



EWM Programme

Participation Rates in Voluntary Recycling Schemes

Investigation Report

August 2006

Introduction

Participation rates are quoted freely by different bodies involved in the waste management industry. The statistics are used as a basis for absolute statements describing current behaviours, and comparative statements analysing differences between areas and activities.

There is some science to the statistics, in which participation rates and capture rates are distinguished, both achievable by processing the usage results that are already available through readily accessible data. Yet even this is not universally accepted or recognised.

The statistics themselves are rarely questioned. There seems to be no assessment of the statistical basis in qualitative terms. There seems to be no attempt to compare the statistical basis of alternative areas or organisations.

There also seems to have been almost no original research mining into the statistics, demanding qualification and explanation, and subjecting them to rigorous independent scrutiny.

Yet participation in voluntary recycling schemes relates to mass market consumer behaviour. The science of mass market consumer research – both statistical (quantitative) and attitudinal (qualitative) – is highly sophisticated. It has been largely ignored in this context, even to the extent of breaking the golden rule of objectivity.

Worse than this, statistics produced by quantitative research are notoriously (and famously) misleading, unless carefully qualified and explained. In the research that does exist into participation rates in voluntary recycling schemes, qualifications and explanations do not exist. The results then become even more treacherous when different organisations engage in quantitative research with the same objective, but use a different methodology to achieve it.

This problem is compounded when the different organisations are not even aware of the methodology used by the other.

This informal research exercise was conducted when such figures were quoted at the start of the EWM programme, and the extent of the disparity in quoted participation rates between The Province of Friesland and the S-East of England required some explanation.

Recycling Institute asked the partners whether it might be possible to test the quality of the comparative statistics first, to see whether the disparity can be explained by the differences in methods of measurement used.

Methodology

This work was the result. It is an informal exercise. It does not use a robust research methodology, as the means were not available to mount a formal research exercise. It is consequently an exploratory investigation designed to expose the underlying reality of Participation Rate statistics, and test whether they are valid or not.

A questionnaire was issued to all participants in EWM, which was designed to explore the background to the voluntary recycling schemes, and then ask what precisely had been done to measure participation rates. This questionnaire produced almost no response, because the partners were not qualified to answer it. They did not know what the answers were. Hence the questionnaire was followed up by telephone discussions, requesting the name of the person or people who were responsible for managing and generating the production of the statistics quoted. Telephone discussions were then conducted in September/October 2005, and May 2006, with selected personnel in Worthing, Dundee and Friesland. SEERA has also contributed, as has Surrey County Council, with accounts of work undertaken (by Brian Jones, of The Environment Agency, in the case of SEERA), and the approach to calculation (in the case of Surrey).

In addition, desk research was conducted to uncover what is proposed by Government in England & Wales as the ideal approach to the subject. This exposed the Guidelines issued by WRAP to Local Authorities, which are explicit on the subject.

Objective

The objective is to understand the nature of the differences and to compare the participation rates on a standardised basis, enabling research into the deeper causes of consumer motivation to participate.

Conclusions and Recommendation

The **conclusion** of the investigation is that the research methodologies used in The Province of Friesland, Dundee and the S-East of England, and recommended throughout England & Wales are:

- a) different from one another
- b) crude
- c) unprofessional (in the UK)
- d) uninformative at best
- e) misleading at worst
- f) neither objective, disinterested, nor independent
- g) conducted by those with a vested interest in the results
- h) inadequate evidence for any future decision

The statistics generated by such research tell the reader almost nothing, and explain absolutely nothing.

As an illustration of the limitations of current data, the research conducted in The Netherlands, which is the most sophisticated of current research methodologies in this subject, reveals a disparity between the **percentage of the population** participating in recycling schemes for different materials, and the **percentage of the volume** of the same materials being recycled. For example, 85% of the research sample **say** they are recycling paper. But only 60% of all waste glass is **actually being** recycled. The limitations in the data are such that the professional research team cannot explain this disparity in any way.

Common sense suggests an obvious explanation. The people who are recycling paper care more for principles of social responsibility than those who are not recycling paper. It is likely that they are more educated and affluent. Statistically, affluent households are smaller than those of the economically deprived. Statistically, it is therefore likely that they will generate a higher volume of waste paper per capita than their more affluent neighbours. This gives a

simple explanation for the disparity in the two paper recycling statistics. But we have no means of judging whether it is right or not. This is an untested hypothesis unsupported by any statistical or other research evidence. The robust evidence must be established to discover what is actually happening.

In view of the importance of recycling rates throughout the EU, the **recommendation** is that work should now be put in hand to develop and test a recommended standard methodology for measuring participation rates in voluntary recycling schemes throughout Europe that is practicable, realistic, capable of yielding information that explains what is happening with some accuracy, is reliable, is professional, is statistically significant, is qualitatively illuminating, and is scientifically legitimate.

The true value of research is measured not in what it tells its audience, nor in what it explains or illuminates, but in how it can be used to generate improvements and benefits. Bad research either cannot be used at all, or, when acted on, is counter-productive, because it is inaccurate. Good research provides a sound platform of evidence against which the alternative courses of action can be weighed and judged, and realistic expectations can be discussed within a rational framework. This context is vital for policy-making, for strategic decisions, in the public sector, as well as company direction in the private sector.

At present, the subject of Participation Rates in Voluntary Recycling Schemes can be seen to be not researched at all, in the proper sense of the word, hence decisions based on the statistics generated will almost certainly be dependent on other factors for their wisdom and value, or otherwise, and not be based on any reliable research evidence.

Next Steps

Create a partnership between interested participants in EWM, and others, to design and pilot test a new methodology for research into Participation in Voluntary Recycling Schemes, with a view to becoming the common standard shared throughout the EU.

The output of this study for the EWM programme is therefore proposed to be **the design of a linked research methodology and programme** required to establish the baseline data concerning Participation Rates in Voluntary Recycling Schemes in different European regions, an **identification of prospective partners** and **proposals for funding sources**.

Detailed Findings

1. Research Methodologies

Adur DC: The research survey monitors how many recycling boxes (one box per household, which can take mixed paper, cans and plastic bottles) are put out over a restricted number of properties in a specific area (targeted for a campaign to raise recycling rates). There is no control sample. There is no demographic weighting, or household composition analysis. The monitoring is conducted over a 4-week period (pre/mid/post campaign), during which, if a household puts out anything for recycling collection, it is deemed to have participated. The visit is weekly (i.e. 4 visits over a 4 week period), and the method of monitoring is to follow 1 or 2 of the vehicles collecting the recycling boxes, recording whether a box is on the kerbside for collection or not. The sample conforms to the vehicle route, and, in that sense, is random. The data generated provides a figure for the percentage of households surveyed participating in the voluntary recycling scheme, which allows the extrapolation of a percentage figure for participation rates throughout the population, and can be sub-divided into Wards of the district. This methodology essentially tests the effects of a specific recycling campaign in one area. Its objectives cannot be taken any further. This methodology is derived from the requirements laid down as a condition of the funding provided by WRAP for the schemes in Adur. See below for a description of WRAP's methodology.

Dundee CC: Dundee conforms closely to the above, with some differences in regularity. The monitoring is conducted over 2 consecutive collection cycles. As in Adur, it follows the vehicle collection routes of 2 vehicles.

WRAP: WRAP (Waste & Resources Action Programme) is the UK Government agency for recycling development and promotion. It hands out grants and subsidies to finance and support initiatives in many different areas. In this context, it has been responsible for promoting Voluntary Recycling Schemes in different regions of England and Wales (Scotland is also served by WRAP, but the environmental administration governing local authority waste collections are controlled by the Scottish Executive, hence has used WRAP's intervention in a different way), and has issued Guidelines to accompany the schemes it funds telling the operators how to research the results. In March 2006, it published *Improving the Performance of Waste Diversion Schemes: A Good Practice Guide to Monitoring and Evaluation*. This is a guide that explains how operators can set up and administer their own monitoring and evaluation schemes. The methodology is designed and described for people who have no experience or understanding of the most basic rudiments of the research process. It is a beginner's guide to do-it-yourself research. This carries obvious dangers, in terms of professionalism, accuracy and reliability. The beginner makes many more mistakes than the professional. It also might be an inefficient use of expertise which is misapplied in this context. The methodology is also being presented in a wider context, which is sometimes disguised by the Guide. Whereas the Guide seems to offer a definitive account of good practice in Monitoring and Evaluation, it is, in reality, provided in response to the need to measure response rates to its own, funded schemes or campaigns. The Guide forms part of the scheme, and the monitoring and evaluation are a condition of funding. In other words, the monitoring and evaluation process, to which WRAP offers a Guide, has a self-serving objective, for which WRAP judges the process to be satisfactory. One final note on WRAP's Guide. The schemes or campaigns it supports are dominated by communications designed to encourage and stimulate participation. A large proportion of the funding supplied by WRAP for each scheme is required to be spent on communications. The objective of the Monitoring and Evaluation is, largely, to measure the effect of the communications. This is far removed from the need for research measuring participation rates in voluntary recycling schemes, but there is a danger in the way that it is presented that WRAP's methodology might appear to be an authoritative answer to the requirement.

Friesland: Two methods of measurement are used, a telephone questionnaire of households (also sometimes administered by telephone, e-mail or post); and a compositional analysis sorting waste and making statistical calculations based on the results. These are conducted in different, contrasting sizes of population, as well as rural and urban environments. Neither method makes any socio-economic distinctions. The questionnaire to the general public is limited to one question – recycling participation – and offers alternative levels, and alternative materials for the respondent to choose from. In other words, the respondent is asked whether he/she recycles glass/paper/plastic etc and is asked whether all/some/little/none of each material is recycled from his/her household. The research **assumes** that the level of each response is roughly the same (i.e. when one respondent answers "some", he/she will mean roughly the same quantity as other who answer the same). This methodology generates a figure showing **percentage of population participating** and a figure showing **percentage of waste stream recycled**, but it offers no means of reconciling the difference between these two figures – and they always will be different.

Note:

The difference between the figures generated in research in The Netherlands, which has surprised many commentators in the Waste Management industry, is familiar in market research. It is the difference between **Users** and **Usage**. Understanding the relationship between users and usage is often the key to understanding consumer behaviour in any given market. No such understanding is available to the waste management industry in relation to participation in voluntary recycling schemes.

2. Competent Bodies

Adur DC: The research is self-administered, and hence, by definition, amateur. Inspectors conduct the Survey, not the Crew. They follow the crew, in their own cars, using pre-set forms prepared by themselves under guidance from WRAP. But the Inspectors are Council Employees, not independent research specialists.

Dundee CC: Although the Dundee research is nothing to do with WRAP, it follows the same basic shape as Adur. The research is administered by a Council team, consisting of a Data Officer and a Waste Strategy Assistant, who travel with the Crews on the actual vehicles, recording results against a pre-set address list.

WRAP: WRAP is staffed with experts in recycling. It is not a research company. It has no claims to expertise in this area. Although it is possible that authorship of its Guide was the responsibility of an experienced research professional, this would seem highly unlikely. The Guide breaks many of the rules laid down in the code of the professional Market Research association. Hence it is not competent to write such a Guide. The Guide itself encourages do-it-yourself research, which, in turn, will not be conducted by competent bodies, but by amateurs who have never done such a thing before. The Guide is a Beginner's guide, for those with neither experience nor knowledge nor understanding of the research process. There is no basis of competence in the WRAP approach.

Friesland: The Municipality is responsible for its own research, and originates the work. However, professional research capabilities have been engaged to conduct the work itself. The leading research company in The Netherlands in this field is CREM, which is a specialist research company in environmental management, highly experienced, competent and well-regarded. The limits on the professional competence are the nature of the brief and objectives commissioned by the Municipality, and the quality of the raw data provided by the Municipality – figures and addresses on which to base the research. A Government subsidy has recently been introduced to offer assistance with a current review, of 1 Euro per inhabitant, for purposes of analysing recycling costs, benefits, techniques and results, with a view to defining future strategies. If a Municipality finished this project, then a further 2 Euros per inhabitant will be made available for further research projects.

Note:

A basic requirement of research is that it should be independent and objective. It cannot be conducted by anyone whose future is linked to its results. In this case, there is an obvious and basic problem. Those who are charged with the responsibility for the recycling schemes CANNOT take responsibility for the research monitoring and evaluating their results. They are the very people responsible for achieving the recycling targets set at the highest level of Government, so their jobs might even be expected to depend on their performance. It is unreasonable to expect them to research their own achievements.

3. Recycling Schemes (and History)

Adur DC: The promotional scheme is a joint project with Horsham and Crawley, which targets the lowest participation areas, after a door-step review of existing recycling participation rates. This scheme, and the previous review, are funded by WRAP, paid to the University of Brighton through the Borough of Crawley. The results are used to show which areas are the worst performing and thus inform the ongoing promotional process. Defra is expected to be involved in the next schemes.

Dundee CC: The Dundee scheme is a pilot test. Dundee has a history of recycling initiatives, however, having been amongst the most progressive recycling cities in the 90's.

WRAP: WRAP runs a programme of funding for voluntary recycling schemes, which is available throughout England & Wales. It issues regular calls for bids to the funds. The nature of the schemes, like their monitoring and evaluation, is subject to detailed Guidelines issued by WRAP.

Friesland: Municipalities are required by law to collect organic waste from the door, and this therefore has been excepted from voluntary recycling since the early 1990's. Paper and glass recycling has been conducted in The Netherlands since the late 1970's, when street bins were introduced. Subsequently, separate bins for households were introduced, even though the scheme is voluntary and there are no obligations on the householders to use the bins. The scheme is judged to have been a considerable success, although the research

data providing evidence of the success can be seen to be somewhat limited. In addition to these activities, schools and sports clubs will collect and sell paper on the open market. Municipalities will underwrite this because it saves the Municipality's collection costs (estimated saving of 10-15 cents/kilo).

4. Comparative Rates

Adur DC: 21% of all households surveyed. 65% participated. Highest ward was Goring at 82%, lowest ward was Central at 45%.

Dundee CC: Range from high 20's to low 60's, with an average of 46%

SEERA: SEERA has produced an analysis which suggests a reasonable maximum MSW recycling rate of 38%. This is built up of a detailed assessment of the potential for recycling of different materials, for each of which a reasonable recycling rate is calculated.

Friesland: Participation rates are measured by material stream, by household, and by volume. Household participation rates are consistently in the 80-90% range. Volumes are lower.

Note:

The paper produced for SEERA by Brian Jones of The Environment Agency makes an effective attempt at separating recycling rates by different material stream. This is obviously an essential component of any effective research into participation rates, which has been missing from some of the other research seen thus far. However, the basic research methodology into participation rates in voluntary recycling schemes is so badly designed and defined, that the first requirement must be to design the right methodology to be applied, and only then apply it to every waste stream.

5. Quality of Data/Research

Adur DC: Low quality of research and data. This would not be recognised as legitimate research by the Market Research professional body (the Market Research Society), nor would it be admitted as valid research within an academic peer group review process.

Dundee CC: Low quality of research and data. This would not be recognised as legitimate research by the Market Research professional body (the Market Research Society), nor would it be admitted as valid research within an academic peer group review process.

WRAP: The Guide promotes a poor methodology for the research, which will result in low quality data.

In all three above cases, the data provided only describes how many units (boxes) are retrieved from each sample. There is no other data. It is more notable for what it does not describe or explain than for what it does.

SEERA: The analysis conducted by the Environment Agency for SEERA is high quality, thoughtful and helpful. However, it did not involve any original research. It was based only on desk research.

Friesland: The quality of the research and the data is good. It is based on robust research methods, applied by professional researchers, processed and analysed thoroughly. The main problem is the limitation of the methodology, as discussed above. These create limitations in the use and value of the research.

6. Who pays for the research

Adur DC: WRAP funding.

Dundee CC: Dundee pays for its own research.

SEERA: SEERA pays for its own study.

Friesland: Regional government (the Municipalities), with central Government assistance through additional subsidies.

7. How are the figures used

Adur DC: The significance of the figures is in relation to recycling targets, which in turn are significant in the context of Landfill Diversionary targets.

Dundee CC: The significance of the figures is in relation to recycling targets, which in turn are significant in the context of Landfill Diversionary targets.

WRAP: WRAP requires figures in order to demonstrate the success (or otherwise) of its funded schemes for voluntary recycling. It has a vested interest in demonstrating success, however, since its own funding depends on its results.

Friesland: The regional and central Governments use the statistics to monitor progress over the last two decades.