sustainable Waste Management Group, led to a final Defra-funded (£5 million) round of research (2005–08) for some 1000

companies across the UK which saved those companies over £25 million. The CSWM was a major contributor to the successful management of the project, as well as contributing to data production and dissemination of key aspects of the methodology required to reduce Commercial & Industrial waste on a large scale.

3. References to the research (indicative maximum of six references)

1. Phillips, P.S., Adams, K.T., Read A.D. and Green, A. (2000) Regional variations in waste minimization in England: Challenges and issues for policy development. Regional Studies 34: 297-302. P. Phillips is Professor of Waste Management at Northampton; K. Adams was a Research Assistant at Northampton 1999 – 2002; A. Read was a Research Assistant at Kingston University; A. Green was a Senior Lecturer at the University of Warwick

2. Phillips, P.S., Holley, K., Bates, M.P. and Freestone, N. (2002) Corby Waste Not: An appraisal of the UK's largest holistic waste minimisation project. Resources, Conservation and Recycling 36: 1-31. P. Phillips is Professor of Waste Management at Northampton. K. Holley was a Research Assistant at Northampton 1998 – 2011. M. Bates is Professor of Waste Management at Northampton. N. Freestone is Head of Department of Environmental and Geographical Sciences at Northampton

3. Ackroyd, J., Coulter, B., Phillips, P.S. and Read, A.D. (2003) Business excellence through resource efficiency (Betre): An evaluation of the UK's highest recruiting, facilitated self-help waste minimisation project. Resources, Conservation and Recycling 38: 271-299. J. Ackroyd and B. Coulter were consultants in EcoSys Environmental Management and Education in Brighton. P. Phillips is Professor of Waste Management at Northampton. A. Read was a consultant with Environmental Resources Management, Oxford.

4. Tonglet, M., Phillips, P.S. and Bates, M.P. (2004) Determining the drivers for householder pro-environmental behaviour: Waste minimisation compared to recycling. Resources, Conservation and Recycling 42: 27-48. M. Tonglet was a Senior Lecturer at Northampton 2000 – 2006. P. Phillips is Professor of Waste Management at Northampton. M. Bates is Professor of Waste Management at Northampton

5. Read, M., Gregory, M.K. and Phillips, P.S. (2009) An evaluation of 4 key methods for monitoring household waste prevention campaigns in the UK. Resources, Conservation and Recycling 54: 9-20. M. Read was a consultant in Mike Read Associates, Rowde, Wiltshire. M. Gregory is a member of the waste management team at Dorset County Council. P. Phillips is Professor of Waste Management at Northampton

6. Coskeran, T. and Phillips, P.S. (2005) Economic appraisal and evaluation of UK waste minimisation clubs: Proposals to inform the design of sustainable clubs. Resources, Conservation and Recycling 43: 361-374. T. Coskeran was a Senior Lecturer in Liverpool John Moores University. P. Phillips is Professor of Waste Management at Northampton.

4. Details of the impact (indicative maximum 750 words)

Informing strategy and policy

Research on Local Authority Collected Waste and Commercial & Industrial waste by CSWM led to contributions such as the Defra Waste and Resource Research Strategy (**1**), and Developing the Future, the East Midlands Waste Strategy (**2**) and other regional research projects (**3**). Since then the CSWM has been working in partnership with Defra on the design of Waste Places criteria and practice, using analysis to guide future strategy and plans (**4, 5, 6**). This on-going body of work has established CSWM as one of the leading research and training groups within wastes management.

In the early 2000s Defra recognised that ever-increasing waste arisings was a significant environmental issue and that Local Authorities needed to be equipped with knowledge, ideas and techniques, if they were to produce cost effective plans to reduce Local Authority Collected Waste arisings as required by European Directives and national targets. One component of this would be to develop networks of Local Authority staff that could synthesise available best practice into their plans.

Training local authority staff

To facilitate this, WRAP financed a major Local Authority training programme between 2005 and 2013 which drew heavily on the findings of CSWM research as a significant amount of the UK research evidence on the topics of waste reduction and waste prevention has come through work published by the CSWM. The training on wastes prevention was designed and produced by the CSWM and included a module called *Strategic approach to waste prevention*. This module used

the findings from CSWM research as case studies that enabled Local Authority staff to demonstrate a critical understanding of research findings related to waste prevention. Examples of the CSWM research used in the training included the Defra funded Dorset project (**3**) that explored methodologies designed to measure the impact of prevention activities, and the 'Defra 'Zero Waste Places` initiative, 2009–12. Training was delivered via a mix of online tutoring followed by two days of face-to-face seminars, using a dedicated research manual, produced by the CSWM. Over a period of 3 months, delegates produced an initial waste prevention plan for their Local Authority that was then analysed and amended by CSWM members. Delegate feedback from this was extremely positive (see below).

In England currently there are about 360 Local Authorities involved in waste management. Between 2005 and 2011 the Northampton CSWM team trained 260 Local Authority delegates (≈ 45% of England). Between 2007–2011 some 204 delegates were trained from 120 Local Authorities (≈33% of England).

A detailed independent evaluation was carried out, via in-depth interviews of delegates of the prevention training (**7**). Delegate responses regarding the perceived value of training, were as follows:

- 96% stated that it enabled them to evaluate the role of waste prevention;
- 95% stated that it enabled them to identify and appraise barriers;
- 99% stated that it enabled them to develop skills to critically evaluate the applicability of a range of options and techniques and tools;
- 92% stated that it enabled them to develop a critical understanding of research outcomes and their application to pro-environmental behaviour;
- 99% stated that it enabled them to evaluate approaches that have been developed to monitor and measure the impact of waste prevention;
- 99% stated that it enabled them to critically analyse the role of Local Authorities and partners in promoting waste prevention.

In total, 92% of all delegates produced an outline waste prevention plan for their Local Authority area, based on the training they undertook with CSWM. These plans were examined by CSWM members, revised and returned, for implementation by the staff in their Local Authorities.

The impact of the training

The training that CSWM conducted for Local Authority staff had a significant impact on the behaviours of those staff (**8**). Some 41% of those trained said that they made significant changes to their waste management policies, such as development of a more cost-effective research-led prevention plan. For those making changes, evidence was provided that:

- 71% had diverted more waste from landfill;
- 28% increased the tonnages recycled;
- 33% stated changes could not have occurred without the research-based training
- 45% took part in informal networks to share best practice.

Over the period 2008–12, the volume of Local Authority Collected Waste in England fell by some 10%. At the Local Authority level, it is clear, using a range of Defra metrics, that those Local Authorities with robust waste prevention plans are seeing the largest decrease in waste arising per head of population. In 2010, five of the Local Authorities that had been trained, and then produced a new or amended waste prevention plan, were in the top 10 of Local Authorities with greatest reduction of household waste arising (using BVPI 84a – kg per head). These were Peterborough (-11.1%), Bromsgrove (-9.7%), Colchester (-9.3%), North Kesteven (-8.6%) and Ealing (-8%).

These statistics, together with letters of support (**8-10**), provide evidence that the training of Local Authority staff provided by the CSWM has had a significant impact on the policies and procedures which Local Authorities across England have developed in order to minimise waste generation. As one of the letters of support (**8**) states: "it is clear, from both the continuous feedback and the independent evaluation, that the research work conducted by The University of Northampton, and delivered in the training, had a major impact upon the delegates….enabling them to adopt best practice in developing effective plans for their employing authorities."

5. Sources to corroborate the impact (indicative maximum of 10 references)

1. Waste and Resource R&D Strategy (2004/05 – 2006/07) Defra London, UK http://archive.defra.gov.uk/environment/waste/residual/wrep/documents/rdstrategy.pdf - The first Waste Research Strategy for England (2004 – 2007). CSWM worked on: Theme 1 –

Sustainable resource consumption, Theme 5 – The social dimension, and Theme 7 - Economics and prevention.
2. East Midlands Regional Waste Strategy (2006) - East Midlands Regional Assembly, Melton Mowbray. http://www.leics.gov.uk/regional_waste_strategy-2.pdf - CSWM developed Priority Issue 2 - Behaviour, Priority Issue 3 - Efficiency of resource use, and Priority Issue 5 - Prevention of municipal solid wastes.
3. Household Waste Prevention Activity in Dorset: Monitoring and Evaluation. Defra Research Project WR0116 (2008). Defra, London. Final Report http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&Completed=0&ProjectID=14710
4. Zero Waste Places Application Form (2010) WRAP / BREW, Northampton/Banbury, UK.
5. Mattsson, L.T., Phillips, P.S. and Read, A. (2010) A critical review of the largest Resource Efficiency Club Programme in England (2005-2008): Key issues for designing and delivering cost effective policy instruments in the light of Defra's Delivery Landscape Review. Resources, Conservation and Recycling 55: 1-10.
6. Phillips, P.S., Tudor, T., Bird, H. and Bates, M.P. (2011) A critical review of a key waste strategy initiative in England: Zero Waste Place programme 2008 – 2009. Resources, Conservation and Recycling 55: 335-343.
7. WRAP: Evaluation of WRAP`s Local Authority Training Programme Strategic Approach to Waste Prevention 2008/11 (2011) EVA095-000. Banbury, UK.
8. Letter of support from WRAP (key Defra delivery body)
9. Letter of support from Oakdene-Hollins Ltd (key Defra research contractor)
10. Letter of support from AEA technology (key Defra delivery body for Commercial & Industrial waste)