

**DIRECT AND VARIABLE
CHARGING FOR HOUSEHOLD
RESIDUAL WASTE – OVERVIEW
OF KEY ISSUES**

**PREPARED FOR THE CHARTERED
INSTITUTION OF WASTES
MANAGEMENT BY GORDON
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PROJECT RELEASE SHEET

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EXECUTIVE SUMMARY AND KEY RECOMMENDATIONS

Introduction

Discussion and debate on the desirability and implications of Direct and Variable Charging (DVC) for household residual waste has taken place for a number of years in the UK.

This report, produced by Gordon Mackie Associates, has been commissioned by the Chartered Institution of Wastes Management (CIWM) and presents the results of updated research on DVC. It is designed to assist CIWM in the development of an informed position statement on the subject. It builds upon previous research and considers recent legislative, operational and attitudinal developments in the UK.

The aim of the study is to investigate a number of agreed issues with regard to the suitability and effects of DVC in the UK. The remit includes the following key elements:

- Review and update the UK policy, legislative and regulatory context;
- Consideration of the effectiveness and suitability of agreed alternative/allied practices which may contribute to the reduction of residual waste collected from households and/or increase the diversion of recyclable and compostable materials;
- Identification of UK and Republic of Ireland (ROI) case studies using alternative/allied and complementary practices;
- Provision of a new consultation exercise with key third party stakeholder organisations;
- Review of recent studies of UK public attitudes on DVC;
- Provision of an outline cost/finance model showing the potential implications of the introduction of DVC schemes in two hypothetical UK collection authority scenarios.

Policy, Legislative and Regulatory Context

The report provides an overview of some of the key recent policy, legislative and regulatory developments which are of relevance to the consideration of DVC schemes within the UK.

Previous research has suggested that, in an income versus expenditure analysis, the attractiveness of DVC increases with a higher waste disposal cost. Also notable is support for the 'Polluter Pays' principle within a number of legislative and regulatory controls which can be viewed as directly relevant to the DVC issue.

As an economic instrument, DVC can be viewed as a means of applying the 'Polluter Pays' principle, particularly in view of the draft Waste Framework Directive's consideration that the definition of 'producers' of waste should now potentially include householders as consumers; a development from the previous emphasis on 'producers' as manufacturers and providers of products and services.

Internationally and in the UK, the application of fiscal and non-fiscal measures have, and will continue to, cause the costs of waste management and disposal to increase. Such measures have included the application of taxes and, in some states, measures including landfill bans for specific categories of waste material. In the UK, the Government's pre-budget report in 2006 confirmed existing policy to increase the cost of landfill disposal through maintenance of the existing Landfill Tax escalator, with the potential to apply revised and potentially more costly measures in the future.

In addition to the existing Landfill Tax system and its potential future revisions, the application of landfill diversion targets for biodegradable waste will continue to drive up the cost of waste disposal to landfill.

Recent UK policy and legislation has continued to support increases in waste disposal costs, encourage the diversion of waste into recycling and composting schemes and the application of the 'Polluter Pays' principle by clearly identifying the responsibilities of residents in relation to waste behaviour.

If these developments are not considered to directly support DVC as a specific instrument, they should equally not be considered as hindrances to the future application of DVC and may be viewed as part of a package of measures to improve the future management of household waste.

Allied Practices

The report examines a number of 'allied' practices which can be applied in conjunction with or in place of a DVC scheme to encourage waste minimisation and recycling participation, increase awareness of waste management issues and encourage compliance with the DVC scheme itself. These practices are potentially 'stand alone' systems which can be (and have been) applied in isolation, without the introduction of DVC schemes.

Every local authority has its own particular needs for the delivery of waste collection and recycling services that are dependent on (amongst other factors) geography, housing stock, socio-economics and awareness levels. Because of these variations there is no one 'blueprint' for the achievement of high levels of recycling and waste reduction.

The research suggests that, for the implementation of successful DVC schemes, collection authorities will need to consider and address the provision of effective recycling and associated collection services (including the potential restriction of some services, for example CA site provision), appropriate communication and awareness campaigns and strict enforcement of the rules of the service.

It should be noted that most of the international municipalities using DVC schemes considered in this research also do so in conjunction with some kind of incentive and/or strict enforcement system.

Unlike incentive and compulsory recycling schemes, DVC schemes (and to some extent the type of collection system used) have the potential to create a degree of understanding of the link between consumer choice and the type and amount of waste generated as a result. Householders may be encouraged to understand the connection between purchasing decisions and waste generation, if measures such as DVC are used. This is an important consideration as local authorities strive to limit waste generation and increase recycling and composting rates, coupled with consideration of the existing financial mechanisms applied directly to local authorities (including the Landfill Tax and biodegradable landfill allowances).

Evidence has shown that DVC schemes can lead to a reduction in the amount of household waste generated and to the frequency of waste collections required. If a variable charge element is linked to collection frequencies or the number of collections made, householders may look to reduce the amount of waste they generate and/or the frequency with which it is presented for collection. If DVC schemes are introduced in local authority areas already using successful Alternate Weekly Collections (AWCs), there may be the potential for less public opposition to the development. Reduced opposition may result from the established understanding of the need to limit residual waste generation necessitated by less frequent waste collections.

The best waste reduction and recycling results may be achieved through a combination of DVC schemes and allied practices. In addition, factors including the provision of different container types and sizes and the combinations of materials targeted in recycling and composting services, home composting provision and collection methods are also relevant considerations.

Case Studies

DVC schemes for household waste collections are already widely applied in the UK in the form of separate fees for the collection of bulky and garden wastes. Local authority practice in this area varies, with some authorities opting to charge directly for these services.

In addition to the consideration of a current DVC example for residual waste, the study provides an overview of several UK case studies which apply allied practices. These case studies show how some local authorities have introduced pioneering approaches, within the existing legislative framework, to encourage residents to reduce residual waste generation and increase recycling rates. Experience of DVC schemes gained in the ROI is also considered.

In the case studies where compulsory recycling and the threat of financial penalties are used, there is little long term precedent to determine whether these measures, in these specific authorities, will encourage householders to change their behaviour in the longer term. These examples also demonstrate some of the difficulties that local authorities can face when pursuing enforcement measures using existing powers within Section 46 of the EPA.

The South Norfolk Council case study demonstrated that equity issues, in relation to *household size*, will need to be considered during the planning and introduction of a DVC scheme in addition to the more widely recognised issue of low income.

In the case of Blaby District Council, the restriction of container capacity to present residual waste and the application of a direct charge for householders requiring additional capacity have resulted in a reduction in residual waste arisings and an increase in recycling rates. This, in addition to the ROI examples, reinforces previous research that DVC schemes can be effective mechanisms to encourage waste prevention and increase recycling in addition to other tools and mechanisms available to local authorities.

In relation to public attitudes to DVC schemes (also considered separately within the report), the ROI case study examples suggests that public understanding and approval are a requirement for their success, also ensuring that the associated disbenefits (such as flytipping) are controlled. Such understanding and approval may be achieved over a period time *after* the introduction of the DVC scheme and, therefore, may not need to be a prerequisite.

Demonstrating to the public that DVC can reduce household charges for waste collection and disposal will help to gain approval. The ROI and other international examples have also shown that some of the disbenefits commonly linked to DVC (such as increased flytipping and backyard burning) have not been as problematic, in the longer term, as suggested. In many cases, increases in the illegal disposal of waste resulting from a DVC scheme can be negated once residents get used to the new system and can be overcome by strong enforcement, education and well-planned services.

Stakeholder Consultation

To gauge the current level of support or opposition to DVC amongst key stakeholders, a total of twenty organisations have been consulted as part of this research. Stakeholder organisations were selected to reflect a range of responsibilities and national remits within the UK.

It should be noted that some of the stakeholder organisations were in the process of developing position statements on the DVC issue and were unable to provide a full organisational response.

All respondents supported the introduction of DVC for household residual waste on a voluntary rather than mandatory basis for local authorities. Respondents also assumed that DVC would increase recycling, result in a reduction in waste generation rates, encourage households to change their behaviour towards purchasing decisions and waste and potentially financially benefit householders who recycle more. The majority of respondents considered that the decision on the type of DVC scheme should be left to individual local authorities.

The main perceived barriers to or obstacles or problems associated with successful DVC schemes included the following:

- Public opposition;
- Increased flytipping;
- Enforcement costs;
- Public perceptions of fairness where neighbouring local authorities do not introduce comparable DVC schemes;
- Equity issues for low income households and Houses in Multiple Occupancy (HMOs).

Suggested solutions to these barriers, obstacles or problems included:

- Consistent support and guidance from Government;
- Identification of waste management as a separate line entry within the billing system;
- Robust enforcement procedures;
- The provision of appropriate communication campaigns;
- The provision of adequate and reliable recycling schemes.

Respondents considered that allied practices (including AWCs and home composting) still have a role to play in managing household waste and that some could be implemented in conjunction with DVC schemes.

Public Acceptability – Research Review

The study has also examined four recent surveys and analyses of public attitudes in the UK in relation to DVC schemes. The remits of these surveys cover wider waste and environmental issues but include references of relevance to DVC schemes in their questions, analyses or interpretations.

It is worth noting when considering research which investigates environmental and waste management behaviour that responses may not fully reflect the actual behaviour of respondents. A 'reality gap' often exists between what people say they do and what they actually do in reality. Nevertheless, the surveys provide useful context of recent public attitude surveys relevant to potential DVC schemes in the UK.

Three of the four surveys (MRW, Brook Lyndhurst and Lyons Inquiry) suggest that respondents either considered that non-recyclers and/or high waste producers should be fined or pay more for their waste collections. This suggests an acceptance of a potential financial implication for households in relation to their waste management behaviour.

Again, in three surveys (Brook Lyndhurst, LGA and Lyons Inquiry) the results also suggest that the majority of respondents would support some form of DVC scheme, either varying in relation to Council Tax payments or as a new direct charge.

These analyses suggest that the public may be more supportive of DVC, if it causes an obvious reduction in overall charges to households, than the perceptions of public support expressed during the stakeholder consultation exercise. The results also suggest that support for DVC appears to be high amongst householders who currently recycle to some extent, potentially reflecting an understanding of the link between individual behaviour and a charging mechanism.

As considered in the ROI case study, public understanding and approval of DVC schemes are a requirement for their success, whilst also ensuring that the associated disbenefits (such as flytipping) are controlled. The research also recognises that such understanding and approval may be achieved over a period of time *after* the introduction of the DVC scheme and, therefore, may not

need to be a prerequisite. Demonstrating to the public that DVC can reduce overall household charges for waste collection and disposal will also help to gain approval.

Some research has concluded that DVC will work best where high recycling rates occur and where recycling is the social 'norm', suggesting that residents in localities which already achieve high recycling rates may be more receptive to DVC schemes than low performing communities. This assumption may also be relevant in relation to AWCs. If DVC schemes are introduced in local authority areas already using successful AWC systems, there may be the potential for less public opposition to the development. Such reduced opposition may result from the established understanding of the need to limit residual waste generation necessitated by less frequent waste collections.

Local Government Finances

As part of this research, a comparative cost model analysis has been undertaken for 'baseline' kerbside collection scenarios for two hypothetical local authorities, both before and after the introduction of theoretical DVC schemes for residual waste.

This is intended to provide an overview of some of the potential effects on local government finances which may result from the introduction of a DVC scheme. It should be noted that the analyses consider the localised impacts of the introduction of DVC, focussing mainly on collection and disposal costs and potential charging revenues. No account has been taken of potential changes in central Government funding for local authorities.

When reviewing the results from the cost models it was apparent that the impact of set-up costs did not appear to be excessive. It should be noted that there were costs associated with the assumed development of the collection services for both scenarios as a whole, including an increase in the range of separately collected materials and the introduction of different collection containers.

Vehicles, staff and consumable resources proved to be the largest cost elements within the models. Costs associated with the retrofitting of vehicles, software for the billing system and pre-publicity would not, however, need to be considered on an ongoing, annual basis.

In broad terms the income generated from the variable element of the DVC scheme equated to approximately 50-60% of the total waste collection and disposal cost. The balance could be met through a combination of a direct 'fixed' element for service provision, separate internal local authority funds and/or through central Government funding depending on its revised future form.

In the wider context, any increases in costs associated with the introduction of DVC schemes may be buffered by the savings achieved through reduced amounts of waste sent for disposal. The costs of DVC schemes may also be insignificant when compared to the potential fines that some UK local authorities face if landfill diversion targets for biodegradable waste are not met.

The analysis is not considered to be definitive or sufficiently detailed to inform the development of an appropriate position statement in isolation. This is due to, amongst other elements, the exclusion of data relating to specific central Government funding, landfill allowance/biodegradable diversion costs, the hypothetical nature of the local authorities and the consideration of only two potential types of DVC scheme.

It is recommended that the Lyons Inquiry report (expected early in 2007) and current work commissioned by Defra on the financial implications of DVC schemes should also be considered to gain a more complete overview of the implications of different types of DVC scheme on local government finances in the UK.

Recommendations

The conclusions of this report have been compiled and reviewed in order to identify specific recommendations for the development of CIWM's policy position on the DVC issue. These are presented in the sections below.

DVC: A Future Option

It is recommended that DVC is supported as a potential future option for local authorities to charge householders for the full or partial recovery of residual waste collection and disposal costs. It is also recommended that the decision on whether or not to apply DVC should be made by individual local authorities and not be a mandatory requirement.

Requirements for Local Authorities

There are a number of issues to consider in relation to the type of DVC scheme which could be applied, including:

- The individual characteristics of local authority areas including collection systems, socio-demographics, geography and housing stock;
- Issues of fairness and equity (and perceptions of inequity) for householders in individual local authorities and between householders residing in different/neighbouring local authority areas;
- Implications for neighbouring authorities in terms of waste 'migration' via, for example CA site provision;
- The ability of individual local authorities to adequately appraise different DVC options, identify the most suitable local option and to plan and implement the systems successfully.

It is therefore recommended that:

- A. A robust appraisal system and guidance on the selection of DVC scheme is provided by central Government to local authorities. In addition, guidance will need to be provided on communications and deployment issues;
- B. Local authorities should subsequently be empowered to select the most appropriate form of DVC scheme to apply locally.

Trials and Pilots

It is recommended that pilots and trials of different types of DVC scheme are applied in areas with different socio-demographic characteristics, collection systems, geography and housing stock. Such trials could be used to identify relevant issues for UK local authorities and to inform the potential wider application of DVC schemes.

Research has highlighted that householders in areas with high recycling rates and/or AWC systems may be less opposed to DVC schemes. Consideration of the suitability of these areas for pilot schemes should be made in conjunction with areas that do not possess these characteristics with a clear awareness of the issues relating to both.

Equity Issues

In terms of equity, it is recognised that potential issues relating to the application of the system (and its perception) will need to be addressed. These include:

- Impacts on low income households;
- Impacts on households in relation to the number of household members;

- Impacts on households in different types of housing stock (including, for example terraced and detached properties and HMOs where different types of collection containers may be used;
- Impacts on households in neighbouring authorities.

It is recommended that central Government considers and addresses these issues in its guidance to local authorities. It should be noted that research suggests that these issues are not insurmountable and can be successfully and appropriately addressed.

The Role of Government

It is recognised that central Government's role in the development of DVC schemes is crucial. It is also recognised that this role is complex and overarches a number of responsibilities including waste management policy, finance and regulation. Key recommendations are as follows:

- Clear and unequivocal support for DVC should be expressed in all appropriate fora (including political and media);
- Attempts to garner cross party support for the issue should be made. This recommendation is made with a strong understanding of local government practice and the potential for DVC to become a key local election issue;
- Clear guidance and support for local authorities should be provided for the planning stages (including option appraisals, financial management and contractual considerations) and implementation stages (including communications and operations).

Further Conclusions and Recommendations

With consideration of other conclusions within this report, the following observations and recommendations are made:

- It is recognised that the provision of robust, reliable and comprehensive recycling and composting services to households are an essential pre-requisite for the successful application of DVC schemes.
- Other essential requirements include:
 - Effective communications. These should provide a clear explanation of the requirements of the system and the potential benefits, including potential financial savings, to householders. This requirement extends to the clear itemisation of charges within the revised billing system;
 - Strong and effective enforcement systems to ensure the correct use of systems and prevent inappropriate and illegal waste behaviour.
- Care should be taken with the application of compulsory recycling schemes in conjunction with DVC schemes. This recognises the potential for such developments to be perceived as a 'heavy handed' approach if both systems are newly introduced at the same time, with the potential to reduce public support for the DVC scheme. Incentive schemes may be seen to provide a more balanced approach if jointly applied with systems;
- CA site provision will need to be reviewed in local authority areas where DVC schemes are introduced and in neighbouring local authority areas, with the potential application of strict permit and/or charge based controls.

1. INTRODUCTION

1.1 Direct and Variable Charging (DVC)

Discussion and debate on the desirability and implications of Direct and Variable Charging (DVC) for household residual waste has taken place for a number of years in the UK. The widely perceived main benefits resulting from the introduction of DVC schemes have included:

- The promotion of waste prevention, reuse and recycling;
- Educating the householder with regard to the economic consequences of their attitude to waste;
- Treating waste management in a similar manner to other utility services such as gas and electricity, where people only pay for what they use;
- Potential to raise revenues which could be 'ring fenced' to fund recycling activities.

There have also been a number of key concerns expressed about the introduction of such schemes, including the following:

- Lack of clarity about the most effective and efficient schemes and mechanisms (operational and administrative) which could be applied;
- Potential negative impacts, such as increases in illegal waste activities including flytipping and 'backyard' burning;
- Public attitudes regarding the monitoring of household waste behaviour;
- Perceived introduction of a new 'tax';
- Concerns over issues of equity between households, particularly in relation to low income households and household size;
- Potential problems arising where different DVC schemes are applied by different or neighbouring local authorities.

This report, produced by Gordon Mackie Associates, has been commissioned by the Chartered Institution of Wastes Management (CIWM) and presents the results of updated research on DVC. It is designed to assist CIWM in the development of an informed position statement on the subject.

1.2 Previous Research

In 2003, the Chartered Institution of Wastes Management Environmental Body, IWM (EB), commissioned a report entitled: '*Waste Collection: To Charge or Not to Charge?*'. The report is referred to as the 'Eurocharge' report within this document. The work was financially supported by Biffaward and CIWM, produced by Eunomia Research and Consulting Ltd, with the assistance of Waste Watch, and also supported by the Local Government Association (LGA).

This current report builds on Eunomia's work by considering subsequent legislative, operational and attitudinal developments in the UK.

The original Eurocharge study had the following key aims:

1. To identify the barriers to implementation of DVC schemes in the UK and make recommendations that could be used in the development of policy.

2. To identify 'ball park' revenue and administrative costs for DVC relative to current collection costs.
3. To use European experience to highlight the perceived and actual benefits of DVC.
4. To draw comparisons with the results of revised collection practice including reduced bin size, alternate weekly collections.

The report culminated in a series of observations, conclusions and recommendations on the issue, including:

- The general trend throughout different parts of Europe and the United States is to introduce the 'Polluter Pays' principle into waste management systems at the household level. The report recommends that DVC schemes should commence in the UK as soon as possible.
- Introducing DVC can have positive environmental benefits at negative (net) cost.
- A decision to change the legislation needs to come from central Government allowing local authorities who wish to use DVC schemes for waste collection services to do so (the legislation should not make DVC schemes mandatory).
- Careful use of language will help improve communication about these schemes. Hence, it is recommended that local authorities should be fully informed about these schemes at the time of legislative changes. Time should also be taken to inform residents before implementing DVC schemes to ensure acceptance.
- DVC schemes have a role to play in reducing total waste collected. For DVC schemes to work best, quality source separation collection services are necessary. Together, these schemes should be integral elements of any BPEO strategy for reducing waste.
- There is no 'right' scheme. Some research shows that weight-based schemes are the best in terms of putting pressure on residents to reduce waste, but can be more costly due to the fact that they are based on collections, which may be more frequent than is needed. Pay-per-sack schemes may be less costly in terms of billing, but more open to fraud. Whichever scheme is used it is recommended that plans should be in place to reward waste activities such as home composting.
- The most important element of any scheme is not the charging but the integration of all aspects of the scheme.
- DVC schemes command greater financial transparency, they improve data capture, they can help to improve management of collection rounds and they help to ensure that the commercial waste collected is charged at the appropriate rate.
- It should be possible for UK local authorities to reduce residual waste from its current level of 400 kg per person to around, or below, 150 kg per person.

Copies of the full report are available on:

<http://www.ciwm.co.uk/mediastore/FILES/10529.pdf>

1.3 Context

The key aim of this additional research is to assist CIWM in the development of its position statement on the issue.

The development of a formal policy position has, in part, been prompted by intensified debate in the UK in recent months, partly due to the frequent coverage of the issue in both national and local media. It is, however, CIWM's intention to

provide a clear and objective policy lead to the industry with full consideration of the issues.

Although this work does not fully address all issues relevant to the topic, it goes some way to considering developments in attitudes, policy, research and legislation since the 2003 study. It is also intended to assist CIWM to identify areas and issues that require further clarification or indeed further research.

1.3.1 Scope

The aim of the study is to investigate a number of agreed issues with regard to the suitability and effects of DVC in the UK.

The final agreed remit includes the following key elements:

- Review and update the UK policy, legislative and regulatory context;
- Consideration of the effectiveness and suitability of agreed alternative/allied practices which may contribute to the reduction of residual waste collected from households and/or increase the diversion of recyclable and compostable materials;
- Identification of UK and ROI (Republic of Ireland) case studies using alternative/allied and complementary practices;
- Provision of a new consultation exercise with key third party stakeholder organisations;
- Review of recent studies of UK public attitudes on DVC;
- Provision of an outline cost/finance model showing the potential implications of the introduction of DVC schemes in two hypothetical UK collection authority scenarios.

2. POLICY, LEGISLATIVE AND REGULATORY CONTEXT

2.1 Introduction

This Chapter provides an overview of some of the key recent developments which are of relevance to the consideration of DVC schemes within the UK.

To inform the preparation of an appropriate position statement, a number of developments since the original Eurocharge report have been considered. These include policy, legislative and regulatory developments and the application of fiscal and non-fiscal measures causing an increase in the cost of waste disposal (notably the landfill tax escalator and LATS).

The Eurocharge report suggested that, in an income versus expenditure analysis, the attractiveness of DVC increases with a higher waste disposal cost. Notably, the application of the 'Polluter Pays' principle has also been supported by the development of a number of legislative and regulatory controls.

A list of legal provisions for waste charging in a number of European countries, originally provided in the Eurocharge report, is updated in Appendix 1 for reference.

In addition, a selection of recent reports, plans and presentations by third party organisations which are of relevance to the DVC issue have been considered and summarised in Appendix 2 for reference.

2.2 Key Policy Developments

2.2.1 European Policy

The European Commission's 2003 Thematic Strategy on Waste supported a number of instruments to promote waste recycling including the following:

- Landfill taxes;
- Producer responsibility;
- Tradable certificates;
- 'Pay as you throw' schemes;
- Incentive schemes.

Subsequently in 2005, the Commission's Thematic Strategy on the Prevention and Recycling of Waste, revises future waste policy direction for the EU with its main goal for Europe to become a recycling society that seeks to avoid the production of waste and to turn any waste generated into a resource¹. Also in 2005, the Commission presented its revised Draft Waste Framework Directive, as a proposed revision of the original 1975 framework document.

¹ Commission of the European Communities (2005) 'Taking sustainable use of resources forward: A Thematic Strategy on the prevention and recycling of waste'
http://eur-lex.europa.eu/LexUriServ/site/en/com/2005/com2005_0666en01.pdf

The revisions suggest the continued promotion of economic instruments, such as landfill taxes and 'pay as you throw' systems, to encourage householders to recycle more².

The draft Directive also proposes that Member States be required to develop waste prevention policies that will 'reach out to the individuals and businesses' responsible for waste generation in the first place, supporting previous policy on the 'Producer Pays' or 'Polluter Pays' principle³. This may be interpreted as providing continued support for 'pay as you throw' schemes, subject to national consultation and agreement.

Defra has identified a number of proposals within the draft Directive that may have negative impacts. These include a proposal for new European minimum standards for 'low technology treatment options' (including CA sites, transfer stations, bulking plants, recycling facilities and composting sites). Defra have expressed concern that the new standards could result in higher overall waste management costs and a potential reduction in recycling rates⁴.

The original Eurocharge report considered in Chapter 1 suggests that increases in disposal costs may help to make DVC more financially attractive overall. However, if the proposed new minimum standards become law, the cost of implementation may do little to encourage recycling, if the costs for recycling also increase.

Defra's consultation paper on the revised draft Directive raises an interesting discussion point on the 'Polluter Pays' principle which may have some implications for DVC in the UK. The consultation paper refers to the proposal to change the definition of 'producer'. In article 15 of the existing Directive, the 'Polluter Pays' principle applies to "the producer of the product from which the waste came". Article 9 of the revised Waste Framework Directive, seeks to apply the principle to 'the producer', who is defined in Article 3(b) as "anyone whose activities produce waste", which may be interpreted as including householders⁴.

2.2.2 Review of England's Waste Strategy

Waste Strategy 2000, the Government's 20-year strategy for England and Wales, is currently undergoing a review. The current review will result in a waste strategy for England only, now due for publication in early 2007. In June 2002, the Welsh Assembly published its own waste strategy entitled 'Wise about Waste: The National Strategy for Wales'.

The objectives of the review for include the analysis of the effectiveness of existing policies, including issues arising from the Strategy Unit report, 'Waste not, Want not'. The review also aims to further reduce the impacts of waste on the environment, while developing economic opportunities by turning waste into resources⁵.

Defra undertook consultation on the review in 2005 and 2006 to gauge views on a variety of issues from a diverse range of individuals and organisations.

² Europa website 'Questions and Answers on the Thematic Strategy on the prevention and recycling of waste' <http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/05/496&format=HTML&aged=0&language=EN&guiLanguage=en>

³ EurActiv press release 'Commission opts for hands-off approach on waste policy' www.euractiv.com/en/environment/commission-opts-hands-approach-waste-policy/article-151198

⁴ Defra (2006) 'Proposal for a Directive of the European Parliament and the Council on waste' <http://www.defra.gov.uk/corporate/consult/waste-directive/consultation.pdf>

⁵ Defra website 'Consultation on the Review of England's Waste Strategy' www.defra.gov.uk/corporate/consult/wastestratreview/index.htm

Analysis and summary of responses of particular relevance to the DVC issue includes the following⁶:

- “Wide agreement for more emphasis on waste prevention and minimisation activities, although the challenge this represents is recognised. Main suggestions are around the better use of regulation, incentives and penalties, and in particular better use of producer responsibility”.
- “There was strong support for variable charging and/or making waste management costs more transparent on Council Tax bills for household waste, although there were some that felt costs were not high enough yet to change people’s behaviour. There were also strong concerns over the potential for increased flytipping, and hence calls for greater enforcement and better data capture if any such scheme was introduced”.

DVC was raised in a significant number of responses to the consultation process, with many stating that the schemes should only be introduced once effective recycling infrastructure was available and that low income households should not be adversely impacted.

It remains to be seen how these consultations will influence Government policy on the issue. Defra has also commissioned separate research, including further cost modelling, to inform their consideration of the issue.

2.2.3 Lyons Inquiry

In July 2004, Sir Michael Lyons was commissioned to undertake an independent inquiry to consider changes to the present system of local government funding in England, including the reform of the Council Tax system. In September 2005, the Government announced an extension to the Inquiry's terms of reference to cover questions relating to the function of local government and its future role. The work will also be used to inform the Comprehensive Spending Review in 2007.

An interim report published in December 2005 did not specifically identify the potential role of DVC schemes within a revised local government funding structure.

In December 2006 it was announced that the publication date for the full Lyons Inquiry report would be extended until March 2007. This extension was designed to enable the final report to consider the Eddington report on transport, the Barker report on planning and the Leitch review on skills, and their implications for local government⁷.

Although no clear findings in relation to DVC schemes have been published from the Inquiry, it is likely that the Inquiry’s work will be used to shape Government policy on the issue.

If draft or summary findings of the Inquiry are published in time, it is recommended that its conclusions are considered during the formulation of CIWM’s position statement, where appropriate.

Relevant research into public attitudes on DVC, commissioned as part of the Inquiry, is considered in Section 6.4 of this report.

⁶ Defra (2006) ‘Review of England’s Waste Strategy – A Consultation Document’

⁷ Lyons Inquiry website <http://www.lyonsinquiry.org.uk>

2.2.4 Waste Management Costs

As considered in the sections above, the Eurocharge report suggested that the attractiveness of DVC increases with higher waste disposal costs. With this context, it is important to consider potential changes in waste disposal costs which may influence the cost effectiveness of a DVC scheme.

The Government's 2006 Pre-Budget Report considered the need for a review of the £3 per tonne per year escalator in the Landfill Tax. The report stated that the Government will "consider whether the standard rate of landfill tax needs to increase more steeply from 2008 onwards, or go beyond the £35 per tonne already committed to for the medium to long-term, in order to encourage greater diversion of waste from landfill and more sustainable waste management options"⁸.

In October 2006 a UK newspaper claimed to have intercepted a letter from the Environment Secretary David Miliband to the Treasury regarding a suggestion for the Landfill Tax to be increased to £75 per tonne by 2013⁹. This was subsequent to an earlier request by the Environment Secretary to obtain views on the subject of DVC. "I am personally interested in the idea [of household waste charging] and I would like to hear from the LGA and local authorities with more detail about the pros and cons of household waste charging, looking at examples from other European countries to determine whether there could be benefits for England"¹⁰.

The issue of reforming the current Landfill Tax system to incorporate other methods of disposal/recovery, including incineration, has been the subject of many recent discussions in the UK, although it is not currently supported by Government in the UK.

The introduction of a waste disposal tax could be used to make incineration and other treatment/disposal options, in addition to landfill, more expensive. For example, SERA have suggested in its policy priorities for 2004/05 that a waste disposal tax "would help to encourage recycling and to reduce greenhouse gas emissions from the waste sector – an important area given the Government's commitment to review the climate change strategy"¹¹.

Accordingly, the introduction of a wider waste disposal tax would have the effect of increasing waste disposal costs in disposal authority areas where the means of disposal/recovery includes incineration and other treatment/disposal methods.

Also in relation to waste disposal costs, the Waste and Emissions Trading Act considered in Section 2.3.1 will cause a significant increase in costs for local authorities through its requirement to meet specific targets for the landfilling of biodegradable wastes.

These increases, combined with costs associated with the introduction of more robust recycling services, will have the effect of increasing waste management costs overall. Potential increases in waste management costs for the UK are considered in the Strategy Unit's 2002 report 'Waste not, Want not'. The report suggested that there could be a doubling of municipal waste management costs between 2002 and

⁸ HM Treasury (2006) 'Pre-Budget Report - Investing in Britain's potential: Building our long-term future' http://www.hm-treasury.gov.uk/media/5CC/43/pbr06_completereport_1439.pdf

⁹ Daily Mail website (28.10.06) 'Secret green tax blitz planned for cars, air travel and consumer goods' http://www.dailymail.co.uk/pages/live/articles/news/news.html?in_article_id=413216&in_page_id=1770&ico=Homepage&icl=TabModule&icc=NEWS&ct=5

¹⁰ Defra website (05.07.06) Speech by the Rt Hon David Miliband MP 'Power devolved is energy released' <http://www.defra.gov.uk/corporate/ministers/speeches/david-miliband/dm060704.htm>

¹¹ SERA (2005) 'Waste Campaign Group: Policy priorities for 2004/05' http://www.sera.org.uk/publications/waste_strategy.htm

2020¹². The report also outlined cost estimates for local authorities from 2002 to 2020 ranging from £27.4 to £31 billion¹².

For Scotland, municipal waste management costs were estimated to have been £220-£240 million in 2003 and that if municipal waste arisings continued to grow by 2% per year (and the methods used to manage waste did not change), annual costs would increase to £420 million by 2020¹³.

Although estimates of the potential increases in collection, disposal and waste management costs disposal costs vary between studies, the central message is that waste management costs are anticipated to increase significantly in the future.

A DVC scheme is likely to include a component of the charge which reflects the cost of the disposal/recovery system used to manage the residual elements of the waste stream. Increases in waste disposal costs would cause this component to increase proportionately. As considered in the original Eurocharge report, such increases in waste disposal costs may act to increase the overall attractiveness of DVC schemes for local authorities.

2.2.5 Other Potential Options – Landfill Bans

Landfill prohibitions or bans are another potential waste management tool which can be used either in isolation or potentially in conjunction with DVC schemes. Such measures are commonly used by a number of European (and non-European) countries as a means of reducing the overall demand for landfill and to limit the input of specific waste types.

In view of the measures currently being undertaken in the UK to ensure the diversion of biodegradable wastes from landfill (see Section 2.3.1), it is worth considering as a potential option.

The Netherlands is one of four EU member states that landfills less than 25% of its waste, whilst also achieving recycling and composting rates that are higher than those in the UK¹⁴. The Dutch Government introduced the Waste Substances (Prohibition of Landfill) Decree which bans 32 categories of waste from landfill and is applicable to wastes from domestic, commercial and industrial sources. The decree covers materials which have the potential to be reused, recycled or incinerated.

Similar to the UK's Landfill Tax system considered in Section 2.2.4, a system of landfill tax for the Netherlands has also been stipulated within The Environmental Taxes Act (1995). This has enabled other waste management options to become financially attractive, including recycling and incineration.

Within the Dutch context, a study by The Institute of Environmental Studies (IES)¹⁵ concluded that for landfill taxes to be effective they need to be high and that landfill taxes work best when combined with other policy instruments, including landfill bans and DVC. The study also suggested that the landfill tax did not have a direct impact on the generation of household waste nor the choice of waste disposal options, but that there may be an indirect impact if higher waste disposal charges are passed on to householders through DVC schemes.

¹² Strategy Unit (2002) 'Waste not, Want not: A strategy for tackling the waste problem in England'

<http://www.cabinetoffice.gov.uk/strategy/downloads/su/waste/report/downloads/wastenot.pdf>

¹³ Scottish Environment Protection Agency 'The National Strategy Scotland: The National Waste Plan 2003'

http://www.sepa.org.uk/pdf/nws/guidance/national_plan_2003.pdf

¹⁴ SLR Consulting (2005) 'Delivering Key Waste Management Infrastructure: Lessons Learned from Europe'

<http://www.ciwm.co.uk/mediastore/FILES/12134.pdf>

¹⁵ Institute for Environmental Studies (2005) 'Effectiveness of Landfill Taxation'

http://www.ivm.falw.vu.nl/images_upload/045BB0DE-1279-D040-8B38A0EF69465B8B.pdf

The combined impacts of the Dutch measures caused the amount of waste landfilled to reduce dramatically between 1995 and 2003, from 35% of household waste and 43% of commercial waste, to 6% and 11% respectively. Recycling also increased by 30% during the same period.

It should also be noted that other evidence suggests that landfill bans (in addition to landfill taxes) can lead to the export of waste to other countries or regions. For example, in the Netherlands landfill taxes may have led to the export of waste to Germany and landfill bans in Germany may have resulted in increased landfilling in the Netherlands¹⁶.

2.3 Key UK Legislative and Regulatory Developments

2.3.1 Waste and Emissions Trading Act 2003

The Waste and Emissions Trading Act 2003 (WET Act) established a regime governing the amount of biodegradable municipal waste sent to landfills by Waste Disposal Authorities (WDAs). The legislation is causing (and will increasingly in the future cause) waste disposal costs to increase by requiring the diversion of biodegradable wastes from landfill.

According to the National Audit Office, in England for example "meeting the 2010 target will require a reduction of at least 3.5 million tonnes compared to the amount of biodegradable municipal waste landfilled in 2003/04, a further reduction of 3.7 million tonnes to meet the 2013 target, plus another 2.3 million tonnes for 2020"¹⁷. This assumes that there will be no further growth in the amount of waste generated.

Responsibility for obtaining these reductions will be mainly placed on local authorities and any failure to reach the imposed targets could result in significant fines for the UK. In 2002 the Prime Minister's Strategy Unit suggested that the fines could be as much as £180 million per year for the UK as a whole¹². Overall performance in biodegradable waste diversion has improved since the report but EU fines are still a serious possibility.

The requirements of the Act are interpreted in individual regulations for England, Northern Ireland, Scotland and Wales which specify allowances, trading systems (where appropriate) and obligations of local authorities.

The biodegradable diversion targets are likely to cause waste disposal costs to increase significantly, particularly in areas where landfill remains the main means of disposal. As considered in more detail in Section 2.2.4, such increases in waste disposal costs may act to increase the overall attractiveness of DVC schemes.

2.3.2 Household Waste Recycling Act 2003

The Household Waste Recycling Act 2003 requires all English Waste Collection Authorities (WCAs) to collect at least two types of recyclable material for recycling from all households in their area. The aim of the Act is to increase the recycling rate for household waste and to assist local authorities in achieving their statutory recycling targets.

¹⁶ Herman Huisman 'Effects of waste policies on bioenergy in the Netherlands'
http://www.senternovem.nl/mmfiles/Effects%20of%20waste%20policies%20on%20bioenergy%20in%20the%20Netherlands_tcm24-196886.ppt#1

¹⁷ National Audit Office (2006) 'Reducing the reliance on landfill in England'
http://www.nao.org.uk/publications/nao_reports/05-06/05061177.pdf

The Act amends the Environmental Protection Act 1990 and requires that "where English WCAs have a general duty to collect household waste they shall ensure, except in some circumstances, that by the end of 2010 they collect at least two types of recyclable waste separate from the remainder of the waste"¹⁸.

There is, however, no requirement for the same materials to be collected from all premises. Collection authorities may collect different materials from different premises as long as they all receive a separate collection of at least two potentially recyclable materials.

WCAs do not have to comply with the Act where the cost of doing so is 'unreasonably high' or where comparable alternative arrangements are available, or where the Secretary of State has made a direction that the duty shall not apply to the WCA until a later date (which must be before 31 December 2015).

The Act has been useful if only in specifying the requirement for all WCAs to collect some recyclables and providing the opportunity for householders to reduce their residual waste output.

In isolation, the introduction of Act may not greatly influence the potential suitability or success of DVC schemes in the UK. However, the indication from the initial Eurocharge report that successful DVC schemes occur where effective recycling services are provided in tandem, suggests that the Act will not hinder the successful application of a DVC scheme.

2.3.3 Clean Neighbourhoods and Environment Act 2005

The Act and associated regulations contain a range of measures to improve the quality of the local environment by giving local authorities and the Environment Agency additional powers to fine those responsible for a variety of environmental crimes.

Local authorities are now in a stronger position to tackle instances of antisocial behaviour such as flytipping and littering through the use of fixed penalty notices (FPNs) as an alternative to prosecution. For example, local authorities can fine householders up to £100 for putting out their rubbish at the wrong time¹⁹.

Local authorities are also able to hand out FPNs for failure to produce duty of care documentation. If flytipped waste is traced back to a particular household, the householders could be fined up to £5,000²⁰.

These measures serve to communicate to the general public that failure to take proper responsibility for their waste may result in a financial penalty. In 2005/06 local authorities issued over 33,000 FPNs for littering alone, collecting a total of £903,800 in fines. This, however, was an overall repayment rate of only 54%²¹.

Of the 344 local authorities who provided Defra with their FPN returns, the performance variation between those who enforced their new powers and those who did not is significant. Only 16 local authorities achieved a repayment rate of 100% with the rest obtaining rates as low as 14%. A total of 1,912 cases of non-payment

¹⁸ Defra (2005) 'Guidance for Waste Collection Authorities on the Household Waste Recycling Act 2003'

<http://www.defra.gov.uk/environment/waste/legislation/hwra/hwra-guidance.pdf>

¹⁹ Defra (2006) 'Clean Neighbourhoods & Environment Act Update - Amendment'

<http://www.defra.gov.uk/environment/localenv/pdf/cnea-letter060906.pdf>

²⁰ Office of Public Sector Information (2005) 'The Waste (Household Waste Duty of Care) (England and Wales) Regulations 2005' <http://www.opsi.gov.uk/si/si2005/20052900.htm>

²¹ Defra website (2006) 'Local environment quality: Legislation and enforcement'

<http://www.Defra.gov.uk/environment/localenv/legislation/fpn/index.htm#returns>

had been taken to court, although approximately 78% of these were from just 10 local authorities²³.

The Clean Neighbourhoods and Environment Act and associated regulations represent a significant development and further support the 'Polluter Pays' principle through the application of direct financial penalties as a means of influencing individuals' waste behaviour. The legislation may also be viewed as following the policy impetus at both European and national levels by allocating a charge or fine in relation to individuals' waste behaviour.

The threat of financial penalties is one method to encourage or discourage a particular type of waste management behaviour. Further methods are explored further within Chapter 3 (Allied Practices). The Chapter also considers the application of incentive schemes as a more positive tool for rewarding preferred waste management behaviour.

2.4 Summary and Conclusions

As shown in Appendix 1, the legal frameworks within many European states enable municipalities to apply DVC schemes to recoup household waste collection and disposal costs.

As an economic instrument, DVC can be viewed as a means of applying the 'Polluter Pays' principle, particularly in view of the draft Waste Framework Directive's consideration that the definition of 'producers' of waste should now potentially include householders as consumers; a development from the previous emphasis on 'producers' as manufacturers and providers of products and services.

In the UK, support for DVC schemes for household waste has been expressed in a number of fora and within research conducted by a number of organisations, including responses to Defra's consultation on the development of a revised national waste strategy for England.

Internationally and in UK, the application of fiscal and non-fiscal measures have, and will continue to, cause the costs of waste management and disposal to increase. Such measures have included the application of taxes and, in some states, measures including landfill bans for specific categories of waste material. In the UK, the Government's pre-budget report in 2006 confirmed existing policy to increase the cost of landfill disposal through maintenance of the existing Landfill Tax escalator, with the potential to apply revised and potentially more costly measures in the future.

In addition to the existing Landfill Tax system and its potential future revisions, the application of landfill diversion targets for biodegradable waste will continue to drive up the cost of waste disposal to landfill. As suggested in the original Eunomia report, outlined in Chapter 1, increases in the cost of waste disposal will increase the overall economic attractiveness of DVC schemes for household waste.

As considered in this Chapter, recent UK policy and legislation has continued to support these increases in waste disposal costs, encourage the diversion of waste into recycling and composting schemes and the application of the 'Polluter Pays' principle by clearly identifying the responsibilities of residents in relation to waste behaviour.

If these developments are not considered to directly support DVC as a specific instrument, they should equally not be considered as hindrances to the future application of DVC and may be viewed as part of a package of measures to improve the future management of household waste.

3. ALLIED PRACTICES

3.1 Introduction

This Chapter examines a number of 'allied' practices which can be applied in conjunction with or in place of a DVC scheme to encourage waste minimisation and recycling participation, increase awareness of waste management issues and encourage compliance with the DVC scheme itself. The practices are all potentially 'stand alone' systems which can be (and have been) applied in isolation, without the introduction of DVC schemes.

The practices considered in this chapter are as follows:

- Incentive schemes;
- Compulsory recycling;
- Alternate week collections;
- CA site provision and restriction.

This is not an exhaustive list of potential allied practices. For example, container size (capacity) and type (wheeled bin, sack or box) may also influence waste generation rates and encourage recycling participation. However, the schemes examined in this chapter are considered to be some of the key, potentially complementary schemes and practices to DVC.

3.2 Household Incentive Schemes

Most incentive schemes are designed to increase participation in recycling, reuse or composting schemes and to help reduce waste generation. Such schemes can include:

- Council Tax rebates;
- Prize draws (e.g. for participating in recycling services);
- Cash back incentives (e.g. for real nappy use);
- Cash rewards (e.g. 'cash for trash' schemes);
- Cash discounts (e.g. subsidised compost bins).

In 2002, the Strategy Unit's 'Waste not, Want not' report recommended that local authorities should be allowed to implement incentive schemes (in addition to charging schemes) for household waste, on a voluntary basis¹². Defra commissioned a research study in 2004, which found that local authorities in England already operated a wide variety of schemes, which rewarded householders for positive behaviour in relation to waste management. The research also revealed that there was little systematic evaluation of the costs and benefits of these schemes²².

A pilot study to evaluate the effectiveness of a comprehensive range of incentive schemes designed to encourage householders to reduce, reuse, recycle, and compost their waste, was launched in 2005. Over 5.2 million households were included in the trial areas.

²² Defra (2006) 'Evaluation of the Household Waste Incentives Pilot Scheme'
<http://www.defra.gov.uk/environment/waste/localauth/pdf/aeat-householdincentives.pdf>

3.2.1 Defra Evaluation of Incentive Schemes

Defra's report of the evaluation of pilot incentive schemes showed that "43 of 53 trials (81%) had a positive, attributable impact in raising awareness through offering an incentive. The remaining 9 of 53 (17%) trials (one is yet to be fully assessed) have been unsuccessful in recording a significant awareness of the incentive being offered"²⁵.

Of the nine unsuccessful trials, six focused mainly on individuals and three were community focused. The report found that localised initiatives were easier to promote and more effective than broader initiatives offered to a large number of individuals.

Positive impacts on the tonnages of recyclable materials collected were recorded by over half of the trials. These impacts varied considerably from just a few tonnes of additional materials to increases of around 15% across a local authority area. Around half of the trials showed small (5-10%) but determinable increases in the tonnages collected. However, it is important to note that it is difficult to attribute cause and effect from the incentive scheme alone²⁵.

The report noted that there were difficulties in eliminating the potential impacts of external factors, which may have influenced the results. These external factors included:

- Seasonal variations in waste generation and composition;
- Temporary closure of waste facilities;
- Vehicle breakdowns;
- Strikes by collection crews.

The Defra study concluded that "incentives can be a useful tool to authorities that wish to enhance the performance of their waste collection service. However, they have a number of considerations to take into account when choosing an incentive to trial. There is, unfortunately, no 'one size fits all' ideal solution. The authority must first and foremost consider the barriers to recycling that it needs to address, such as: lack of participation; excessive contamination; infrequency of collection service; number or size of collection receptacles"²⁵.

3.2.2 Advantages and Disadvantages

Incentive schemes, may result in increases in recycling awareness and rates, however, like any awareness campaign, if not maintained over a long period of time, these results may only be short lived. There is a risk that people may revert back to their previous behavioural patterns once the scheme has ended.

From the Defra study, there is also little evidence to suggest that incentive schemes have a significant impact on waste generation rates. Incentive schemes work to reward recycling efforts, and it can be argued, this does little to encourage people to consider changes to their purchasing habits in the first place.

Incentive schemes require committed staff time for implementation and monitoring. They also require significant publicity, which can be costly. It is for these reasons that an argument against incentive schemes can be made in that they are time-consuming and expensive for relatively little gain. There is also the risk that prizes given away under incentive schemes may reward existing recyclers but may not be enough to encourage new recyclers.

3.2.3 Incentive Schemes Applied in Conjunction with DVC Schemes

Incentive schemes, when used in conjunction with DVC schemes, can jointly encourage waste minimisation and encourage participation in recycling schemes. Under DVC schemes residents are encouraged to think about the amount of waste they generate and to make more use of recycling schemes to avoid paying more for residual waste collection and disposal. Providing people with a further incentive to recycle by means of financial rewards or prizes may help to reinforce this behaviour.

Incentive schemes may also be particularly attractive, as a positive 'carrot', to counter negative perceptions of the 'stick' approach of a new DVC scheme (although DVC schemes may be viewed as both a 'carrot' and 'stick' approach). Their use may help to reduce the negative perceptions of a charging scheme and, consequently help to make such a change more acceptable and successful.

It may also be the case that incentive schemes may encourage limited additional recycling if introduced after a DVC scheme, although this is unproven. It is likely that DVC, initially acting as the main motivator, may continue to be the primary influence on householder behaviour.

3.3 Compulsory Recycling

Compulsory recycling is the term used to describe the obligation on householders to place specific waste/recyclable materials in specific containers. It can be used to reinforce the message that not recycling is unacceptable behaviour, to encourage participation in recycling schemes and consequently to increase recycling rates.

Some local authorities have introduced compulsory recycling schemes using powers under Section 46 of the Environmental Protection Act 1990 (EPA). Section 46 of the Act gives local authorities the power to specify which waste materials should be placed in which receptacles for collection²³. Where a householder fails to comply with the requirements of the service, he or she will be committing a criminal offence and can be prosecuted by the council and be liable to a fine.

As an alternative to prosecution, some local authorities such as the London Borough of Harrow have made it their policy to issue on the spot, Fixed Penalty Notices (FPNs)²⁴. FPNs have only been available for local authorities to use in this way since April 2006. The notices are one off fines and can be issued for environmental offences such as littering, dog fouling and graffiti under the EPA, Anti-social Behaviour Act 2003 and the Clean Neighbourhoods and Environment Act 2005. FPNs are considered further in Section 2.3.3.

By issuing FPNs, local authorities may avoid costly court hearings and their inherent requirement to prove beyond reasonable doubt that a resident has committed the offence.

3.3.1 Advantages and Disadvantages

Barnet Council was the first to introduce compulsory recycling in the UK. The Council have reported significant increases in recycling participation rates and in recycling tonnages (see Section 4.2.1 for more details). This suggests that compulsory recycling may be an effective tool in encouraging positive recycling behaviour and increasing recycling rates.

²³ Environmental Protection Act 1990 s.46 (1) and (2)

²⁴ Harrow Council website 'Important changes to recycling and refuse services'
http://www.harrow.gov.uk/ccm/content/environment/rubbish-waste-recycling/slash-trash-folder/important-changes-to-recycling.en;jsessionid=bZYj34_p1g6d

Compulsory recycling is also applied in other countries, including Switzerland and some US states. A study of these examples by Dresner and Ekins (2004) found that while recycling rates in Switzerland were very high (among the highest in Europe) this was not true in Connecticut and New Jersey in the US, where the scheme was not enforced across all areas. There may be other factors resulting in lower recycling rates in these US states, and the lack of enforcement of the compulsory recycling system may be one of them²⁵.

It should be noted comparisons between services and systems provided in different nations are highly problematic due to fundamental differences in a number of areas including economics, data management and regulatory frameworks.

Furthermore, compulsory recycling is not always considered necessary to achieve high recycling rates, as historical precedence and other economic, social and cultural factors will also play a role in recycling performance. This is supported by the consideration of other examples, such as Flanders, where recycling rates are high, no compulsory recycling system is applied and a DVC scheme is in operation²⁸.

The extent to which increases in recycling tonnages and participation rates, are maintained in the long-term are as yet undetermined in the UK. As with most waste management schemes, notable changes in behaviour may be attributed to the initial campaign advising people about the new scheme and may plateau over time. For compulsory recycling schemes to continue to have an impact, adequate resources need to be maintained over time for:

- Monitoring recycling containers;
- Following up on non-compliant householders;
- Following through with formal notices;
- Regular awareness campaigns reminding householders that compulsory recycling is on-going.

In the case of Barnet, significantly, the scheme did not include residential flats due to the difficulties in identifying the source of waste materials placed in communal containers which are shared by different households. This difficulty is also valid for the application of a DVC scheme. This also means that the scheme is inequitable in its distribution throughout the population. Other conclusions from the Barnet experience include the following:

- The impact of threats of fines may wear off over time, unless the scheme is regularly promoted to remind people that recycling is still compulsory;
- Significant resources are required to maintain the scheme including monitoring bins, following up non-recyclers with letters, visits and penalty notices and to prosecute offenders.

In May 2006, Exeter City Council prosecuted one of its residents for placing items in a recycling bin that were not accepted within this service (see Section 4.2.2 for more details). This was the first time a UK local authority had attempted to prosecute a resident using the EPA for such an offence. However, the magistrates found that the Council had not proved its case "beyond reasonable doubt" and the court ruled in favour of the resident²⁶.

²⁵ Dresner and Ekins, (2004) 'Charging for Domestic Waste: Combining Environment and Equity Considerations' <http://www.psi.org.uk/docs/rdp/rdp20-dresner-ekins-waste.pdf>

²⁶ Exeter City Council website (10.07.06) 'Donna Challice Case Recycles The Message' <http://www.exeter.gov.uk/index.aspx?articleid=5284>

The case highlights the difficulty of gaining a conviction using current EPA powers. It is also likely to weaken the ability of other local authorities using compulsory recycling schemes to continue to use the threat of prosecution in the future with the setting of a negative precedent.

Other evidence suggests that compulsory recycling is only effective at encouraging the minority of the public that are not willing and a proportion that are willing but not motivated enough to actually recycle. In any event, it is likely that it will only encourage recycling if it is enforced²⁸.

3.3.2 Compulsory Recycling Applied in Conjunction with DVC Schemes

A potential positive outcome from the use of compulsory recycling in conjunction with a DVC scheme is that it may be used to help combat increased levels of contamination in recycling containers. Evidence from European studies suggests that contamination rates in recycling schemes may increase when DVC schemes are introduced²⁷.

This may be because people look to 'hide' their waste materials in recycling containers to avoid paying more for collection and disposal. Similarly, householders may become 'overenthusiastic' about recycling and place incorrect materials into their recycling containers. Compulsory recycling schemes could be an effective tool in managing this problem and could help to raise awareness about what can and cannot be recycled.

A key consideration for the joint application of DVC and compulsory recycling is that the two schemes may both be perceived as 'sticks' to encourage specific actions. It is likely that the joint application of both to UK households, the majority of whom are currently not subject to either scheme, is likely to be met with significant public and political opposition and viewed as a heavy handed approach. In addition the administrative, monitoring and enforcement costs for both schemes are likely to be high.

3.4 Alternate Weekly Collections (AWCs)

A number of reports have suggested that the collection frequency of the residual waste stream can also have an impact on recycling and waste generation rates. By restricting the frequency of residual collections householders may be encouraged to sort their waste materials into separate recyclable/compostable containers.

Typically, AWCs involves the collection of one type of material one week (week one) and another type the next (week two)²⁸. AWCs for residual waste are often combined with alternating green waste collections and weekly or fortnightly dry recyclable collections.

Daventry District Council, one of the first local authorities in England to introduce AWCs, has reported a significant increase in its participation and recycling rates since the introduction of the scheme in 1998. Best Value Performance Indicator (BVPI) figures for the Council in 2005/06 show a combined recycling and composting rate of 45%²⁹.

²⁷ Reichenbach (2005) 'Pay as you throw: Options, economics and prospects across Europe'
www.earthscan.co.uk/news/article/mps/uan/378/v/5/sp/

²⁸ WRAP (2005) 'Alternate Weekly Collections: Guidance for Local Authorities'

²⁹ Daventry District Council website 'Integrated recycling and residual waste collection service case study - Daventry District Council, a Beacon Council'
www.daventrydc.gov.uk/common/includes/filedownload.asp?type=pdf&id=2999

The benefits of introducing AWCs have been outlined by WRAP in their guidance report for local authorities as including the following³⁰:

- Helping to meet BVPI targets for a reduction in waste sent to landfill (BVPI 82d) and an improvement in recycling and composting levels (BVPIs 82a and 82b);
- Helping to reduce household waste generation (BVPI 84a) by restricting the capacity for waste disposal and therefore encouraging householders to minimise waste through reuse and home composting;
- Increasing the profile for the local authority if well managed, which in turn can help to further promote good practice in other service areas;
- Providing an opportunity to review collection round designs in order to improve collection efficiencies;
- Helping to improve cost effectiveness.

It has been estimated that AWCs can result in increased participation rates of 15-20% and in less total waste collected at the kerbside with reductions of 3-4% reported. Most of the UK local authorities achieving recycling rates of over 40% recycling are operating AWC services³⁰.

It is also important to note potential and/or perceived negative impacts of AWCs, particularly for residual waste, which include:

- Perceived reduction in the level of service provision by residents;
- Problems associated with odour from residual waste;
- Negative health effects (for householders and collection crews);
- Potential increases in pest infestations;
- Significant set up costs, potentially including the purchase of new containers, equipment and promotions.

There have been a number of cases highlighted by the national media regarding the potential negative impacts of AWCs. Examples have included local authorities that have introduced an AWC scheme without providing effective communication campaigns³¹ and also protests by householders at the changes to their waste collection frequency³².

WRAP's guidance was also targeted by the media for allegedly encouraging local authorities to introduce AWCs in the autumn, winter or early spring when issues with odours were reduced, so that by the summer months the majority of residents would be used to the new scheme and therefore would be less likely to complain³³.

Local authorities that fail to properly consult and communicate their plans for introducing AWCs may also be faced with negative media coverage which could hinder efforts to implement changes to their collection services.

³⁰ L Crichton, WRAP Rotate Manager, Presentation 'Assessing the Effectiveness of Alternate Week Collections' LARAC Conference 2005 Sheffield City Hall.

³¹ BBC News website (12.10.05) 'Bin row sparks bid to woo public'
http://news.bbc.co.uk/1/hi/england/north_yorkshire/4334156.stm

³² Daily Mail website (21.08.06) 'Recycling rage over 'crazy rules' ends in mutiny on the kerbside'
http://www.dailymail.co.uk/pages/live/articles/news/news.html?in_article_id=401420&in_page_id=1770&in_a_source

³³ Daily Mail website (06.10.06) 'Councils move to fortnightly bin collection by stealth'
http://www.dailymail.co.uk/pages/live/articles/news/news.html?in_article_id=409070&in_page_id=1770

In order to carry out an effective communication campaign a sufficient amount of time, money and resources are required. Residents need to be made aware before the introduction of AWCs of the reasons for and benefits of the change.

The prerequisites for implementing effective AWCs and avoiding the perceived or actual negative impacts would therefore appear to be:

- Sufficient planning for implementation;
- Effective, quality communications to all stakeholders;
- A robust recycling service that accepts as much recyclable material as possible;
- Positive support from elected members, local residents and the media.

3.4.1 AWCs Applied in Conjunction with DVC Schemes

A number of studies have shown that the application of DVC schemes have caused the amount of residual waste collected to reduce, thus influencing the frequency of collection required.

This was the case in Les Sorinieres in France, where a subscription fee was introduced, which included all costs of waste collection. The variable element was applied to the number of collections required above the 26 carried out per annum as part of the subscription fee. This authority reported a reduction in annual waste production by 112 kg/individual and the frequency of collection was also reduced³⁴.

Similar results were also found in combined weight and volume DVC schemes in Luxembourg and Germany³⁷. These case studies indicated that there was a direct relationship between the application of a DVC scheme, the amount of waste generated and the frequency of residual waste collection.

3.5 Civic Amenity (CA) Site Provision and Restriction

CA sites provide an important disposal and recycling route for household waste materials. Well managed and resourced CA sites can commonly achieve recycling rates of between 55 and 65%³⁵ although a number of examples of higher performing sites exist in the UK.

In some cases, little financial investment is needed to improve recycling rates. Studies indicate that relatively simple changes such as signage, staffing and contractual arrangements in addition to increasing the types of materials collected for recycling and composting and site design can all help to improve overall recycling rates at CA sites^{36,37}.

The use of permit schemes as a means of controlling CA site usage is a particularly relevant consideration for the introduction of a DVC scheme applied to household collections. A number of UK local authorities currently use permit schemes for CA sites to:

³⁴ Ernst & Young (2002) 'Analysis of the Application of the Producer Pays Principle to Producers of Household Waste as a Driver Towards Sustainability'

<http://www.esauk.org/publications/reports/ernstandyoung.pdf>

³⁵ Network Recycling (2004) 'Civic Amenity sites: Overcoming barriers to improved performance and assessing the cost benefits of investment'

³⁶ Future West and Network Recycling (2004) 'The National Assessment of Civic Amenity Sites: Maximising recycling rates at civic amenity sites' <http://www.networkrecycling.co.uk/downloadable-reports.htm#national>

³⁷ S³ Environmental Solutions (2003) 'Best Practice Guide – Maximising Diversion at Household Waste Recycling Centres' <http://www.s3es.co.uk/REPORT.pdf>

- Restrict the use of the site to householders of a specific local authority area;
- Restrict the number of visits allowed per householder;
- Prevent the deposit of commercial wastes.

Variations of these restrictions are used by many UK local authorities. Permit restrictions, which require only residents of specific local authority areas to use CA sites, are often implemented by distributing permits to residents, usually free of charge. Partial restrictions, allowing non-residents to use the CA site, are usually implemented on a 'cost per visit' basis.

Examples of permits in use across the UK include:

- Where exemptions apply, residents living within these local authority areas are issued with a free permit, which is required whenever they visit a CA site. Visitors from outside the local authority area can still use the CA site, but are charged per visit. Some local authorities such as Kent County Council have introduced 'pay and display' schemes at their CA sites to make it easier to use the scheme at the site. Other examples include the London Boroughs of Bexley and Bromley³⁸.
- Where no exemptions apply, permits are issued only to residents of the local authority, to stop others from using their CA site. There are no provisions made for non-residents of the local authority to use their CA sites. Examples include Wakefield Metropolitan District Council, Rutland County Council and Kirklees Council³⁸.

3.5.1 CA Site Provision in Conjunction with DVC Schemes

If restrictions or charges are placed on the collection of residual wastes from households, a potential consequence is the displacement of residual wastes to CA sites. In this instance, household waste generation rates may not decrease in absolute terms but the point of collection/transfer may change.

The Eurocharge report suggested that displacement of waste to CA sites under DVC schemes may be relatively low. This and other research has suggested that increased deposits of household waste at CA sites resulting from the introduction of DVC schemes may be avoided by the provision of a well-designed system with an effective complementary collection services (bulky waste, recycling and green waste collections) and by providing adequate education programmes^{38, 39}.

The development of appropriate controls to limit the amount of waste deposited at CA sites may be required to encourage true waste minimisation, rather than simply displacement, as a result of the introduction of DVC schemes.

One such control may be the application of charges for waste deposited at CA sites. For example, where a weight-based charging scheme is in use for kerbside collections, a similar cost could be applied for equivalent wastes deposited at CA sites. Applying such a charge at the CA site will help to reinforce the 'Polluter Pays principle' in relation to waste generation and help to ensure that there are no legitimate free waste disposal options which may to undermine a DVC scheme.

³⁸ Rutland County Council website, www.rutland.gov.uk

³⁹ Ecopolicy Centre for Agricultural Environmental and Resource Issues (1998) 'Beyond Flow Control: Economic Incentives For Better Solid Waste Management in Mercer County, New Jersey' www.p2pays.org/ref/14/13350.pdf

Dublin City Council is an example where a charge exists for the disposal of household waste at CA sites in conjunction with a DVC scheme. Since January 2005 the Council has operated a DVC scheme based on 'pay by use'. Charges were applied at their waste and recycling disposal facilities, ranging from €7 per car to €30 per van for household waste. There are no charges for vehicles carrying only materials for recycling and Waste Electrical and Electronic Equipment⁴⁰.

Waste permits and site controls may be essential in preventing householders from using CA sites in neighbouring authorities where DVC schemes and waste permits may not be in place. For DVC schemes to be effective and to ensure waste does not 'migrate' outside the local authority area, it may be necessary for all neighbouring local authorities to introduce permitting and/or charging regimes at their CA sites.

3.6 Summary and Conclusions

Every local authority has its own particular needs for the delivery of waste collection and recycling services that are dependent on (amongst other factors) geography, housing stock, socio-economics and awareness levels. Because of these variations there is no one 'blueprint' for the achievement of high levels of recycling and waste reduction.

The research considered in this Chapter suggests that, for the implementation of successful DVC schemes, collection authorities will need to consider and address the provision of effective recycling and associated collection services (including the potential restriction of some services, for example CA site provision), appropriate communication and awareness campaigns and strict enforcement of the rules of the service.

It should be noted that most of the international municipalities using DVC schemes considered in this research also do so in conjunction with some kind of incentive and/or strict enforcement system.

Unlike incentive and compulsory recycling schemes, DVC schemes (and to some extent the type of collection system used) have the potential to create a degree of understanding of the link between consumer choice and the type and amount of waste generated as a result. Householders may be encouraged to understand the connection between purchasing decisions and waste generation, if measures such as DVC are used. This is an important consideration as local authorities strive to limit waste generation and increase recycling and composting rates, coupled with consideration of the existing financial mechanisms applied directly to local authorities (landfill tax and biodegradable landfill allowances) considered in Chapter 2.

Evidence has shown that DVC schemes can lead to a reduction in the amount of household waste generated and to the frequency of waste collections required. If a variable charge element is linked to collection frequencies or the number of collections made, householders may look to reduce the amount of waste they generate and/or the frequency with which it is presented for collection. If DVC schemes are introduced in local authority areas already using successful AWC systems, there may be the potential for less public opposition to the development. Reduced opposition may result from the established understanding of the need to limit residual waste generation necessitated by less frequent waste collections.

The best waste reduction and recycling results may be achieved through a combination of DVC schemes and allied practices considered in this Chapter. In addition, factors not considered in detail, including the provision of different

⁴⁰ Dublin Waste website 'Dublin City Council Recycling Centre Charges 2006'
www.dublinwaste.ie/recycling_centre_charges_dublin.html

container types and sizes and the combinations of materials targeted in recycling and composting services, home composting provision and collection methods are also relevant considerations.

4. CASE STUDIES

4.1 Introduction

DVC schemes for household waste collections are already widely applied in the UK in the form of separate fees for the collection of bulky and garden wastes. Local authority practice in this area varies, with some opting to charge directly for these services and others funding them through the waste management element of the Council Tax.

In addition to a current DVC example for residual waste, this Chapter provides an overview of several UK case studies which apply allied practices, as outlined in Chapter 3. These case studies show how some local authorities have introduced pioneering approaches, within the existing legislative framework, to encourage residents to reduce residual waste generation and increase recycling rates.

The chapter also considers experience gained in the Republic of Ireland (ROI) in relation to the introduction and application of DVC schemes.

4.2 Compulsory Recycling - EPA Powers

4.2.1 London Borough of Barnet

Barnet became the first local authority in the UK to introduce compulsory recycling to all of its households in March 2005, following a pilot scheme the previous year. It was viewed by many as both a radical and innovative approach and indeed the scheme was observed intently by numerous other local authorities across the UK to gauge whether it would be successful.

The Council used Section 46 of the Environmental Protection Act (EPA) 1990 as the legal basis for the scheme. This allows local authorities to specify which waste materials are deposited in which containers. Residents were informed that paper, glass and cans could no longer be placed in the refuse wheeled bin. These materials would have to be placed in the black recycling box for collection or taken to another recycling facility.

As a last resort, the Council will present a case to a magistrate's court to prosecute those who persistently refuse to deposit these three materials in their black recycling box. Prosecution could result in a fine of up to £1,000, as permitted under Part 2, Section 46 of the EPA⁴¹.

As a result of this approach, the Council has seen a dramatic rise in both its participation rates and tonnages of recyclable materials since the scheme was introduced. A year after its introduction, the Council recorded a 2005/06 household recycling and composting rate of 27.47%⁴² (an increase from 16.71% in 2003/04) in addition to a participation rate across the Borough of around 85%⁴³.

⁴¹ Environmental Protection Act 1990 s.46 (2)

⁴² Defra (2006) 'Summary table of performance of all local authorities 2005/06'
<http://www.defra.gov.uk/news/2006/061215a-table.pdf>

⁴³ Nicola Buck (21.07.06) 'Making Recycling Compulsory – the Barnet Experience' Presentation to LGA
<http://www.lga.gov.uk/Documents/PLENARY%203A%20%20-%20%20Nicola%20Buck%20%20Presentation%20to%20LGA%2021%20July%202006.pdf>

4.2.2 Exeter City Council

Exeter made national headlines earlier in 2006 for bringing the UK's first case of recycling contamination to court. A resident was accused of six offences of putting non-recyclable material in their recycling container.

The Council claimed that the contamination in the recycling container originated from the resident's address. Food waste, glass and cigarettes were found mixed in with material for recycling. However, the Council was unable to prove beyond all reasonable doubt that it was the resident who had put the offending material in the container.

Although the Council was disappointed with the result, the case appeared to have a positive impact on local recycling figures with an increase for the April to June period of 5.5% compared to the same period the previous year. Coverage in the national media is also believed to have led to an increased awareness of the issue, with Council Enforcement Officers noting that householders were taking better care over how they presented their recyclable and residual waste materials after the court case.⁴⁴

4.2.3 Swansea Council

Swansea Council recently defended its decision to prosecute a resident for putting an item of junk mail into a recycling sack designed for bottles and cans only.

The resident was served with a warning notice in April 2006 when he presented his bins a day early. In June 2006, a recycling sack for bottles and cans was found outside his home containing the paper, which should have been presented in a separate recycling sack. Again using Section 46 of the EPA, the resident was fined £100 and ordered to pay £100 costs⁴⁵.

Some media reports criticised the case for communicating the wrong message to the general public. However the Council's decision to prosecute was backed by some campaign groups. For example, a spokesperson for Keep Wales Tidy stated that "if we want to see Wales becoming a cleaner, safer and tidy country we need local authorities to take advantage of every tool at their disposal"⁴⁶.

4.3 Weighing and Monitoring - South Norfolk Council

In 2003 South Norfolk Council undertook a trial, using micro-chipped wheeled bins, to weigh the waste produced from around 3,000 households, where recyclable waste and residual waste were collected on alternate weeks. A survey was undertaken and sufficient data was collected on 244 households for patterns of waste production to be analysed. The trial was reviewed by Dresner and Ekins within a study of the potential impact of green taxes and charges on low income households²⁵.

The 244 households provided information about the members of the household, including ages. The households' Council Tax bands were already known to the local authority and were the only socio-economic variable considered. In view of the fact

⁴⁴ BBC News website (2006) 'Recycling rises after court case'
<http://news.bbc.co.uk/1/hi/england/devon/5256540.stm>

⁴⁵ BBC News website (2006) 'Fine for letter in recycling bag'
http://news.bbc.co.uk/1/hi/wales/south_west/6058952.stm

⁴⁶ Swansea Council website (2006) 'Swansea continues the fight to keep our streets clean'
<http://www.swansea.gov.uk/index.cfm?articleid=14469>

that the sample included a good spread of Council Tax bands, it was assumed to be a reasonable proxy for socio-economic status⁴⁷.

Following the initial trial scheme, the Council expanded its use of micro chipped wheeled bins. The scheme ensures that each time a bin is emptied, it is weighed and a record of the chip number and the weight is stored on a disc in the collection vehicle. The data is then downloaded onto the Council's computer database. All of the information collected is protected under the Data Protection Act.

The results of the Ekins and Dresner study indicated that:

- Waste production varied considerably between households of the same size;
- Additional household member numbers leads to increased waste levels;
- Council Tax bands had no impact on total waste produced;
- The average household recycling rate was 40%, however, an interesting result showed that one or two person households had on average a recycling rate of around 45%, while larger households (with three, four or five people) had on average a recycling rate of between 34 and 35 per cent²⁵.

The study concluded that if the charge for the waste collection and disposal element of the Council Tax was removed for all households and a revenue-neutral weight-based variable charging scheme was introduced, 92% of single-person households and 76% of two-person households would be better off financially, while larger households would be net losers²⁵.

It should be noted that the South Norfolk sample was not subject to a DVC scheme even though the waste was weighed, so the data does not depict conclusively what the effect of such a scheme would have on householder behaviour in South Norfolk or other areas of the UK.

4.4 DVC Scheme - Blaby District Council

Blaby District Council was one of the first local authorities in England to introduce a limited form of DVC for residual waste in 2000. A 'baseline' waste collection service for which the householder would pay through their Council Tax consisted of the following elements:

- 140 litre wheeled bin for residual waste emptied weekly;
- 140 litre recycling bin and pre-sort boxes emptied fortnightly;
- Assisted collections for the frail or disabled.

If households require additional capacity for their residual waste or if they want their garden waste collected, an additional cost is incurred. Rates for larger wheeled bins are designed to deter people from using them and are not based on the actual operational costs. Only 8.3% of households requested the larger bin as a result⁴⁸.

⁴⁷ Joseph Rowntree Foundation (2004) 'Green Taxes and Charges – Reducing their impact on low income households' <http://www.jrf.org.uk/bookshop/eBooks/1859352472.pdf>

⁴⁸ East Midlands Centre of Excellence 'Waste Management Variable Charging Scheme - Blaby District Council' http://www.emce.gov.uk/documents/case_studies/Individual%20Environment/Waste%20Management%20Variable%20Charging%20Scheme%20-%20Blaby%20District%20Council.pdf

The impacts of this change in service charging have been summarised by Council officers to have included the following⁴⁹:

- Increased tonnage of waste recycled from 90kg to 140kg per household per year;
- Increased recycling rate to 37% (2005/06) from 29.3% (2004/05);
- Increased recycling participation rates to 84%;
- Increased use of bring sites;
- Reduction in the amount of residual waste collected.

4.5 ROI Experience

In January 2005 the Irish Government made it compulsory for councils to introduce some form of 'pay by use' (PBU) collection scheme for household waste. This change in government policy was designed to encourage householders to reduce, reuse and recycle more household waste.

The rationale behind the new system was that it was designed to be more equitable, with householders paying for their waste collection in a similar way to other utilities such as gas and electricity bill – "the less they use the less they pay"⁵⁰. The introduction of DVC is considered to have resulted in a number of positive outcomes including a reduction in waste volumes and an increase in recycling levels⁵¹.

There were examples of illegal waste activities in response to the new charging schemes, however. A report published by the Environmental Protection Agency in September 2005 stated that local authorities had reported increases in instances of backyard burning, flytipping of household waste and illegal landfills⁵². These were attributed, in part, to the existence of 'bogus' waste management companies.

The report found that on average 21% of households were either not provided with or were not using a waste collection service. Some householders may have been opting out of a waste collection service because of the introduction of the charging scheme. This equated to approximately 287,000 tonnes of waste per annum and it was considered that many of these households were disposing of their waste via backyard burning⁵².

The occurrence of illegal cross-border transportations of waste has also been discussed, however, it is considered that increased monitoring had subsequently reduced the number of instances⁵².

It should be noted, however, that many of these illegal waste activities had been occurring before charging schemes were introduced in the ROI, in part due to the following developments in recent years:

- Changes to waste management controls/legislation;
- Increased economic growth leading to increased waste generation;
- Landfill closures;

⁴⁹ Kevin Pegg (Blaby District Council) Presentation 'Variable Charging'

⁵⁰ The Department of the Environment, Heritage and Local Government website 'Cullen announces nationwide move to pay-by-use waste charges'

<http://www.environ.ie/DOEI/DOEIPub.nsf/0/610234fb699bd7e880256f0f003dbd3b?OpenDocument>

⁵¹ The Department of the Environment, Heritage and Local Government (2006) 'National Strategy on Biodegradable Waste'

⁵² Environmental Protection Agency (2005) 'The Nature and Extent of Unauthorised Waste Activity in Ireland' <http://www.epa.ie/NewsCentre/ReportsPublications/Waste/FileUpload,7788,en.pdf>

- Increased waste management costs;
- Implementation of landfill quotas influencing construction and demolition waste producers.

4.5.1 Cork County Council

The Council was one of the first in the ROI to introduce a charging scheme for household waste and has seen dramatic changes in its waste management statistics.

Due to its size, the County is split into three administration areas and the new charging method was introduced in each area over a three-year period. In West Cork it was introduced on January 1st 2003, North Cork on January 1st 2004 and in South Cork on January 1st 2005. All customers are charged per kg of waste presented which, the Council has concluded, has resulted in a number of benefits⁵³:

- The amount of waste collected reduced from 1,200 kg per household in 2003 to 383 kg in 2005. It is estimated that the amount of waste per household in 2006 will be in the region of 360 kg;
- An increase in home composting and the diversion of biodegradable waste from landfill;
- The average householder was able to save in excess of over €120 (£80) per annum in the 'pay by weight' (PBW) scheme compared to a fixed charge scheme;
- Surveys indicated that 84% of people on a PBW/PBU scheme had been encouraged to recycle;
- An increase in public awareness of both environmental and consumption habits;
- A significant increase in recycling with a current recycling rate of 38%⁵⁴.

The Council did also report a number of negative impacts after the introduction of the charging scheme including an initial increase in flytipping in remote areas of the county and also at recycling facilities. However, the levels of flytipping did reduce as householders became more accustomed to the new scheme⁵⁴.

4.6 Summary and Conclusions

The UK case studies demonstrate some of the various tools and mechanisms currently being used by local authorities to increase recycling rates and restrict residual waste generation rates within the existing legislative framework.

The ROI examples also provide additional recent context on the potential issues relating to the introduction of a new DVC scheme, including benefits and disbenefits.

It should be noted that in the case studies where compulsory recycling and the threat of financial penalties are used, there is little long term precedent to determine whether these measures, in these specific authorities, will encourage householders to change their behaviour in the longer term. These examples also demonstrate some of the difficulties that local authorities can face when pursuing enforcement measures using existing powers within Section 46 of the EPA.

⁵³ Enda Kiernan 'Pay by weight' article published in the Local Authority Waste and Recycling Magazine

⁵⁴ Enda Kiernan email correspondence (20.12.06)

The South Norfolk case study demonstrated that equity issues, in relation to *household size*, will need to be considered during the planning and introduction of a DVC scheme in addition to the more widely recognised issue of low income.

In the case of Blaby District Council, the restriction of container capacity to present residual waste and the application of a direct charge for householders requiring additional capacity have resulted in a reduction in residual waste arisings and an increase in recycling rates. This, in addition to the ROI examples, reinforces previous research that DVC schemes can be effective mechanisms to encourage waste prevention and increase recycling in addition to other tools and mechanisms available to local authorities.

The issue of public attitudes to DVC schemes is considered in Chapter 6. In relation to the case studies considered in this Chapter, the ROI example suggests that public understanding and approval of DVC schemes are a requirement for their success, also ensuring that the associated disbenefits (such as flytipping) are controlled. Such understanding and approval may be achieved over a period time *after* the introduction of the DVC scheme and, therefore, may not need to be a prerequisite.

Demonstrating to the public that DVC can reduce household charges for waste collection and disposal will help to gain approval. The ROI and other international examples have also shown that some of the disbenefits commonly linked to DVC (such as increased fly-tipping and backyard burning) have not been as problematic, in the longer term, as suggested. In many cases, increases in the illegal disposal of waste resulting from a DVC scheme can be negated once residents get used to the new system and can be overcome by strong enforcement, education and well-planned services.

5. STAKEHOLDER CONSULTATION

5.1 Introduction

To gauge the current level of support or opposition to DVC amongst key stakeholders, a total of twenty organisations have been consulted as part of this research.

Stakeholder organisations were selected to reflect a range of responsibilities and national remits within the UK and are listed as follows:

- Audit Commission
- Audit Scotland
- Convention of Scottish Local Authorities
- Community Recycling Network
- Defra
- DOE/Environment and Heritage Service NI
- Environment Agency
- Environmental Services Association
- Friends of the Earth
- Greater London Authority
- LARAC
- LGA
- NILGA
- N Ireland Audit Office
- Scottish Executive
- SEPA
- Wales Audit Office
- Welsh Assembly
- WLGA
- WRAP

The consultation used a standard questionnaire survey, shown in Appendix 3, completed by telephone and e-mail.

Of the twenty organisations consulted, thirteen provided some form of response. Four replied stating that they would not respond at that time, five provided a position statement or a comment on DVC but did not complete the survey questionnaire.

Due to the limited number of full responses, care should be taken when drawing conclusions from the consultation exercise. Specific account needs to be taken of the remit of individual organisations. It should be noted that some of the stakeholder organisations were in the process of developing position statements on the DVC issue and were unable to provide a considered, organisational response.

5.2 Completed Survey Responses

The sub-sections below consider the responses from organisations which completed the questionnaire survey. The responses are summarised to identify key issues, differences and areas of commonality.

5.2.1 Powers to Introduce DVC and Type of DVC Scheme

Three organisations suggested that local authorities should be given the power to introduce a DVC scheme on a non-compulsory basis. One organisation believed that this was a decision for Ministers and that a detailed consultation is required before the issue is progressed further.

Three of the respondents stated that the full range of DVC options should be made available and that the decision on which system to implement should be given to each individual local authority to decide which was the most suitable for their circumstances.

One respondent suggested that charging by container numbers would be most appropriate because it will be the easiest in terms of “admin/management/public grasp” and therefore the most suitable initially.

5.2.2 Benefits and Barriers to DVC

The main benefits of introducing a DVC, as suggested by the respondents, included:

- To increase recycling and waste prevention;
- Householders would be faced with the economic consequences of their attitude to waste with those who reduce, reuse and recycle being financially better off;
- It would help the householder realise that their purchasing decisions created waste and that they would change their behaviour accordingly;
- The ‘Polluter Pays’ principle would be realised to some extent. It would also help to raise revenues which could be used to fund more recycling;
- Such schemes would help to educate, empower and provide an incentive for the public to take a basic and positive environmental action.

When asked what the main barriers, obstacles or problems associated with the implementation of DVC schemes were, a number of common views were expressed, including the issue of public opposition to charging or opposition to a perceived form of new ‘tax’. Other comments included:

- Potential increases in flytipping;
- Applying a DVC scheme in flats and other Houses in Multiple Occupation (HMOs);
- That an individual DVC scheme introduced in isolation in one local authority may be viewed as being unfair if a neighbouring local authority does not introduce an equivalent system;
- That adequate recycling infrastructure needs to be fully in place before DVC schemes can be introduced;
- Concerns over low income households’ ability to pay;
- Possible issues of fairness in relation to identifying which waste materials belong to which households;
- That measurement at the kerbside could be “time consuming, fiddly, easy to get wrong”.

When asked to comment on how these barriers could be overcome to successfully implement DVC schemes, one organisation suggested that many of the problems would be transitional and could be overcome with good communication, over time. However, there were a variety of responses which are summarised as follows:

- Government support is essential and would need to be perceived as being wholly and publicly behind DVC schemes;
- Government would need to provide guidance and support on enforcement, public information campaigns and combating fly-tipping;
- Identifying ‘waste management’ as a separate line on the Council Tax bill would be important to enable householders to recognise and get used to the separate charge;
- ‘Keeping it simple’; i.e. measuring by container/uplift, trialling the system first and systematically tackling any problems one at a time;

- Strong, visible enforcement in the early months would be important, as would be the need to demonstrate that those who recycle will gain financially.

5.2.3 Impact on Local Authority Finances

Consultees were asked to comment on what they thought would be the overall impact on local authority finances and if they thought it would be beneficial. This question resulted in mixed responses, including the following key points:

- Benefits were seen as unlikely, with consideration of higher administration and enforcement costs;
- For DVC not to be seen as a 'stealth tax', it would need to be introduced in such a way that provided little net income generation initially, with revenues ideally being 'ring fenced' for the waste management services;
- There was a perceived danger that local authority finance officers could view revenues in terms of efficiencies, resulting in waste management budgets not receiving adequate increases to introduce new services to meet targets;
- The amount of benefit gained will be dependent on the collection systems used. If recyclable materials were source-separated, then the system would respond well. However, if a co-mingled system was used, there was an assumed risk that householders may be less careful about which materials were deposited in the recycling bin, resulting in higher levels of contamination and potentially higher gate fees for local authorities.

5.2.4 Role of Allied Practices

When asked if other initiatives would be preferable methods for encouraging waste reduction and increasing household recycling/composting rates, the overall response was that they were seen to be complementary and some methods could be used in parallel with DVC. It was also stated that different policies would perform differently in different communities.

One respondent stated that allied practices have different levels of impact, cost and overall effectiveness. Another respondent stated that allied practices would be preferable to the public and that DVC would not be needed if these schemes achieved the required levels of recycling.

5.2.5 Public and Political Support for DVC

When asked if there would be widespread public support or opposition towards DVC, most respondents believed that there would be opposition, possibly influenced by negative media coverage.

Respondents suggested that the following methods could be used to overcome public opposition to DVC schemes:

- The need for information campaigns, particularly those drawing attention to the benefits of recycling over landfill;
- Highlighting the real costs of waste management;
- Introducing the scheme with a 'light touch' in the first year to allow people to understand and support the new system;
- Managing coverage and debate in the media;

- Good communication and strong enforcement would be needed, together with well designed and reliable recycling systems.

In relation to political/member support, respondents believed that there would be a mixture of support and opposition. One respondent believed that where DVC is first introduced, it will require resilient local political support to be successful.

To help overcome political/member concerns to make DVC schemes more acceptable, respondents suggested the following:

- As with overcoming public concerns; a strong information campaign highlighting the benefits of recycling over landfill;
- With national parties supporting DVC schemes, it would be easier to get local politicians on board. However, DVC is likely to be a key issue in local elections and therefore difficult and contentious to implement in closely contested local authorities;
- By showing politicians/members exactly what was going to happen and how it would be managed, with local media coverage highlighting political support for DVC.

5.2.6 Additional Comments on DVC

Additional comments included the following:

- One respondent stated that it was important to emphasise that DVC had been successfully introduced in numerous countries and the issues typically raised as potential problems in the UK have all been overcome elsewhere;
- It was also suggested that it would be beneficial if local authorities had a framework which they could use to evaluate and introduce appropriate local schemes. This could include an options appraisal to identify the best options and also ensure that the system did not work against the socially disadvantaged.

5.3 Comments from Non-respondents

A number of stakeholders did not complete the questionnaire survey, but did provide statements or comments on the issue of direct and variable charging. Some of the key responses are shown in the sections below.

5.3.1 Audit Commission

The Audit Commission have recently commissioned a study into charges for local services which will be used to inform the organisation's position on the issue. In relation to the questionnaire, the Commission commented that discussions with local authorities have suggested that when new or increased charges are introduced, the way in which information is communicated to the public is highly influential on winning public acceptance.

5.3.2 Department for Environment, Food and Rural Affairs (Defra)

The Department commented that variable charging is one of a number of options to encourage waste minimisation and recycling of household waste. The Secretary of State has announced that he is personally interested in charging as a tool to reward socially responsible behaviour, to minimise the amount of waste produced and to encourage recycling and has invited local authorities to share their views on this issue. The Department also stated that any decision on charging would have to be made in the context of wider decisions on local government finance.

5.3.3 DOE/Environment and Heritage Service North Ireland

These organisations have stated they will be undertaking a study into variable charging next year to develop their policy in this area.

5.3.4 Environment Agency (EA)

The introduction of variable charging is supported by the EA and the need for a change in legislation for this to happen is recognised. The Agency suggests that charging should be piloted and that three essential prerequisites need to be addressed:

1. Adequate infrastructure needs to be in place (e.g. recycling);
2. Adequate communication to the public is needed to change attitudes;
3. Funding is needed for enforcement.

5.3.5 Welsh Assembly Government (WAG)

WAG stated that their Environment Strategy contains a commitment to look at the issue of variable charging and that it will be considered in the future.

5.4 Summary and Conclusions

When considering the responses of individual organisations, it is recommended that the remit of those organisations are also considered to enable the informed interpretation and analysis of results.

All respondents supported the introduction of DVC for household residual waste on a voluntary, rather than mandatory, basis for local authorities. Respondents also assumed that DVC would increase recycling, result in a reduction in waste generation rates, encourage households to change their behaviour towards purchasing decisions and waste and potentially financially benefit householders who recycle more. The majority of respondents considered that the decision on the type of DVC scheme should be left to individual local authorities, although a specific preference was expressed by one towards charges based on container numbers.

The main perceived barriers to or obstacles or problems associated with successful DVC schemes included the following:

- Public opposition;
- Increased flytipping;
- Enforcement costs;
- Public perceptions of fairness where neighbouring local authorities do not introduce comparable DVC schemes;
- Equity issues for low income households and HMOs.

Suggested solutions to these barriers, obstacles or problems included:

- Consistent support and guidance from Government;
- Identification of waste management as a separate line entry within the billing system;
- Robust enforcement procedures;
- The provision of appropriate communication campaigns;

- The provision of adequate and reliable recycling schemes.

Respondents considered that allied practices (including AWC and home composting) still have a role in managing household waste and that some could be implemented in conjunction with DVC schemes. One organisation suggested that allied practices would be preferred by the public, and that if they achieved the desired levels of recycling, DVC schemes would not be required.

The consultation process has enabled stakeholder organisations to independently express their views on the subject of DVC. For context, it is noteworthy that a number of organisations intend to, or have recently commissioned new studies into DVC to assist with the formulation of policy. A number of organisations have also expressed a willingness to co-operate with CIWM on the future consideration of this issue.

6. PUBLIC ACCEPTABILITY – RESEARCH REVIEW

6.1 Introduction

This chapter examines recent surveys and analyses of public attitudes in the UK in relation to DVC schemes. The remits of these surveys cover wider waste and environmental issues but include references of relevance to DVC schemes in their questions, analyses or interpretations.

It is worth noting when considering research which investigates environmental and waste management behaviour that responses may not fully reflect the actual behaviour of respondents. A 'reality gap' often exists between what people say they do and what they actually do in reality. Nevertheless, the surveys provide useful context on recent public attitude surveys relevant to DVC schemes in the UK.

6.2 'Rubbish Service: Who Pays?'

Commissioned by Materials Recycling Weekly (MRW) on behalf of the Recycling and Waste Management exhibition, this survey was conducted by the British Market Research Bureau (BMRB) Omnibus and Explomarket Ltd in September 2006. The main aim of the study was to examine general public and local authority officer attitudes to recycling and waste management.

The survey involved telephone based interviews with 965 members of the public aged 18 years and over and a cross section of 100 local authorities in Great Britain, rather than the UK (surveys were not conducted in Northern Ireland). The public survey took place in August 2006. The local authorities included in the survey were all members of the Local Authority Recycling Advisory Committee (LARAC) and were interviewed between July and August 2006.

Surveys were conducted using Computer Assisted Telephone Interviewing (CATI) amongst a sample collected using random digit dialling.

Results are presented on the BMRB website⁵⁵ and are summarised below.

General Public

- 62% would prefer separate containers for different materials and 81% think this is the best environmental option.
- 66% would prefer their household recycling and waste collection frequency to be weekly.
- 59% felt that paying nothing was a fair price for their recycling and waste collections per week.
- 58% agreed that people who refused to recycle should be fined and 67% of those who agreed felt that a fine of up to £50 was reasonable.
- Lack of recycling bins was identified as a problem by only 36% of interviewees. Dog fouling and litter were mentioned by 43%.

⁵⁵ BMRB website (11.09.06) 'British public happy to recycle, but want to dump fortnightly collections'
<http://www.bmr.co.uk/?component=news&action=show&id=283>

Local Authorities

- 41% would prefer household recycling and waste collection frequency to be weekly (35% stated fortnightly and 21% stated alternate weekly).
- 36% felt that £1-2 was a fair price for recycling and waste collections per week (24% stated 'no charge').
- 64% agreed that people who refused to recycle should be fined and 61% of those who agreed felt that a fine of up to £50 was reasonable (22% stated £51-100).
- Flytipping was identified as a problem by 51% of interviewees. Litter was mentioned by 47% and 40% mentioned dog fouling and chewing gum on pavements.

According to the study, most householders did not think they should pay for their waste and recycling to be collected (59% stated there should be no charge made). Of those interviewed 37% of 16-24 year olds felt that they should not pay anything, compared with 53% of 25-34 year olds and 68% of people over 65 years.

The fact that the majority of householders state that there should be no charge for waste and recycling collections suggests that gaining public approval of DVC may be difficult. This is despite the fact that waste collections are currently paid for by householders within their Council Tax charges.

The general public appeared to support the idea of fining schemes to penalise people who refused to recycle. Among local authority officers, support for fining schemes was even greater. Levels of support for fines of up to £50 per offence were similar between officers and the public.

This result suggests that the public and Council officers acknowledged the importance of recycling and that a tough stance may need to be taken to encourage more recycling. The results do not, however, suggest support for DVC, but that the principle of relating non-recycling behaviour to financial penalties as a means of encouraging recycling may be acceptable.

6.3 'Bad Habits & Hard Choices'

Brook Lyndhurst, a strategic research consultancy, commissioned ICM Research to survey a representative sample of the general public to examine the British public's views and behaviour on environmental issues. Interviewees were specifically asked a question about the fairness of charging for waste collection/disposal in comparison with other possible environmental financial instruments.

The survey involved telephone based interviews with 1,015 members of the public aged 18 years and over. Quotas were set on age, gender and work status to ensure the survey was representative and the data obtained was weighted to match the profile of the population.

The survey was carried out in May 2004 using the standard ICM Research telephone omnibus to ensure a random sample was obtained.

There were four themes within the questioning:

- How often the interviewee personally undertook particular sustainable actions (e.g. recycled paper and glass, bought energy saving light bulbs etc);
- Perceived impacts of a list of environmental protection measures;
- Agreement or disagreement with a list of environmental issues;

- Perceived fairness of a number of potential Government interventions to help protect the environment.

On the subject of potential Government interventions, interviewees were asked whether they thought specific suggestions were fair or unfair. The results in relation to Council Tax charges being linked to recycling participation are outlined in table 5.1 below and are interpreted from Brook Lyndhurst's 2004 report⁵⁶.

**Table 5.1
Potential Interventions: perceptions of 'fairness'**

	Unfair (%)	Fair (%)	Unsure (%)
People who recycle more pay less Council Tax and people who don't recycle more pay more Council Tax	39	58	3

The survey results showed that the interviewees were not necessarily perturbed by potential measures that were more punitive in nature. For example, "almost six in ten (58%) [thought] that variable charging – where those who recycle pay less Council Tax and those who don't pay more – [was] fair"⁵⁶.

A comparison was also made between the perceived fairness of Government interventions and the interviewee's 'environmental activism scale' based on how often they undertook the following particular sustainable actions:

- Recycle paper and glass;
- Have showers instead of baths;
- Turn appliances off rather than to standby;
- Buy energy saving light bulbs;
- Use the car less to protect the environment;
- Buy organic food;
- Buy reconditioned/second-hand appliances.

The environmental activism scale was split into three core groups: Highs, Mediums and Lows. Interviewees undertaking 5-7 of the sustainable actions 'all of the time' were classed as Highs; those undertaking 2-4 actions 'all of the time' as Mediums and anyone undertaking 0-1 of the actions 'all of the time' were classified as Lows.

From the comparison, it was established that a higher proportion of Highs consider policy interventions for sustainable development fair, and that this was "particularly true of attitudes towards variable household waste charging. Whilst almost two thirds (65%) of those who said they currently recycle paper and glass 'all of the time' consider variable waste charging fair, this is only true of around one in three (31%) who 'rarely' or 'never' recycle"⁵⁶.

This suggests that people who consider themselves to be regular recyclers may see potential financial benefit in DVC schemes because they are already recycling and DVC may incur little behavioural change on their part. On the other hand, those who currently 'rarely' or 'never' recycle may face financial penalties if they do not alter their behaviour. It is likely that the latter categories of respondents will object the most to the introduction of DVC schemes.

⁵⁶ Brook Lyndhurst Ltd (2004) 'Bad Habits & Hard Choices – In Search of Sustainable Lifestyles' <http://www.brooklyndhurst.co.uk/media/Bad%20Habits%20&%20Hard%20Choices%20-%20In%20search%20of%20sustainable%20lifestyles.pdf>

Brook Lyndhurst's report recommended that before a local authority considered introducing a charging scheme for household waste, it should focus on increasing the local recycling rate so as to increase the number of likely supporters of such a scheme and hence use "social 'norms' as a means of reinforcing acceptability"⁵⁶.

6.4 Lyons Inquiry Consultation

A recent report⁵⁷ published by the Lyons Inquiry team gave an account of findings from nine one-day workshops with a cross-section of the general public.

A total of 310 people attended the events. These were undertaken to gauge public opinion on a range of key issues considered within the Lyons Inquiry review on local government services and finances (considered in Section 2.2.3).

The following areas were explored:

- Participants' current understanding of the role of local government and other key players;
- Improvements that they would like to see in their local area;
- How any desired improvements should be funded;
- The balance of power between local and central government;
- The role of local government in place shaping and as a convener;
- Who should have the final say on decisions relating to a range of issues.

One of the waste related outcomes of the consultation was that there was strong agreement to the statement that '*councils should do more to change their behaviour in order to reduce waste*'.

"[The] participants were conscious of the need to significantly shift public behaviour towards more recycling; there also was strong consensus that producers such as supermarkets and food outlets needed to reduce the volume of packaging. The underlying public feeling about funding was expressed in this statement: *we already pay for the bins and we shouldn't have to pay more*. The public's assumption was that the move from current waste arrangements to recycling was cost neutral"⁵⁷.

During the workshops, the issue of charging households for certain services was also discussed. For waste and recycling, participants "accepted that both incentives and penalties were powerful mechanisms for changing householders' behaviours (e.g. to separate [waste] and recycle). The overall preference was to reward positive behaviours (e.g. Council Tax discounts for recycling). Charging for high production of waste was favoured by two-thirds (with a quarter disagreeing), and was thought even more acceptable if charging reduced overall Council Tax bills"⁵⁷.

Charging was not viewed as a simple mechanism for change. Concerns were voiced regarding issues such as increased flytipping, contentious enforcement processes such as 'bin police' and the practicality of charging in terms of administration costs and whether they would negate any potential savings.

6.5 LGA Survey

In June 2006 the LGA commissioned a face to face opinion poll of 1,719 people in England, Scotland and Wales, on the issue of waste. The survey was carried out by TNS.

⁵⁷ Lyons Inquiry (2006) 'Public Deliberation Events – Final Report for the Lyons Inquiry Team' <http://www.lyonsinquiry.org.uk/docs/061120-consultation-public.pdf>

The survey asked the following questions⁵⁸:

- Do you currently recycle any household rubbish? e.g. bottles, cans, newspapers, etc.
- Would you prefer a scheme whereby you pay less income tax or Council Tax and instead get charged directly for household rubbish removal, so that the more you recycle the less you would pay?
- Do you think recycling should be made compulsory?
- Do you think people should be fined if they refuse to recycle?

The majority (87%) of people surveyed said that they currently recycle. The survey also found that around 64 per cent of those questioned said they would prefer a scheme where they paid less tax but were charged directly for household rubbish. This may be interpreted as supporting the introduction of a direct charging scheme.

Support for compulsory recycling was surprisingly high, with 77% stating that recycling should be made compulsory. Opinion was, however, divided on whether to fine those who refused to comply with such a scheme with 47% saying 'yes' and 46% saying 'no' to fines for not recycling.

6.6 Summary and Conclusions

It should be noted that public exposure to media coverage on waste related issues may have an impact on survey results. Respondents who were surveyed may have viewed external media reports which referred to DVC or other waste management issues (including commonly reported issues relating to compulsory recycling and AWCs) prior to the interview.

The way in which the questions are worded and posed should also be considered when analysing and comparing survey results. This point is illustrated when the apparently contradictory findings of two of the surveys are considered. The MRW survey found that the majority of the general public surveyed (59%) do not agree with charging for waste and recycling services. The Brook Lyndhurst survey, found that 58% of respondents thought that people who do not recycle should pay more Council Tax and people who do recycle should pay less. The former results may be interpreted as respondents not understanding that waste and recycling services are currently paid for via the Council Tax system. The latter may not only suggest an understanding of the link to Council Tax payments but also the potential future link within a DVC scheme.

Interestingly, three of the four surveys (MRW, Brook Lyndhurst and Lyons Inquiry) suggest that householders either consider that non-recyclers and/or high waste producers should be fined or pay more for their waste collections. This suggests an acceptance of a potential financial implication for households in relation to their waste management behaviour.

The results also suggest that in three of the four surveys (Brook Lyndhurst, LGA and Lyons Inquiry) the majority of respondents would support some form of DVC scheme, either varying in relation to Council Tax payments or as a new direct charge.

This suggests that the public may be more supportive of DVC (if it causes an obvious reduction in overall charges to households, however they are levied) than the perceptions of public support levels expressed in Chapter 5 (Stakeholder

⁵⁸ LGA Media Office website (29.08.06) 'Tax payers face £230 million bill unless councils gets power to charge for waste' www.lga.gov.uk/PressRelease.asp?id=-A783C9F1

Consultation). The results also suggest that support for DVC appears to be high amongst householders who currently recycle to some extent, potentially reflecting an understanding of the link between individual behaviour and a charging mechanism.

As considered in Chapter 4 (Case Studies) the ROI example suggests that public understanding and approval of DVC schemes are a requirement for their success, whilst also ensuring that the associated disbenefits (such as flytipping) are controlled. The research also recognises that such understanding and approval may be achieved over a period time *after* the introduction of the DVC scheme and, therefore, may not need to be a prerequisite. Demonstrating to the public that DVC can reduce overall household charges for waste collection and disposal will also help to gain approval.

The assumption in the Brook Lyndhurst report that DVC will work best where high recycling rates occur and where recycling is the social 'norm' suggests that residents in localities which already achieve high recycling rates may be more receptive to DVC schemes than low performing communities. This assumption may also be relevant in relation to AWC, as considered in Chapter 3. If DVC schemes are introduced in local authority areas already using successful AWC systems, there may be the potential for less public opposition to the development. Such reduced opposition may result from the established understanding of the need to limit residual waste generation necessitated by less frequent waste collections.

7. LOCAL GOVERNMENT FINANCES

7.1 Introduction

As part of this research, a comparative cost model analysis has been undertaken for 'baseline' kerbside collection scenarios for two hypothetical local authorities, both before and after the introduction of theoretical DVC schemes for residual waste.

This is intended to provide an overview of some of the potential effects on local government finances which may result from the introduction of a DVC scheme. It should be noted that the analyses consider the localised impacts of the introduction of DVC, focussing mainly on collection and disposal costs and potential charging revenues. No account has been taken of potential changes in central Government funding for local authorities.

It is important to consider that the precise financial impacts of a theoretical DVC scheme are difficult to model with certainty. Such limitations are expected when modelling scenarios with multiple variables and reasonable assumptions have been made wherever possible. The models have, however, made reasonable assumptions including the following:

- Tonnages for each material stream were calculated using waste composition analysis data from WRAP⁵⁹;
- The hypothetical local authorities were assumed to include 50,000 households, each receiving a uniform service (e.g. no account is taken of HMOs);
- LATS costs were not included due to the uncertainty over the allocation for a hypothetical local authority.

Cost model data files used in the analysis have been supplied separately for reference. These provide a full list of the assumptions used.

7.2 Methodology

The waste compositional data was applied, along with assumed participation and capture rates, to estimate the tonnages of each material that would be collected within the different collection systems.

The models were subsequently used to calculate costs for the following elements:

- Collection vehicle requirements (residual, recycling, composting);
- Crew requirements (including labour costs and overtime);
- Consumables (containers, uniforms etc.);
- Costs for premises, administration and insurance;
- Material treatment and disposal costs.

As mentioned above, cost model data files used in the analysis, which provide a full list of assumptions, have been supplied separately for reference.

⁵⁹ Dr J Parfitt WRAP (2002) 'Analysis of Household Waste Composition and Factors Driving Waste Increases'

7.3 Baseline Scenarios

The two baseline kerbside collection scenarios were modelled with the following characteristics, as examples of typical collection schemes widely used in the UK:

Scenario A1

- Weekly residual waste collection using plastic sacks;
- Fortnightly recycling collection using a kerbside box (paper, glass, cans, textiles);
- No garden waste collection;
- Annual collections of 39,168 tonnes of residual waste and 4,432 tonnes of recyclables, which equated to a recycling rate of approximately 10%.

Scenario B1

- Weekly residual waste collection using a wheeled bin;
- Fortnightly recycling collection using a wheeled bin (paper, card, cans, textiles, plastic bottles);
- Fortnightly garden waste collection using a wheeled bin;
- Annual collections of 36,166 tonnes of residual waste, 4,182 tonnes of recyclables and 3,252 tonnes of compostables, which equated to a combined recycling/composting rate of approximately 17%.

7.4 Post DVC Scenarios

The two baseline kerbside collection scenarios were subsequently adapted to include the following developments to the collection systems and types of DVC scheme:

Scenario A2

- Sack based DVC scheme using readily identifiable sacks (no stickers/tags);
- Charge per sack of £0.50;
- Provision of an extra kerbside box for recycling;
- Provision of sack collection for garden waste;
- Participation increase of 20% from Scenario A1;
- Material capture rate increase of 5% from Scenario A1;
- Monitoring and enforcement of the scheme was assumed to be undertaken in-house by the existing employees.

Scenario B2

- Pay by weight DVC scheme using microchips retrofitted to existing residual bins;
- Charge per kg of £0.08;
- Glass added to recycling collection;
- Kitchen waste added to garden waste collection;
- Participation increase of 20% from Scenario B1;
- Material capture rate increase of 10% from Scenario B1;

- Monitoring and enforcement of the scheme was assumed to be undertaken in-house by the existing employees.

7.5 Outline Results

7.5.1 Scenario A - Sack Based DVC Scheme

From the modelling exercise, the post DVC kerbside collection scenario resulted in a total waste collection and disposal cost of £4,322,204 per annum (excluding income from charges and 'one-off' costs) compared to the baseline scenario cost of £4,151,443 per annum.

The annual income from DVC charges to householders totalled £2,600,000, based on the assumption that each household produced two sacks of residual waste each week and that the charge per sack would be £0.50. This equated to a net annual waste collection and disposal cost of £1,722,204.

'One off' costs for the introduction of the DVC scheme (software and pre-publicity) totalled £58,000.

Annually collected tonnages of residual waste reduced by over 19% to 31,705 tonnes. Recycling and composting increased to 6,215 tonnes and 4,355 tonnes respectively, which equated to a combined recycling/composting rate of 24%. This was an increase of 14% from the pre-DVC scenario.

The reduction of residual waste resulted primarily from the provision of sack-based garden waste collections. Participation and capture rate levels for all of the recyclable materials also grew, as did householder take-up of home composting and the tonnages of waste taken to CA sites.

For the sack based collection scenario, the inclusion of a separate garden waste collection had a significant impact on costs. This was due largely for the need to purchase new collection vehicles and the requirement for extra staff and consumable resources.

7.5.2 Scenario B - 'Pay by Weight' DVC Scheme

From the modelling exercise, the post DVC kerbside collection scenario resulted in a total waste collection and disposal cost of £4,167,396 per annum (excluding income from charges and 'one-off' costs) compared to the baseline scenario cost of £4,638,617 per annum.

The annual income from DVC charges to householders totalled £2,058,183 based on the assumption that each household produced 515 kg of residual waste each year and that the charge per kg would be £0.08. This equated to a net annual waste collection and disposal cost of £2,109,213.

'One off' costs for the introduction of the DVC scheme (retrofitting collection vehicles and wheeled bins, software and pre-publicity) totalled £324,600.

Annually collected tonnages of residual waste reduced by almost 28% to 25,727 tonnes. Recycling and composting increased to 8,311 tonnes and 8,266 tonnes respectively, which equated to a combined recycling/composting rate of approximately 38%. This was an increase of 21% from the pre-DVC scenario.

The reduction of residual waste resulted primarily from the addition of kitchen waste to the garden waste collections and glass to the recycling collections. As with

Scenario A, participation and capture rate levels for all of the recyclable materials also grew, as did householder take-up of home composting and the tonnages of waste taken to CA sites.

The 'pay by weight' collection scenario, which saw a decrease in overall costs from the baseline, involved the addition of kitchen waste to the garden waste collections and glass to the recycling collections, resulted in a reduced need for residual waste collection vehicles and its associated costs (crew, fuel, maintenance etc). There was assumed to be sufficient capacity on the garden waste collection vehicles to collect kitchen waste without the need for extra vehicles.

7.6 Summary and Conclusions

When reviewing the results from the cost models it was apparent that the impact of set-up costs did not appear to be excessive. It should be noted that there were costs associated with the assumed development of the collection services for both scenarios as a whole, including an increase in the range of separately collected materials and the introduction of different collection containers.

Vehicles, staff and consumable resources proved to be the largest cost elements within the models. Costs associated with the retrofitting of vehicles, software for the billing system and pre-publicity would not need to be considered on an ongoing, annual basis.

In broad terms the income generated from the variable element of the DVC scheme equated to approximately 50-60% of the total waste collection and disposal cost. The balance could be met through a combination of a direct 'fixed' element for service provision, separate internal local authority funds and/or through Central Government funding depending on its revised future form.

In the wider context, any increases in costs associated with the introduction of DVC schemes may be buffered by the savings achieved through reduced amounts of waste sent for disposal. The costs of DVC schemes may also be insignificant when compared to the potential fines that some UK local authorities face if landfill diversion targets for biodegradable waste are not met.

The analysis is not considered to be definitive or sufficiently detailed to inform the development of an appropriate position statement, in isolation. This is due to, amongst other elements, the exclusion of data relating to specific central Government funding, landfill allowance/biodegradable diversion costs, the hypothetical nature of the local authorities and the consideration of only two potential types of DVC scheme.

As considered in Section 2.2.3, in July 2004 Sir Michael Lyons was commissioned to undertake an independent inquiry to consider changes to the present system of local government funding in England, including the reform of the Council Tax system. The report from the inquiry is now expected in March 2007. It is likely that the Inquiry's work will be used to help shape Government policy on the DVC issue.

If draft or summary findings of the Inquiry are published in time, it is recommended that its conclusions are considered during the formulation of CIWM's position statement, where appropriate. It is also recommended that CIWM consider the current work commissioned by Defra on the financial implications of DVC schemes to gain a more complete overview of the implications of different types of DVC scheme on local government finances.

8. RECOMMENDATIONS

8.1 Introduction

This Chapter considers the conclusions outlined in Chapters 1 to 7 of this report and identifies specific recommendations for the development of CIWM's policy position on the DVC issue.

8.2 DVC: A Future Option

It is recommended that DVC is supported as a potential future option for local authorities to charge householders for the full or partial recovery of residual waste collection and disposal costs. It is also recommended that the decision on whether or not to apply DVC should be made by individual local authorities and not be a mandatory requirement.

8.3 Requirements for Local Authorities

There are a number of issues to consider in relation to the type of DVC scheme which could be applied, including:

- The individual characteristics of local authority areas including collection systems, socio-demographics, geography and housing stock;
- Issues of fairness and equity (and perceptions of inequity) for householders in individual local authorities and between householders residing in different/neighbouring local authority areas;
- Implications for neighbouring authorities in terms of waste 'migration' via, for example CA provision;
- The ability of individual local authorities to adequately appraise different DVC options, identify the most suitable local option and to plan and implement the systems successfully.

It is therefore recommended that:

- A. A robust appraisal system and guidance on the selection of DVC scheme is provided by central Government to local authorities. In addition, guidance will need to be provided on communications and deployment issues;
- B. Local authorities should subsequently be empowered to select the most appropriate form of DVC scheme to apply locally.

8.4 Trials and Pilots

It is recommended that pilots and trials of different types of DVC scheme are applied in areas with different socio-demographic characteristics, collection systems, geography and housing stock. Such trials could be used to identify relevant issues for UK local authorities and to inform the potential wider application of DVC schemes.

The research has highlighted that householders in areas with high recycling rates and/or AWC systems may be less opposed to DVC schemes. Consideration of the suitability of these areas for pilot schemes should be made in conjunction with areas that do not possess these characteristics with a clear awareness of the issues relating to both.

8.5 Equity Issues

In terms of equity, it is recognised that potential issues relating to the application of the system (and its perception) will need to be addressed. These include:

- Impacts on low income households;
- Impacts on households in relation to the number of household members;
- Impacts on households in different types of housing stock (including, for example terraced and detached properties and HMOs) where different types of collection containers may be used;
- Impacts on households in neighbouring authorities.

It is recommended that central Government considers and addresses these issues in its guidance to local authorities. It should be noted that research suggests that these issues are not insurmountable and can be successfully and appropriately addressed.

8.6 The Role of Government

It is recognised that central Government's role in the development of DVC schemes is crucial. It is also recognised that this role is complex and overarches a number of responsibilities including waste management policy, finance and regulation. Key recommendations are as follows:

- Clear and unequivocal support for DVC should be expressed in all appropriate fora (including political and media);
- Attempts to garner cross party support for the issue should be made. This recommendation is made with a strong understanding of Local Government practice and the potential for DVC to become a key local election issue;
- Clear guidance and support for local authorities should be provided for the planning stages (including option appraisals, financial management and contractual considerations) and implementation stages (including communications and operations).

8.7 Further Conclusions and Recommendations

With consideration of other conclusions quoted in previous chapters of this report, the following observations and recommendations are made:

- It is recognised that the provision of robust, reliable and comprehensive recycling and composting services to households are an essential pre-requisite for the successful application of DVC schemes.
- Other essential requirements include:
 - Effective communications. These should provide a clear explanation of the requirements of the system and the potential benefits, including potential financial savings, to householders. This requirement extends to the clear itemisation of charges within the revised billing system;
 - Strong and effective enforcement systems to ensure the correct use of systems and prevent inappropriate and illegal waste behaviour.
- Care should be taken with the application of compulsory recycling schemes in conjunction with DVC schemes. This recognises the potential for such developments to be perceived as a 'heavy handed' approach if both systems are newly introduced at the same time, with the potential to reduce public

support for the DVC scheme. Incentive schemes may be seen to provide a more balanced approach if jointly applied with DVC schemes;

- CA site provision will need to be reviewed in local authority areas where DVC schemes are introduced and in neighbouring local authority areas, with the potential application of strict permit and/or charge based controls.